

THE IMPORTANCE OF PERCEIVED SOCIAL SUPPORT SYSTEM CHARACTERISTICS IN
PREDICTING PERSISTENCE IN ADULT BASIC EDUCATION,

by

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Chapter I

THE PROBLEM

Description of the Situation

Education programs for adult remedial students and non-high school graduates have long been hindered by exceedingly high dropout and poor attendance rates. In contrast to the problem of teen-age dropouts from secondary schools, which has attracted significant attention in the literature of educational research, relatively few studies have been focused specifically on the problem of persistence in Adult Basic Education (defined in this context to include basic education programs for all non-high school graduates). Studies which have been conducted in this area have tended to be somewhat conflicting in their findings and have failed, as a group, to generate any consistently reliable basis for predicting what types of adult students are most likely to persist in remedial education activities and what sorts of factors are important for predicting persistence in such programs. It is probable that the reason for this failure can be attributed in part to the manner in which these studies have been designed.

In characterizing research conducted in the general area of adult voluntary participation in education programs, Harry Miller (1967) wrote:

The research has been, almost without exception, completely empirical, gathering data from one body or another of adult participants and putting them in whatever order seems reasonable and interesting. . . . All such studies suffer from the lack of a guiding framework that would suggest in advance what phenomena we should be looking for (p. 1).

Miller goes on to stress that we need to be concerned not with "static categories" but with "significant relationships" among the variables "which appear to have some bearing on the appearance in our programs of some adults rather than others, at particular times rather than others" (p. 2).

Miller's advice has gone largely unheeded. For the most part, research studies in all types of adult education programs have continued to gather various detailed data relating to particular groups of adult education participants, non-participants, persisters, and non-persisters. This data has then been sorted into categories in efforts to establish profiles of these groups according to two broad variable dimensions: socio-demographic and personality characteristics. It is apparent, however, that no such profiles have emerged which have been clearly substantiated by existing research as a whole.

Previous studies in Adult Basic Education have often been hindered by another kind of methodology limitation. Researchers have frequently placed considerable confidence in the direct statements of Adult Basic Education (ABE) non-persisters as to their reasons for dropping out of ABE programs. There would seem to be significant question as to whether ABE dropouts are entirely aware of their motivations for non-persistence or willing to state them with complete accuracy to the extent that they are aware. This rationale is consistent with the

further belief of Harry Miller (1967) that the place for researchers to begin exploring motivations is not with what people say about their own, "but with what we know about people and society" (p. 2).

As might be anticipated from the scarcity of studies relating to Adult Basic Education persistence and from the methodological shortcomings of studies which do exist, the impact of research in this area has been somewhat loose-ended. Existing studies generally agree that most persons who discontinue Adult Basic Education participation do so for reasons not primarily associated with the nature of ABE programs. On the contrary, as Prins (1972) noted, many ABE dropouts offer high praise for Adult Basic Education programs, teachers, and materials, and express hopes of re-enrolling at later times. This body of research suggests instead that most ABE non-persisters drop out for stated reasons having to do with conflicting commitments relating to their jobs and families. Nonetheless, it is readily apparent to teachers and administrators that many adults who persist in remedial education programs do so despite pressures equally as compelling as those which non-persisters offer as reasons for dropping out.

The preceding circumstances raise the strong possibility that the question of what factors are associated with persistence levels of Adult Basic Education students has not been adequately investigated by previous research. It appears that in order for persistence prediction to be improved a different type of knowledge must be acquired about ABE participants, relying on a broader methodological approach. Prediction efforts must focus on more than demographic and personality variables

and avoid primary reliance on the direct statements of ABE non-persisters as to their reasons for dropping out of ABE programs. At the same time, in order to make maximum use of the consistent finding of previous studies that most ABE dropouts occur for non-school related reasons, new research can draw most appropriately from sources associated with the lives of Adult Basic Education participants apart from the ABE classroom.

Previous research efforts have failed to focus significantly on one potentially very important predictor of the individual adult remedial student's degree of persistence: the extent and quality of emotional support he receives from social systems of which he is a part outside of his formal ABE activities. It seems repeatedly to occur that the Adult Basic Education participants who persist are those who belong to social environments (family, friends, fellow workers, church associates, etc.) which provide them with strong supportive personal relationships and the incentives to assert themselves as individuals. On the other hand, it appears frequently the case that those who fail to persist lack these kinds of reassurance.

Although social support system analysis has been largely ignored in education (particularly Adult Basic Education) research, the motivational importance of social support systems has received attention from research in other areas, particularly industrial settings, as well as in the general literature of social psychology. Murray (1971, p. 84), for example, notes that social motives are often the strongest of all motives, citing the dramatic illustrations of numerous wartime

incidents in which individual soldiers have sacrificed themselves for their comrades by such acts as submitting to torture or smothering live grenades. The strength of the individual's need for group approval would seem to be particularly great in the case of the Adult Basic Education student who is apt to suffer from a poor self-image (Prins, 1972). It is also much easier for ABE students to give up their educational pursuits in the face of criticism or resentment from their social systems than to sacrifice most other types of commitments. This is true because Adult Basic Education involvement, like most forms of adult education involvement, represents for most of its participants a peripheral activity of considerable cost. In order to participate in remedial classes adults must make heavy sacrifices of time and effort expended from what otherwise could be leisure activities.

Previous efforts to characterize Adult Basic Education participants have, though infrequently, included occasional support system dimensions such as, for example, "home environment" (Brooke, 1973), as single entries among long lists of variables to be analyzed. Such research has sometimes produced findings which have tended to suggest that social support factors are significantly associated with persistence. On the whole, however, no systematic effort has been made to discover the relative predictive worth of this category of variables in comparison with those treated in the more popular demographic and personality approaches to prediction.

Statement of the Problem

The problem investigated in this study was the importance of social support system variables as potential predictors of Adult Basic Education persistence. Particular aspects of the problem were:

1. The relative comparative strengths in predicting Adult Basic Education persistence of sociodemographic, personality, and social support variables.

2. The value in terms of predicting Adult Basic Education persistence of acquiring social support data pertaining to ABE students on whom sociodemographic and personality data are already available.

3. The particular combination of sociodemographic, personality, and social support variables which best predict Adult Basic Education persistence.

These three aspects of the research problem were restated in question form. The following questions provided organization and direction of this study's research goals.

1. In predicting the persistence of Adult Basic Education students, what are the relative predictive strengths of three categories of variables: sociodemographic, personality, and social support?

2. If sociodemographic and personality data (as represented in this study by certain selected measures) are available on particular groups of Adult Basic Education students or potential students, how much will the addition of support system data contribute to the degree of accuracy with which those students' persistence can be predicted?

3. What combination of sociodemographic, personality, and social support variables included in this study renders the best possible approach to predicting Adult Basic Education persistence?

The particular sociodemographic and personality variables employed in this study were selected on the basis of their frequent use in previous Adult Basic Education research. This was done to assure as meaningful as possible a comparison between the present approach to predicting persistence, emphasizing social support variables, and that undertaken in previous studies.

The following specific variables were selected to comprise sociodemographic, personality, and social support categories:

1. Sociodemographic variables:

- (a) Age
- (b) Sex
- (c) Race
- (d) Time since last school attendance
- (e) Employment status (whether employed or unemployed)

2. Personality variables:

- (a) Self-confidence
- (b) Achievement need
- (c) Affiliation need

3. Social support variables

- (a) Family environment
- (b) Work environment
- (c) Church environment

Significance of the Study

The present study has not produced a formula for the effective prediction of Adult Basic Education persistence. It has, however, offered a departure from the trend of past research efforts in this area which have focused almost entirely on sociodemographic and personality variables. Selected social support measures in this study, though less than effective predictors, have demonstrated prediction abilities at least as great as those of the other two variable categories. This fact suggests the possibility that environmental interaction patterns may have an important bearing on Adult Basic Education persistence. Perhaps just as importantly, it challenges the prevailing research assumption that sociodemographic and personality variables are the only predictors worthy of research investigation.

The present research has been a pilot study which has attempted to relate a new category of variables to Adult Basic Education persistence patterns. Its purpose has been not so much to provide research answers as to contribute to the shaping of future research design. In this role it may hopefully encourage both more research attention to environmental influences on ABE student persistence and more flexibility in future research methodology.

Definitions of Terms

In order to clarify the meanings of the key terms used in this study, the following definitions are provided:

1. Adult Basic Education student--A person eighteen years of age or older who is enrolled in a remedial academic program for adults who

have not graduated from high school. In this study, Adult Basic Education Students are persons participating in GED preparatory programs.

2. Persistence--The length of an individual's enrollment in an Adult Basic Education program and his attendance record during that period. A persistence level is determined for each individual subject according to the method described in Chapter III.

3. Self-confidence--Assurance concerning one's abilities and one's self: an individual's score on the Self-confidence subscale of the Adjective Check List.

4. Achievement Need--An individual's need to strive to be outstanding in pursuits of socially recognized significance: an individual's score on the Achievement Need subscale of the Adjective Check List.

5. Affiliation Need--An individual's need to seek and sustain numerous personal friendships: an individual's score on the Affiliation Need subscale of the Adjective Check List.

6. Social Support Systems or Support Systems--An individual's network of social relations apart from the Adult Basic Education classroom: specifically (for purposes of this study), those persons who make up his home, work, and church environments.

7. Family Environment Support--A combined measure of the degrees of cohesion, expressiveness, conflict, independence and achievement orientation present or encouraged within an individual's family. For purposes of this study the boundaries of an individual's family were whatever he considered them to be.

The following definitions pertain to individual subscales of the Family Environment Scale used to measure family environment support and are taken directly from the Family, Work, and Group Environment Scales Manual. These definitions are operationalized in each case by corresponding subscale scores.

(a) Cohesion--The extent to which family members are concerned and committed to the family and the degree to which family members are helpful and supportive of each other.

(b) Expressiveness--The extent to which family members are allowed and encouraged to act openly and to express their feelings directly.

(c) Conflict--The extent to which the open expression of anger and aggression and generally conflictual interactions are characteristic of the family.

(d) 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.

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

8. Work Environment Support--A combined measure of the degrees of involvement, peer cohesion, staff support, and autonomy present or encouraged among work associates including employer, supervisor, and fellow workers. For purposes of this study an individual was considered to have a work environment if he was employed at least half-time.

The following definitions pertain to the individual subscales of the Work Environment Scale used to measure work environment support and are taken directly from the Family, Work, and Group Environment Scales Manual. These definitions are operationalized by corresponding subscale scores.

(a) Involvement--The extent to which workers are concerned and committed to their jobs.

(b) Peer Cohesion--The extent to which workers are friendly and supportive of each other.

(c) Staff support--The extent to which management is supportive of workers and encourages workers to be supportive of each other.

(d) Autonomy--The extent to which workers are encouraged to be self-sufficient and to make their own decisions.

9. Church Environment Support--A combined measure of the degrees of cohesion, leader support, expressiveness, and independence present or encouraged among church associates including minister, church leaders, and congregation members. For purposes of this study an individual was considered to have a church environment if he considered himself associated with a particular church and its members.

The following definitions pertain to the individual subscales of the Group Environment Scale used to measure church environment support and are taken directly from the Family, Work, and Group Environment Scales Manual. These definitions are operationalized by corresponding subscale scores.

(a) Cohesion--The extent of members' involvement and participation in the group (church); of their affiliation and commitment to the group; of the help, manifest concern, and friendship displayed to each other.

(b) Leader support--The amount of help, manifest concern, and friendship displayed by the leader to the members.

(c) Expressiveness--The extent to which freedom of action and expression of feelings are encouraged.

(d) Independence--The extent to which the group tolerates and/or encourages independent action or expression in its members.

Limitations of the Study

The following limitations of this study are acknowledged:

1. This study did not purport to measure the actual characteristics of social support systems but the characteristics of these systems perceived by Adult Basic Education students.

2. This study did not purport to identify (at most to draw some tentative inferences about) the causes of Adult Basic Education persistence and non-persistence, but rather to increase the accuracy with which these may be predicted.

3. Since this study focused upon general adult populations in 3 cities, caution must be exercised in any effort to generalize its findings to populations of other types.

Chapter II

REVIEW OF RELATED LITERATURE

The purpose of this chapter is to review literature in several areas relating to the present study's conceptual framework. These include (1) typical characteristics of Adult Basic Education students, (2) the nature and scope of Adult Basic Education programs, (3) a review of previous research studies in the areas of Adult Basic Education persistence and participation, and (4) an overview of research and literature relating to the importance of social systems in other contexts.

The first two sections provide a brief background on the size and unique aspects of the potential ABE population and its educational needs. The third section is necessary to set the present study in perspective among research efforts related to Adult Basic Education persistence.

The final section of the literature review relates to the new dimension in which the present study has contributed to knowledge about Adult Basic Education students. This segment focuses upon a variety of sources which help to clarify the concept of social support systems and are relevant to the influence of social environments on the behavior of individuals.

Adult Basic Education Participants

According to a study published by Curtis Ulmer (1972), "the undereducated in this country comprise as much as fifteen percent of the

adult population" (p. 21). There were at this time, according to Ulmer, more than twenty-five million people in the United States over the age of fourteen who had less than an eighth grade education.

As an individual, the educationally deprived person is likely to be poor and to lack scholastic confidence, aptitude, and motivation. This combination of circumstances creates a self-sustaining pattern of problems in which poverty and educational deficiencies are likely to be continually reinforced and more deeply entrenched. The profile of the typical ABE student differs strikingly from that of his usually middle class teachers, a fact which Ulmer concluded is an added hindrance to learning and to persistence because of the communication difficulties it fosters.

In addition to the other difficulties imposed by his life circumstances, the Adult Basic Education student is frequently handicapped by a number of personality factors which interfere with his learning and discourage his persistence. Puder (1968) stressed the tendency of the educationally deprived individual to become close-minded, alienated, and passive in the face of life circumstances he feels powerless to control. Puder further cited the inclination of the undereducated person toward avoidance of any stimulus he fears (including, of course, anything to do with school) and emphasized his tendencies toward hostility and anxiety toward authority, withdrawal, feelings of shyness and disability, and lack of interest in intellectual development.

Although the terms Adult Basic Education student and disadvantaged are not always synonymous, the high rate of educational deficiencies

among disadvantaged persons causes more of them to participate in ABE activities than other segments of the population. As cited by Wilson (1975), Anderson and Nemi have provided a summary of research findings in regard to the disadvantaged which includes a number of the observations already made about the Adult Basic Education student as well as some others of apparent relevance.

The disadvantaged have the lowest income, the poorest education, the largest families, the highest incidence of ill health, the least chance of employment and little promise of a better future. In addition, the disadvantaged are hampered by certain psychological disabilities including a lack of self-confidence, low self-esteem and a high degree of dependency. Because of their limited perception of the value of education, the disadvantaged display neither aspiration, nor motivation to achieve educational goals. Their lack of verbal facility impedes communication with other than their own kind. Consequently, they become outcasts, withdraw further into their own sub-cultural milieus. In time, the relationship between the disadvantaged and others becomes increasingly tenuous so that the possibilities of communication are lessened and the opportunity for community involvement becomes minimal (p. 5).

The Scope of the Adult Basic Education Effort

The plight of this country's functional illiterates and other Adult Basic Education students received its first substantial legislative assistance from the Economic Opportunity Act of 1964 and the Adult Education Act of 1966. According to Edwin Smith and McKinley Martin (1972):

Implicit in these laws is the recognition that in order to cope on a minimal level with the present and the future social and occupational conditions a person needs literacy education plus a basic core of concepts, facts, and attitudes necessary for upward mobility. This core may include orientation to the world of work, good health practices, consumer education, fundamental social science concepts, citizens' rights and possibilities, and personal social development (p. 18).

In the aftermath of this legislation, Adult Basic Education began to evolve and expand at an unprecedented rate. According to a study conducted for the National Advisory Committee on Adult Basic Education by Greenleigh Associates in 1968, ten separate agencies of the Federal government were conducting at that time at least 28 programs with Adult Basic Education components (U.S. Office of Education, 1968). Two years earlier a survey conducted by the Adult Education Association of the U.S.A. had indicated that approximately 600 non-governmental agencies were working to eradicate illiteracy in the United States (Firoza, 1966).

Adult Basic Education programs differ significantly among agencies and localities as they endeavor to consider "every facet of the illiterate's relationship (and that of other ABE students) to the sophisticated world about him" (Ulmer, 1972, p. 19). The major underlying goal of Adult Basic Education is "the strengthening of individuals, families, and communities" by means of a "curriculum which grows out of the needs and experiences of the students and in turn contributes to their development and betterment" (Mack, 1967, p. 1). Individual ABE programs reflect a variety of points of emphasis. Some focus upon personal development, others on preparation for employment, citizenship training, parent education, or consumer education. Programs may be geared to a wide variety of academic abilities from the levels of functional illiterates to those of high school diploma candidates and often serve a combination of purposes, depending on the needs and characteristics of particular student populations (U.S. Office of Education, 1968).

Characteristics of Adult Basic Education Persistersand Non-persisters, Participants andNon-participants

Existing research studies which focus on persistence in Adult Basic Education have tended to single out particular populations of persisters and dropouts and to analyze each group by sorting out its dominant characteristics. The same has been true of research dealing simply with participation and non-participation, both at ABE and general adult educational levels. Only a few researchers have tested specific hypotheses through advance speculation about what sorts of persistence and participation patterns would be observed, a fact which is in itself suggestive of the uncertainty of knowledge that exists in these areas. This section of the literature review summarizes a variety of studies which have relevance both in terms of characterizing (or failing to characterize) Adult Basic Education persisters and in describing previous research efforts in this area.

Some studies, Moss and Richardson (1967), Hawkins (1968), Prins (1972), and Hayes (1973), for example, have undertaken in depth descriptions of particular populations of adult remedial student dropouts without comparing these groups to similar groups of persisters. The research of Prins (1972) is perhaps the best representative of this group of studies, which is quite varied in both variables examined and findings. In his effort to investigate reasons for Adult Basic Education non-persistence, Prins sought to answer several general research

questions pertaining to why students had enrolled in ABE programs, what their classroom experiences had been, and why they dropped out. He interviewed 50 subjects (a 26% random sample of the 1969-70 dropouts from the Flint Adult High School in Michigan) and collected three types of data pertaining to (1) general background (sex, age, race, employment status, and other similar variables), (2) experience during period of ABE attendance, and (3) subjects' value judgments about others' reasons for dropping out. Prins concluded that the major causes for dropouts were non-school related including job obligations, illness, family obligations, etc. The vast majority of his subjects (90%) indicated that they would enroll in ABE classes again someday.

Moss and Richardson (1963) gathered and analyzed data on 306 persons (including 167 non-English speaking) who had discontinued Adult Basic Education classes in the Bronx, Manhattan, and Brooklyn areas of New York. Data collection was accomplished through a variety of methods such as personal interviews, telephone interviews, mailed questionnaires, and student records. The highest proportions of non-persisters in this study were 30-39 years old, married, achieving at the lowest instructional levels, and had dropped out after less than 50 hours of instruction. The two major reasons cited by these former ABE students for discontinuing their Adult Basic Education attendance were change of residence and interference with work obligations.

In further studies attempting to profile particular populations of Adult Basic Education non-persisters, Hawkins (1968) and Hayes (1973) confirmed the findings of other researchers that most dropouts occur for

non-school related reasons. Hawkins gathered information from 50 Negro interviewees, who comprised a 10 percent random sample of the 1965-67 dropouts listed in the Adult Basic Education and General Education Development programs of the New Orleans Public Schools, on factors influencing their withdrawals. She concluded that the main reasons for non-persistence were "personal" rather than "instructional." Hayes interviewed 80 former ABE students in an effort to determine the most important influences on their decisions to drop out. He employed both open-ended questions and a procedure where subjects made choices of relative importance among 25 structured suggestions presented to them. Hayes concluded that job requirements were the primary cause of dropouts, followed by physical handicaps and financial problems.

Like the two studies previously described in this section, Hawkins' and Hayes' findings depended heavily on the direct reports of ABE non-persisters in regard to their reasons for dropping out. As suggested in the preceding chapter, this is a somewhat questionable research approach.

In addition to the previously described studies which focused entirely on in depth analyses of particular populations of Adult Basic Education dropouts, a number of research efforts have attempted to analyze and compare demographic and personality profiles of ABE dropouts with those of persisters. Studies of this type include the work of Scharles (1966), Jack (1969), Killian (1969), Brooke (1973), and Wilson (1973).

The most noteworthy research in this category is perhaps Killian's (1969) analysis of factors associated with the persistence of 305 adults

in the Fundamental Learning Laboratories (for non-high school graduates) of the North Carolina community college system. One distinctive aspect of Killian's study is that it is one of relatively few ABE research efforts in which the researcher has ventured to test specific hypotheses by predicting in advance what sorts of persistence patterns he expected to find. Killian formulated and investigated five hypotheses contending that persistence would be related to a variety of factors having to do with academic ability, time factors (age and years since attending school), personality social adjustment, job related objectives, and employment status. Interestingly, though not surprisingly in view of the overall lack of knowledge of factors influencing Adult Basic Education persistence, only those hypotheses having to do with time factors were supported. Persistence was found to be positively correlated with age and with years since last school attendance. No significant relationships were found to exist in regard to the other four hypotheses.

Jack (1969) compared the characteristics of 50 program dropouts and 50 completers, all Negro women and Chicago welfare recipients, who had been students at Hilliard Adult Education Center during the period from 1965-68. He gathered data on a wide variety of demographic and personality characteristics including age, sex, marital and family status, birthplace, residence, employment history, educational level, reasons for leaving school, length of time on public assistance, interests and hobbies, placement test scores, health and child care problems, and program attitudes. Key findings reflect that dropouts and completers

differed significantly on placement test scores, health and child care problems, perception of program purposes and reasons for their own referrals, and satisfaction. On the other hand, the two groups showed no significant differences in such areas as aspirations for their children's education, attitudes toward themselves and fellow students (generally good), and attitudes toward teachers, counselors, and case-workers. The Jack study is cited in this literature review as a sample of the range of variables addressed in previous Adult Basic Education persistence research and the type of findings produced, not because of any particularly significant aspects of its methodology or conclusions.

Brooke (1973) investigated a wide cross-section of variables pertaining to psychological and socioeconomic characteristics in an effort to determine the sorts of factors which are associated with students dropping out of Adult Basic Education programs. His sample consisted of 61 persisters and 24 dropouts. Although Brooke's study produced very few significant findings despite the broad range of variables analyzed, it is interesting to note that it did indicate significant differences between dropouts and persisters in two aspects of home environment. Dropouts tended to have (or to have had) poorer family relations both while growing up and as adults than those who had persisted as Adult Basic Education students.

Two additional studies, Scharles (1966) and Wilson (1973), focused specifically on personality differences between dropouts and persisters in adult high school programs. The specific dimensions examined

included the three personality variables selected for the present research. The Scharles and Wilson studies employed the Edwards Personal Preference Scale and the Adjective Check List respectively and both supported broad hypotheses contending (1) that differences existed between the ABE study populations and the populations on which these instruments were normed and (2) that there were personality differences between dropouts and persisters in these populations. Generally, however, there appears to be little definitive relationship between these studies or between these and other personality investigations in regard to consistent conclusions or variables analyzed. Furthermore, they have identified personality differences on a number of rather obscure dimensions (examples: intraception, abasement, succorance, etc.) which would be of questionable practical value whether or not these findings can be replicated.

Closely related to research which has focused on ABE dropouts and persisters is a group of studies which have attempted simply to characterize Adult Basic Education participants and non-participants. This research includes the work of Hershey (1966), Kobberdahl (1970), Moore (1970), Cottrell (1974), and Richardson and Nyer (1974).

The most comprehensive of these studies is that of Richardson and Nyer (1974), who investigated the effects of three categories of variables on three dimensions of participation in Texas programs of Adult Basic Education: enrollment, attendance, and completion. This study involved distribution by mail of field tested questionnaires to approximately 500 ABE teachers and 2000 students at the beginning of

the 1972-73 school year (with about 65% return after intensive follow-up). In addition, 469 interviews were conducted with ABE teachers, participants, former participants, and non-participants through the use of four separate interview schedules in seven Texas locations. Richardson and Nyer used chi square and analysis of variance statistics to analyze how ABE students differed from comparable populations of non-participants according to (1) situational factors (variables relating to employment status; family and friendship; health, transportation, and location of ABE programs; and participant needs for specific skills and abilities), (2) dispositional factors (variables pertaining to perceived mastery of environment, self-concept of ability, social isolation, perceived importance of rules and perceived state of well-being), and (3) program related factors (recruitment techniques, ABE activities and friendship opportunities, perceived achievement or satisfaction, and instructional methods). In the case of situational factors, the area of most relevance for the present study, the researchers subdivided each of the categories listed. For example, the category "occupational and employment variables" was divided into separate measures relating to amount of income, desire for promotion or a better paying job, employer encouragement, job stability, employment status (employed or unemployed) and occupational prestige.

Richardson and Nyer hypothesized the direction in which Adult Basic Education participants would differ from comparable populations of non-participants on each of the numerous dimensions selected. These general predictions appear to be based, for the most part, on common sense (that

desire for promotion or a better job would be higher among participants than non-participants, for example) and the majority were supported, though often not to the point of statistical significance. In regard to those few findings which contradicted their hypotheses, Richardson and Nyer concluded that most of these "appear to be related to one general tendency: higher socio-economic categories show the highest rates of participation in Adult Basic Education rather than the lower socio-economic groups as was predicted" (p. 77).

Another study which focused upon a variety of ABE programs in a particular state is Moore's (1970) analysis of "non-cognitive attributes" of Adult Basic Education participants as opposed to non-participants in selected ABE programs. Although not nearly as comprehensive as the Richardson and Nyer study either in terms of number of subjects or number of variables investigated, Moore's research encompassed 486 subjects (343 usable returns) in ten North Carolina communities. While the primary focus of this study was to evaluate the effects of program participation on certain non-cognitive or affective attributes (internal-external control; attitudes toward work; attitudes toward law, education, and economic conservatism; self-concept), a secondary purpose was to analyze differences between participants and non-participants in regard to these variables. Interestingly, despite use of a variety of established instruments and statistical procedures (analysis of variance, least squares regression, multivariate discriminate analysis), the non-cognitive attribute measures failed to distinguish meaningfully between ABE participants and non-participants.

The researcher concluded that this failure was probably due in part to certain of the study's design limitations including lack of randomization in experimental and control groups. Moore also investigated the effects of sex, age, race, employment status and several additional sociodemographic measures pertaining to the "non-cognitive attributes" of ABE participants and non-participants. He was not, however, able to identify any definable pattern of relationships.

A third study in the area of ABE participation and non-participation is that of Kobberdahl (1970). Kobberdahl compared the characteristics of 66 participants in the Lincoln, Nebraska, Adult Basic Education program with those of 33 non-participants with "similar educational needs." In contrast to their non-student counterparts, this researcher found that ABE students were more likely to vote, less likely to head households, more likely to join voluntary organizations, less happy in their present homes, and more aware of educational programs. This study appears neither as comprehensive nor as intricate in its selection of variables as the studies of Richardson and Nyer (1974) and Moore (1970). Kobberdahl did, however, investigate the sex, age, race, and employment status variables focused upon in the present research and concluded that the typical ABE participant is as likely male as female, under forty years old, probably caucasian, and gainfully employed (as opposed to the non-participant who was just as likely unemployed). He also concluded that the ABE participant generally attends church while the non-participant does not.

Hershey (1966) and Cottrell (1974) conducted extremely similar studies comparing personality and non-personality (demographic) traits of inmate Adult Basic Education participants in the state prison systems of southern Michigan and Oklahoma respectively. Both studies matched pairs of participants and non-participants (30 pairs in one study, 32 in the other) and examined personality factors by means of such established instruments as the California Psychological Inventory, for example, and non-personality factors through the use of self-constructed questionnaires. Neither study found any significant differences between groups of subjects on non-personality variables. In terms of personality variables participants were found to be more confident, ambitious, outgoing, energetic, responsible, serious, and efficient in one study and more rigid, undependable, and conventional in the other.

In addition to research efforts which have attempted to draw extensive profiles of Adult Basic Education students through the analysis of multiple variables, a few studies have investigated the relationship between program persistence or participation and only one or two variables. One study representing this approach was done by Cunningham (1973), who examined the effects of self-esteem and perceived program utility on persistence and cognitive achievement among ABE students. This study employed a sample of 200 black welfare recipients with reading levels below eighth grade and involved the use of a verbally administered self-esteem instrument. Two specific hypotheses

were investigated: (1) Students with high self-esteem viewing the program as having low utility would be early dropouts; and (2) Among students viewing the program as having high utility, cognitive gain would be predicted by the level of self-esteem. Although this study encountered difficulty in "conceptualization of utility" and failed to produce definitive results, its underlying ideas provide some interesting challenges for further research.

A study by Buttedahl (1974) related level of aspiration to participation in Adult Basic Education activities. This investigation concluded not only that participants and non-participants can be distinguished according to level of aspiration but that this variable is not closely correlated with any other variable except anticipated reward. It was thus inferred that educationally disadvantaged persons with high levels of aspiration are particularly likely to participate in educational activities if they perceive that a high possibility of reward will result from this involvement.

Various research studies have focused upon the identification of factors associated with participation of adults in education programs not intended for the educationally disadvantaged. These studies, which encompass a variety of methodologies and results, include among others the work of Lowenstein and Lewis (1965), Teichert (1969), Jeghelian (1971), and Dao (1975). Generally, this research associates adult education participation with such factors as age, educational background, membership in voluntary organizations, and knowledge of

educational research. Dao (1975) focused upon reasons for non-participation and identified (1) unawareness and (2) perceived difficulty of achieving success as being the major categories of reasons offered by non-participants for their failure to take part in adult education activities. Although not related primarily to Adult Basic Education programs, these findings could be relevant in many instances for potential ABE students.

It is readily apparent from the preceding review of research attempting to characterize Adult Basic Education persisters and participants that little systematic attention has been given to the importance of social support systems. Generally, those few variables in these studies which pertain to support systems are included almost haphazardly as individual or small groups of items buried among much more numerous sets of dimensions pertaining to sociodemographic and personality variables. A partial exception to this trend is Richardson and Nyer's (1974) extensive study of factors influencing Adult Basic Education participation which does include several support dimensions in two of its variable categories: (1) employment status and (2) family and friendship. Even in the case of this research, however, social support system analysis is not a primary emphasis, a fact which is reflected by the inclusion of support system items on complicated questionnaires designed to measure numerous other items as well.

Although it is evident that support system variables have not attracted much attention in Adult Basic Education research design,

those dimensions pertaining to social support systems which have been cursorily analyzed in broad general studies have suggested that support system measures do have significant associations with Adult Basic Education persistence and participation. The work of Richardson and Nyer (1974) and Brooke (1973), particularly, suggests that more research should be done in this area.

The Influence of Social Support Systems on
Participation and Persistence in Adult
Educational and other Activities

This section contains research and literature review in four areas. These include: (a) social motivation and the "personality" of environments, (b) reference groups, (c) social support system implications suggested by two major analyses of general adult education participation, and (d) the effect of social environment on persistence through the intervening variable of self-esteem.

Social Motivation and the "Personality"
of Environments

Although social motives may vary greatly among institutions and societies, they exert a tremendous influence on human behavior. As Murray (1971) notes, the "I want the approval of my group" sentiment is strong and universal (p. 93). As Moos (1974) observes, this fact is generally recognized by institutions:

Almost everyone intuitively believes that the social environment has a significant impact on people functioning in it Families, social groups, business organizations, secondary schools, colleges and universities, military companies, psychiatric training programs, correctional institutions and communes all arrange social environmental conditions which they hope will maximize "desirable" behaviors (pp. 1-2).

Not only does the social environment of an institution have "a significant impact on people functioning in it," but the quality of that institution's social environment is probably more revealing about the overall nature of the institution than descriptions of any of its other aspects. Pace (1962), as cited by Moos (1974, p. 2), illustrates this contention, using colleges as an example. Each college, he maintains, has its own unique atmosphere and image, but only certain information about it is readily obtainable. Although it may be easy, as Pace suggests, to find out the size of a college, whether it is coeducational, where it is located, when it was founded, what degrees it offers, etc., these facts really have very little to say about what is important about a college.

Social system support has been recognized by research as an important aspect of industry environments and a determinant of worker persistence as well as performance. Schein (1965) states:

Motivation to work, productivity, and quality of work are all related to the nature of the social relations among workers and between workers and their boss Work performance depends not on the individual alone but on the network of social relationships in which he operates Studies of assembly lines and mass production have consistently shown that the major source of worker dissatisfaction is the disruption of social relations (p. 32).

A specific example of an industry study emphasizing the importance of social support systems described by Schein (1971, p. 61) is that conducted by Whyte (1948), who found that rates of absenteeism and quitting work as well as quality of customer service were significantly related to social and group factors.

The general influence of social environments on individual behavior and development has been movingly described in a number of outstanding fiction works. Moos (1974) offered capsule comments on a few of these:

. . . Mary Jane Ward (1946) described the horrendous physical and social environment of a mental hospital and gave an account of its shockingly detrimental effects in The snake pit. In Ken Kersey's (1962) One flew over the cuckoo's nest, patients responded adaptively to a rigidly structured psychiatric ward setting which required them to submit to the authority of "big nurse."

In sharp contrast, a warm supportive therapist and a constructive humanitarian hospital setting facilitated the recovery of a young schizophrenic girl in I never promised you a rose garden (Greenberg, 1964). In The magic mountain, Thomas Mann (1952) details how the social environment of a tuberculosis sanatorium slowly and insidiously affects a patient until that patient submits to its procedures and effectively gives up his outside life and identity. Solzhenitzn's (1969) Cancer ward presents a similar tale with a different outcome (pp. 2-3).

Fiction and other sources also provide support for the present study's contention that individuals respond to attitudes that they believe are present in their social environments whether or not they accurately perceive these attitudes. Two examples are suggested by McDonald and Schellenberg (1971). In Stephen Crane's The Red Badge of Courage, the youth (central character) flees from battle and then spends much

time in anguish over how his comrades will view his action. He tries desperately to develop a frame of mind to deal with their supposed reaction, to rationalize and live with that reaction. Later, however, the youth is surprised to discover that his friends are unaware that he has fled the battle, and thus he has no need for his carefully constructed defenses. He finds instead that "his self-pride is now entirely restored." He finds a new self-confidence, and is, as Crane says, "still a man" because "he had performed his mistakes in the dark." Sociologist Charles Horton Cooley (1922) expressed the same idea in his concept of "The Looking Glass Self":

In a very large and interesting class of cases the social reference takes the form of a somewhat definite imagination of how one's self--that is any idea he appropriates--appears in a particular mind, and the kind of self-feeling one has is determined by the attitude toward this attributed to that other mind The thing that moves us to pride or shame is not the mere (looking glass) mechanical reflection of ourselves, but an imputed sentiment, the imagined effect of this reflection on another's mind We always imagine, and in imagining share, the judgments of the other mind. A man will boast to one person of an action--say some sharp transaction in trade--which he would be ashamed to own to another (p. 48).

Reference Groups

The concept of social systems is often associated in the literature with the term reference groups. As cited by Napier and Gershenfeld (1973, p. 55), Kelly (1952) identified reference groups as serving two distinct functions. On the one hand these groups provide a framework for comparison to the extent that the individual uses the behavior, attitudes, circumstances, and other characteristics of other group

members as standards for making his own judgments and evaluations. At the same time the group serves a normative function to the degree that the group's judgments (or the individual's perceptions of these judgments) of the individual depend upon the extent of his conformity to certain established group standards of attitude and behavior.

In this context it is important to note that the fact of an individual's group membership does not of itself mean that the group is for him a reference group. An individual's reference groups are those to which he is psychologically committed (and thus subject to group influence) beyond the mere fact of membership. For some individuals the immediate family, for example, may serve in a much more influential referent capacity than for others, or as is more noticeable in many cases, the role of the family in influencing the individual's attitudes and behavior may vary significantly at different points in his life. A noted documentation of this latter circumstance is Theodore Newcomb's classic Bennington College study (1935-39). Newcomb had thought it paradoxical that although most of Bennington's students come from "conservative upper middle class business and professional families," the college itself had long been established "as a seat of liberal and progressive political thought" (McDavid and Harari, 1974, p. 256). His study revealed that gradually over their college years students come more and more to reflect the influence of their (at first higher academic level) college associates as a primary reference group while reflecting the influence of their families less and less.

Although various analytical articles and research studies have produced implications regarding the importance of social support systems for adult education students, there has been little research aimed specifically at these systems. One significant exception is Frandson's (1970) study relating to selected reference group concepts of adult education enrollment patterns. Investigating the basis for the finding of other researchers (see, e.g., London, Wenkert, and Hagstrom; 1963) that the extent of adult education participation differs for different social classes, Frandson hypothesized that variations in enrollment among different socio-economic statuses are partly attributable to differences in the support or lack of support which adult education participants feel that they receive from particular reference groups. His study employed a statistical design which analyzed the effect of support systems independently of status.

As reference groups, Frandson selected (1) family, (2) friends, and (3) admired people. He devised a questionnaire which examined 205 Los Angeles County adult students at different socioeconomic levels according to three dimensions for each subject: (1) the support he received from each of the three potential reference groups. (2) the degree of equivalence between the individual's adult education norms and values and those of these groups, and (3) other aspects of the relationship between the student and his potential reference groups.

Frandson had expected to find that support system strengths differed appreciably among different socioeconomic statuses.

Surprisingly, however, he found no significant differences, thus failing to support his original hypothesis and bringing him to the conclusion that socioeconomic status does not affect level of support for adult education activities.

Although Frandson did not focus his study on Adult Basic Education students, and his conclusions may not be universally applicable, his work certainly raises the possibility that there are strong potential support sources within the life situations of Adult Basic Education students which have not attracted sufficient attention or adequate cultivation.

Another study which, though not focusing on adult students, does interrelate the concepts of reference groups and persistence is Malec's (1968) analysis of the influence of reference groups in causing high school dropouts. By means of a questionnaire distributed to 2007 high school students Malec investigated three reference groups (family, peers, and teachers) for each of his subjects with respect to their (reference groups') values concerning education and certain related variables including family integration, achievement values, and academic self-concept. A year later, after 122 of his subjects had dropped out of school, these were compared with two control groups, one randomly selected and the other matched for selected variables. The results indicated that family influences were important in the case of the randomly selected control group but not in the case of the matched control group. In the case of non-family influences the

reverse situation occurred; they were found to be important with the matched but not with the random control group.

Implications relating to the importance of reference groups in influencing individual attitudes are apparent in a variety of types of research in which this terminology is not employed. One of the most significant such studies is Weigel's (1969) comparison of 76 junior college persisters and 49 dropouts on numerous general and specific dimensions including their responses to 17 suggested items relating to their reasons for entering college. Weigel found that persisters and dropouts differ significantly on only two of these items: "preparation for a better paying job" (.01 level) and "encouragement by people outside the college" (.05 level). The second finding is, of course, particularly important in terms of the present study's emphasis on social support systems outside of Adult Basic Education activities.

Studies by Goldstein (1967) and Parelus (1967) produced evidence relating the importance of family support to the school achievement of children. Goldstein "tentatively" (though not surprisingly) concluded that student performance results from a combination of personal, peer, or familial characteristics and school characteristics. Although Goldstein was able to identify "few significant and consistent" socioeconomic factors which affect school achievement, he did identify some fairly specific family characteristics associated with academic success in children. Interestingly, the important factors indicated are quite different for boys and girls.

Parelius' (1967) analysis of sociological factors affecting the achievement of lower class Negro children may be more important in terms of the present study because it centered upon a population which is also the focus of much of the Adult Basic Education effort. Parelius (1967) concluded "that as a group social and demographic variables were the most important predictors of achievement. However, these and other factors declined in importance from the 4th to the 6th grade while parental values and attitudes increased in importance" (p. 11). Based on this latter finding, it seems reasonable to speculate that the relative influence of social support system factors on a child's orientation toward school might continue to increase as the child approaches adulthood.

A third study which focused on the influence of family and parental values on the school orientation of children was that of Kirby (1969). Ironically, in terms of the present study, this research compared the scholastic attendance and achievement of first graders at least one of whose parents was participating in an ABE program with those whose parents were not participating. Kirby found that those children who had one or both parents in the ABE program had higher attendance and achievement records than those whose parents of similar educational deficiencies and life circumstances were not ABE participants.

Turchan (1965) compared matched pairs of high school dropouts and persisters in an urban school system and found significant differences (.01 level) between the attitudes toward education of parents of the

two groups. He also found that persisters had significantly more friends in school than dropouts.

Social Support System Implications Suggested

by Two Major Analyses of General

Adult Education Participation

In another type of analysis focusing upon overall adult education participation, Harry Miller (1967) used Kurt Lewin's force-field analysis approach to identify both positive and negative factors which affect participation at all social levels. The force-field concept, an aspect of Lewin's Change Theory, has been described by Houle (1974) as resting on "the idea that in any defined social situation, the present level of accomplishment is supported by some factors and held back by others" (p. 18). Although Miller's analysis identified a wide variety of contributing and hindering factors affecting participation in adult education at various socioeconomic levels, some of these seem particularly relevant to this study's emphasis on social support systems of the lower and working classes.

In the category of education for vocational competence, Miller included no positive (contributing) forces which seem related to social support systems at the lower class level but included among his negative (hindering) forces (1) action-excitement orientation of the male culture, (2) hostility to education and to middle class object orientation, (3) limited access through organizational ties, and (4) weak family structure, all of which are relevant to the Adult Basic

Education student's predicament in terms of social motivational factors which might discourage his persistence in educational activities. At the working class level Miller included (1) union pressures toward upgrading and presence of organizational access and (2) job stability among his positive forces (contributing to adult education participation) and (1) fear of relinquishing belonging need satisfaction of peer group culture (weakness of mobility drives) and (2) hostility to middle class object orientation among his negative factors (hindering adult education participation).

In the category of education for personal and family competence, Miller included (1) strong belonging needs in women and (2) positive values in some ethnic groups as positive factors at the lower class level and (1) unstable family structure of many and (2) organizational isolation as negative factors related to social support systems. At the working class level all of the factors which Miller listed seem related to social support systems. Positive factors were (1) strong belonging need, (2) stable family structure, and (3) access through organizations. Negative factors included (1) suspicion of middle class value system and (2) isolation of peer group culture.

It must be emphasized that Miller's work is not a research study. The factors he set forth in his force-field analysis represent forces which he contended are instrumental in affecting adult education participation patterns. He did not support them by scientific or statistical documentation. Miller's work is nonetheless quite

relevant to the present study because it sets forth a conceptual framework in which the importance of socially motivating factors in Adult Basic Education can be clearly seen. It also offers the clear implication for Adult Basic Education practice that participation (and persistence) levels can be increased only by strengthening the forces which encourage the individual's participation and by weakening those which do not. These ideas have been virtually ignored in Adult Basic Education research design.

In their comprehensive study Adult Education and Social Class, London, Wenkert, and Hagstrom produced some important findings about blue collar workers which have significant implications relating to the social motivation obstacles confronted by Adult Basic Education students. These researchers also cast doubt on the frequent research contention (based largely on explanations offered by ABE dropouts) that persistence failures are primarily attributable to conflicting demands on the time of Adult Basic Education students.

London, Wenkert, and Hagstrom arrived at three particular conclusions whose combined effect is to challenge the assertion that time pressures per se are the main factor in causing ABE dropouts (assuming that most ABE students are blue collar workers if they are employed at all). These are: (1) that adult education participation is generally less among blue collar workers than among white collar workers, (2) that the availability of leisure time is increasing for all workers but (3) that the availability of leisure time is growing faster among

blue collar than among white collar workers (pp. 88-105). London, Wenkert, and Hagstrom also found that unemployed workers in this study had the lowest adult education participation rate despite their greater availability of free time. They comment on this situation in the following manner:

It appears that unemployment often leads to a psychological sense of hopelessness, combined with apparent apathy and a virtual inability to exert energy and effort to improve one's position. This is probably most true when retraining does not insure subsequent employment. Before we can reasonably induce workers to enter the various manpower retraining programs around the country, we must make a greater effort to ensure that the training is tied to jobs actually available in the labor market. Unless the result of retraining is the assurance of a definite job, we will only increase frustration and discontent among workers who are being replaced by machines and who may well constitute a permanent unemployed group in our society (p. 150).

These researchers have also reflected their recognition of the value of employer support in encouraging adult education participation by suggesting that employers institute programs of "day-release" time in the incorporation of education and training as a condition of employment. Also they have raised the possibility that business and industry might establish reward systems which would provide incentives for employees to participate in education and training programs both on and off the job.

London, Wenkert, and Hagstrom reached another conclusion which emphasizes the importance of social support systems in blue collar adult education participation, and whose implications would seem to apply generally to the ABE student population as a whole. They found that

people are most apt to participate in adult education activities if their friends participate (regardless of social level), but that blue collar workers are no more than half as apt to have participant friends as white collar workers.

The general literature of social psychology provides further rationale to support the contention that social reinforcement is particularly crucial to the persistence of Adult Basic Education students. McDavid and Harrari (1974) cite several studies which indicate that "the extent to which one is confident of his abilities in a particular situation is an important determinant of conformity to social pressures" (p. 224). This research suggests that persons with low self-confidence, a usual characteristic of ABE students, are particularly vulnerable to social influence.

Also, a number of studies have focused on the effects of social acceptance on self-esteem, a variable which may indirectly influence persistence. As summarized by Ziller, Hagey, and Smith (1969), the findings of these studies agree that "self-evaluation emerges largely within a social frame of reference. If social environment changes, a corresponding change in self-esteem may be anticipated" (p. 1). In regard to persons whose lack of social acceptance (which many Adult Basic Education students may experience within their own social environments as a result of their participation in adult education activities) causes them to lack self-esteem, Ziller, Hagey, and Smith cite Witkin's (1962) conclusion that:

The person with low self-esteem is field dependent, that is he tends to passively conform to the influence of the prevailing field or context. Since the individual's behavior is directly linked to immediate environmental circumstances and is not mediated or differentiated or integrated by self-concept, he is thereby inclined toward inconsistency (p. 2).

In the case of the Adult Basic Education student this inconsistency is often reflected in his attendance patterns. It thus becomes readily apparent that social motivation affects persistence through the intervening variable of self-esteem.

Summary

The literature reviewed in this chapter reveals that Adult Basic Education persisters and dropouts as well as participants and non-participants have been studied and compared in terms of a wide variety of predominantly demographic and personality variables. The majority of studies attempting to characterize non-persisters have placed heavy reliance on the direct statements of these persons as to their reasons for dropping out of Adult Basic Education programs, a methodological approach which appears questionable in light of other research evidence. Uncertainty of knowledge in regard to factors associated with Adult Basic Education persistence is made further apparent by the fact that few researchers have ventured to test specific research hypotheses by speculating in advance what demographic and personality patterns would be consistent with Adult Basic Education persistence. In any case, no consistent profiles of persisters or non-persisters have emerged from previous research. Existing studies appear to

agree upon only one important unchallenged finding: the apparent fact that most ABE dropouts occur for non-school associated reasons.

The most effective means of filling gaps which exist in the literature may be a new research approach based on both the limitations and the success experienced in past studies. Since demographic and personality approaches to prediction have failed to yield any consistently reliable basis for distinguishing persisters and non-persisters, the prediction effort needs to be expanded to include a new category of variables. Information pertaining to these variables should be obtained through other means than after the fact statements of non-persisters regarding their reasons for dropping out of ABE programs. Also, in order to be consistent with previous research results, a new research approach should focus on the out of school lives of ABE participants.

Although the importance of the social support perceptions of ABE students has not been previously investigated in regard to Adult Basic Education persistence, such an effort should meet the criteria suggested by the results of previous studies. Furthermore, as the literature reviewed in this chapter indicates, support system characteristics have been shown significantly related to human behavior in a variety of contexts. This fact has been documented by studies in industry and education and supported by a number of fiction works. Additional research suggests the possibility that social support systems may be particularly crucial for Adult Basic Education students.

This contention is based on the frequent low self-confidence and self-esteem of these persons and their constant vulnerability to opinions they think others hold of them.

A primary purpose of the present study was to compare the prediction effectiveness of social support variables to that of representative sociodemographic and personality variables employed by previous researchers. The literature reviewed in this chapter revealed that with one exception each sociodemographic or personality variable chosen for this study was used as a predictor in a minimum of two previous studies dealing with Adult Basic Education participation or persistence. In the majority of instances, in fact, these variables or similar ones were each involved to some extent in three or more studies cited in the literature review. In the case of the self-confidence variable, for example, predictors which are termed self-confidence or confidence were employed by Hershey (1966), Wilson (1973), and Cottrell (1974). At the same time, the research of Moore (1970), Prins (1972), Cunningham (1973), and Richardson and Nyer (1974) involved a number of closely related concepts not always cited in the literature review. These include self-concept, self-concept of ability, self-esteem, and self-image.

One sociodemographic variable employed in this study which has not received much direct attention from previous research was time since last school attendance. This measure was included because it proved a significant predictor of persistence in one major study, Killian (1969).

On the whole, the literature reviewed in this chapter seemed to support the conceptual framework of the present study and to offer a reasonable prospect that it would yield productive results.

Chapter III

METHOD OF THE STUDY

This chapter contains the methodology employed in comparing the relative worth of perceived social support system variables to that of demographic and personality variables in predicting Adult Basic Education persistence. Included in this presentation are descriptions of the present study's population, the instruments used and their specific applications, and the means by which the data were collected and analyzed.

Design

The present study was ex post facto research. The researcher performed no manipulations of subjects or treatments as would be the case in an experimental study. The starting point for this study, as in all ex post facto research, was the observation of the dependent variable. As Kerlinger (1973) states, "the investigator starts with the observation of the dependent variable and retrospectively studies independent variables for their possible effects on the dependent variable" (p. 315). Ary, Jacobs, and Razavich (1972) explain further that in ex post facto research "the consequence is immediately observable and the problem is to determine the antecedents that gave rise to that consequence" (p. 264). These writers also cite an additional characteristic of ex post facto research, the important fact

that most studies of this type identify "functional" rather than "causal" relationships. As Ary, Jacobs, and Razavich (1972) elaborate:

A functional relationship is one in which it has been demonstrated that a change in one variable is accomplished by a change in the other, but the relationship is probably based on a complex system of interactions rather than being directly causal. A causal relation is one where a given event, called the cause, invariably precedes a certain other event called the effect (p. 264).

In the present study, persistence measures (the dependent variable) were first obtained on all subjects. The investigator then analyzed the relationships between these measures and demographic, personality, and support system factors (independent variables) which may have influenced them. It is important at this point to stress that this study did not purport to identify the causes of persistence, but rather to improve the rate at which it may be predicted among Adult Basic Education students. Prediction success can be enhanced by the identification of "functional relationships" which offer opportunities for no more than tentative inferences about causality.

Sample

This study involved 163 Adult Basic Education students who were enrolled in GED preparatory classes in the three Virginia school districts of Roanoke, Newport News, and Richmond in September, 1976. These three localities were selected for this research because they all serve diverse urban populations and because their GED program organizations were suitable to the present study's design. The sample was confined to GED students both to assure a relatively homogenous

research population and because this group is more numerous and accessible than students at other Adult Basic Education ability levels.

While individual students were given the opportunity not to take part in this research, none declined to participate and only several returned data with numerous or conspicuous omissions. The research sample thus involved virtually all students who were present in their particular GED classes during the sessions that this study's instruments were administered. These included totals of 36 in two Roanoke classes, 48 in three Newport News classes, and 79 in 3 Richmond classes.

Adults who participated in this study were all students in part-time GED classes which met 5-6 hours per week in two evening sessions. These classes involved high school level subject matter in English, reading, and math and were designed to prepare students to pass the GED high school equivalency examination. The GED programs in all three cities continue for the entire academic year, though in Richmond and Newport News students who wish to remain enrolled are required to reregister after ten weeks. Roanoke and Richmond GED classes are free, while Newport News charges a nominal (\$18) tuition.

The research sample was intentionally shaped to some extent by the time of data collection, which occurred in each case during the second week (third or fourth session) of class meetings. In this manner an effort was made to accomplish two objectives. In the first place, data were collected early enough to include subjects who had attended several classes and thus demonstrated some serious intent in preparing for their GED's, but who had not yet had time to establish

themselves as fully committed (or not fully committed) to adult education participation. At the same time data were collected late enough in the enrollment period to eliminate adults who may whimsically have attended one or two classes without serious intent. In the case of this latter group of students, it would have been misleading to associate social support factors and other predictor variables with the persistence rates of persons who did not enter their GED programs with some degree of commitment.

Instrumentation

Instruments were required in this study for purposes relating to the three categories of variables described in Chapter I. These included a short questionnaire pertaining to sociodemographic variables; the Adjective Check List, for measurement of personality variables; and the Social Climate Scales, for measurement of selected social environment factors.

Questionnaire

In a short questionnaire designed by the researcher, study participants were asked to respond by filling in blanks to nine items pertaining to general background information. These included name, instructor's name, age, race, sex, employment status, time since last school attendance, previous ABE experience, and time since last ABE experience. The first two of these items were used only for purposes of matching data provided by participants to these persons' attendance

records. The last two items were included to determine their possible effect as intervening variables.

The Adjective Check List

The Adjective Check List (ACL) was employed to measure three of the personality variables investigated: achievement need, affiliation need, and self-confidence. This instrument provides a list of 300 adjectives alphabetically arranged and necessitates that the respondent check those which he considers descriptive of himself. The adjectives checked by each respondent can then be analyzed in terms of a variety of individual characteristics on a total of 23 scales focusing on specific personality traits and a 24th scale which adjusts standard scores on each of the other scales by controlling for the respondent's total number of adjectives checked on the entire ACL instrument. Such a control mechanism is necessary according to Gough and Heilbrun (1965) because "the tendency to check more or fewer words obviously reflects certain personological dispositions, but it also acts as a response set artifact in the scoring of other scales" (p. 7). The use of this adjustment scale with certain modifications appropriate for the present study is discussed in a later section of this chapter.

The instrumentation approach represented by the Adjective Check List offers some advantages over other types of instruments which may be particularly helpful in the context of the present study. According to Gough and Heilbrun (1965):

The particular value of the check list approach is that it can offer words and ideas commonly used for description in everyday life in a format which is systematic and standardized. The approach is fully idiographic in that one thinks only of the person or event being described and non-technical in that no special knowledge or competence is prescribed (p. 5).

Anastasi (1970) notes further that the ACL "is applicable to a wide variety of problems and has already been extensively employed in research" (p.633). The bibliography (1971) in the Adjective Check List Manual lists over 250 research studies which have made use of the ACL.

Wilson (1974) used the ACL in a study involving 142 students in ABE high school completion programs and studied the appropriateness of its use for Adult Basic Education populations. Wilson concluded that although the ABE sample scored somewhat lower on the instrument as a whole (and also on the three specific dimensions of interest in this study) than the ACL norm scores and therefore that the ACL requires careful interpretation when used with Adult Basic Education students, it does provide a "consistent personality attribute portrait of the ABE sample" (p. 12). Upon close examination, the standardized mean scores for Wilson's subjects on the 24 ACL dimensions averaged approximately .4 of a (norm scores') standard deviation less than the norm scores reported in the ACL manual. Also, the standard deviations for Wilson's subjects averaged about one point less for the 24 dimensions. These generalizations hold true in regard to the average standard scores and standard deviations of the self-confidence, achievement, and affiliation scales which were of importance in the present investigation.

Since the present study focuses on only three of the 24 scales on the Adjective Check List, only a limited number of the instrument's 300 total adjectives were of importance in gathering the information needed for this study. The scoring of the self-confidence, achievement, and affiliation dimensions involves 40, 38, and 34 items respectively but overlap among the three dimensions reduces the total number of items to 91.

Although the Adjective Check List Manual offers substantial information about the reliability and validity of the ACL as a whole, as well as its individual subscales, much of this was not of primary importance to the restricted emphasis of the present study. Test-retest reliability coefficients for a group of 56 college males were .73, .81, and .81 for the self-confidence, achievement, and affiliation scales and only slightly lower for 23 college females over a ten week interval. For a group of 100 adult males test-retest coefficients for these three scales were respectively .69, .60, and .33 after a six month period. The low coefficient for the affiliation scale in the latter case is surprising, particularly in view of the fact that the test-retest reliability coefficient for this same scale was .54 for a group of medical students retested after five and one-half years, which compares favorably with the .63 and .52 coefficients for the self-confidence and achievement scales under the same circumstances.

The concept of validity is a complicated one, particularly in regard to personality instruments where precise criterion measures are difficult to obtain. As Gough and Heilbrun (1965) state:

. . . a good portion of the "validity" of an instrument in use must come from the skill and insight of the practitioner, from his sensitivity to patterns and configurations and his ability to translate psychometric information of the profile into a valid formulation of the individual case (p. 16).

As cited in the Adjective Check List Manual, various efforts have been made (see e.g., Heilbrun, 1958) to relate ACL need scales to those of other instruments such as, for example, the Edwards Personal Preference Scale. These have produced sometimes significant (.01 level) results, but seldom noteworthy ones, particularly in regard to the three scales of interest in the present study. In another study cited in the manual, Heilbrun (1959) found five of the ACL scales, including those relating to achievement and affiliation needs, "to have significant relationships to non-test indices of the same dimensions" (p. 16). In other studies mentioned in the ACL manual, Heilbrun (1963 and 1961) found the Adjective Check List helpful in predicting college dropouts and in "identifying students who terminate counseling prematurely" (p. 17), though the manual does not specify what scales were involved in these projections.

The Adjective Check List is a straightforward, uncomplicated instrument which is not time consuming and has previously rendered consistent personality profiles in research involving Adult Basic Education students. Particularly in view of the present study's focus upon relative personality measures among ABE students themselves and not upon comparing these persons with other populations, it would seem that the ACL standard scores have provided suitable measures for this study's purposes.

The Social Climate Scales

In addition to the measurement of personality variables, instrumentation was necessary to analyze the qualities of three potential social support systems (family, work environment, and church environment). This analysis was conducted through the use of three of the Social Climate Scales designed by Rudolph H. Moos.

The Social Climate Scales were developed at the Social Ecology Laboratory, Stanford University, and the Veterans Administration Hospital, Palo Alto, California, by Moos in collaboration with several other persons and published in 1974. These scales are based on the premise that environments have unique personalities just as people do. Some environments are thus, for example, more supportive, rigid, or autocratic, than others. Nine different Social Climate Scales have been developed to focus upon a variety of social settings including treatment environments, total institutions such as correctional facilities and military settings, educational environments, and community settings. The present study employed parts of the three scales in the latter category, which analyze the environments of families, work milieus, and social, task-oriented, and therapeutic groups. The groups scale was used to analyze church related social support systems.

The three Social Climate Scales employed in this study were used to analyze how Adult Basic Education students perceive the family, work, and church environments of which they are a part. Each contains three types of dimensions: relationship, personal growth, and system maintenance. Relationship dimensions are designed to "identify the

nature and intensity of personal relationships within the environment," including the extent to which they "support and help each other" (Moos, 1974, p. 13). Personal development dimensions focus on the effects of particular environments on directions of personal growth, while system maintenance and system change dimensions focus on the extents to which each environment is "orderly, clear in its expectations, maintains control and is responsive to change" (Moos, 1974, p. 14).

The Social Climate Scales are most frequently used to characterize certain specific environments by combining the assessments made of these environments by a number of individuals. In the present study, however, they were used only to describe the individual's perceptions of three particular environments, not to make appraisals of the environments themselves. This would, in fact, be difficult to accomplish in any case because the vast majority of this study's subjects were the products of entirely different family, work, and church backgrounds.

Although the family environment, work environment, and group environment scales each include a total of ten subscales, the present study did not attempt to focus on all of these. Some subscales in each category are concerned with characteristics of social support systems which would appear to have little obvious or direct effect on a prospective ABE student's educational pursuits (for example, physical comfort on the job). Although a number of the other subscales focus on environmental dimensions whose relevance to the present study is open to question, an effort was made in this research to concentrate

only upon those particular subscales in each of the three major scales which focus upon the kind of environmental assessments most clearly relevant to this study's conceptual framework. These include all of Moos' relationship dimensions for each of the three major scales and several personal growth dimensions.

Family Environment Scale subscales employed in this study were cohesion, expressiveness, conflict (relationship dimensions), independence, achievement orientation (personal growth dimensions). Work Environment Scale subscales included were involvement, peer cohesion, staff support (relationship dimensions) and autonomy (personal growth dimension). Group Environment Scale subscales employed were cohesion, leader support, expressiveness (relationship dimensions) and independence (personal growth dimension).

Test-retest reliability, internal consistency, and average item-subscale correlation data for the Family Environment Scale (FES) is provided in the Family, Work, and Group Environment Manual, as are the latter two categories of data for the Work Environment Scale (WES) and the Group Environment Scale (GES). All of these measures are generally categorized in the manual as adequate or "acceptable" for all three scales. Based on the Kuder Richardson Formula 20, internal consistencies of the FES subscales employed in the present study ranged from .64 to .78. Average item to subscale correlations for the FES ranged from .45 to .58. These measures were calculated on a "preliminary normative sample" including 814 persons. Test-retest reliability coefficients calculated on 47 members of nine families

ranged from .68 to .86. For the WES, Kuder Richardson internal consistency measures ranged from .70 to .85 while average item-subscale correlations ranged from .48 to .60 for the subscales used in this research. The samples on which these measures were computed consisted of 624 subjects in 44 work groups of diversified types at all work levels, from professional employees to maintenance workers of assorted job descriptions. In regard to the GES, internal consistency measures for the three relationship subscales (cohesion, leader support, and expressiveness) ranged from .71 to .85 while item-subscale correlations ranged from .52 to .64. For the independence subscale both measures were somewhat lower, .61 for internal consistency and .42 for average item-subscale correlation. GES measures were computed on a sample of 188 persons. It is important to stress that the data reported on all three scales are based on separate individual responses (as emphasized in the present study), not the combining or averaging of these responses.

In addition to the data presented above, subscale intercorrelations were computed for all items on all three major scales to be employed in this research. Average subscale intercorrelations were about .20 for the FES and approximately .25 for the WES. While the subscale intercorrelations for the GES were somewhat higher, only two of the 45 measures were above .50 for the 188 member sample. The manual concludes that the GES intercorrelations "are not high enough to justify collapsing any additional subscales on the basis of the present normative sample" (Moos, 1974, p. 31).

As already noted, the present research was concerned not primarily with discriminating among different environments but with identifying each subject's perceptions of certain of his own environments. Nonetheless, selection of the Social Climate Scales was based partly upon evidence that they can be used to characterize and distinguish effectively among environments. Such evidence helps to legitimize this study's use of the Social Climate Scales as a means of characterizing and distinguishing different individuals' perceptions of environments because the measurement of such perceptions is the first step in determination of environmental differences. Evidence which suggests that environmental differences have been successfully identified through use of the Social Climate Scales in the past thus helps to validate this study's use of these instruments to identify individual perceptions of social environments.

Moos (1974, p. 23) asserts that on the whole the Social Climate Scales are capable of discriminating among environments about as effectively as personality instruments distinguish among people. This contention is based upon average proportions of total subscale variance (between 20% and 30%) accounted for by differences among environmental subunits for several scales in both treatment and correctional programs. Proportions of variance accounted for by environmental differences, the author concedes, can differ greatly according to sample and subscale. In a sample of 38 classrooms, for example, the amounts of variance accounted for by different subscales varied from 21 to 48 percent.

One issue which might be raised in connection with any attempt to measure individuals' perceptions of environments is the extent to which these perceptions are affected by the personality characteristics of the perceiver. While readily acknowledging that there are "some relationships between individual personality and/or background characteristics of subjects and their perceptions of environment," Moos (1974) contends that "these relationships are not usually very substantial" and that "it is also unclear to what extent they reflect differences in the sub-environments actually experienced by individuals" (p. 24). In support of this assertion Moos also cites the low correlations of various Social Climate Scales and subscales with specified background characteristics of individuals and states that similar conclusions have been reached by other researchers (e.g., McFee, 1961; Pace, 1969).

The Social Climate Scales were selected for this study in preference to other possible environmental measures because of their capacity to explore the "feel" of how individuals perceive an environment to function. This information is much more important to the conceptual framework of the present research than the identification of isolated facts about social environments (such as size of family, for example), which Moos (1974, p. 21) suggests are often all that is provided by other instruments purporting to analyze social environments. Raw scores from selected subscales of the Social Climate Scales provided appropriate social support measures for this study's purposes.

Collection of Data

In order to acquire the information needed in this study, this researcher visited eight classes in the Virginia school districts of Roanoke, Richmond, and Newport News during the period from September 20 to 27, 1976. The researcher explained to each class the purpose of the study, that it would occupy 30 to 45 minutes of class time, and requested that students participate. After defining terms and responding to student questions, he then orally administered the instruments described in the previous section to each class, item by item, inviting further questions and making necessary clarifications in the process. Although all students present when this study's instruments were administered agreed to participate in this research, several returned responses which had to be discarded because key items had been omitted.

The primary means of gathering data have been generally described in the discussion of instruments in the preceding section. Information pertaining to sociodemographic variables was obtained through use of a short questionnaire devised by the researcher. Selected personality measures were acquired through appropriate subscales of the Adjective Check List by Gough and Heilbrun. Social support system data were obtained through use of designated subscales of Moos' Social Climate Scales pertaining to family, work, and group (church) environments.

Because of program time limitations and student handicaps in reading ability and lack of test sophistication, it was necessary to

simplify this study's instrumentation as much as possible. For this reason, the required subscales of the Adjective Check List and the Social Climate Scales were administered orally. Listings of the items included in these subscales, together with the questionnaire devised by the researcher, are included as Appendix A.

In the first week of December, 1976, meetings were held with teachers and administrators and attendance records were examined for each school district involved in this study. This occurred after the completion of at least twenty meetings in all classes. In view of the previous research finding (Moss and Richardson, 1967) that most Adult Basic Education non-persisters drop out within the first fifty hours of instruction, this interval should have been sufficient for meaningful analysis of persistence patterns. Discussion with teachers resulted in the elimination of the data provided earlier by four students who apparently had been forced to discontinue their GED enrollments due to circumstances beyond their control. One of these was in the latter stages of pregnancy and three others may have been forced to stop class attendance because of a bus strike in Richmond which occurred during the period of the study. (Telephone follow-up of other cases whose pattern of absences coincided somewhat with the dates of the strike indicated that these persons had not used buses as a means of transportation to class.) Discussion with teachers also dictated that three more sets of student responses be dropped from data analysis because these were provided by students who discontinued

class attendance after teachers had suggested to them that they already had sufficient knowledge to pass the GED test.

With the elimination of eleven sets of responses for various reasons (including those judged inadequate at the time of data collection) the number of individuals upon whom data could be analyzed was reduced to 152. All of these students provided complete responses to sociodemographic and personality instruments and to all family items of the Social Climate Scales. Since the remaining Social Climate Scale subscales employed in this study asked questions pertaining to work and church environments, students could respond to these items only if they worked and/or attended church. Seventy individuals (of the 152 who provided data retained for analysis) responded to both work environment and church environment items, providing 70 sets of complete data including all sociodemographic, personality, and support system items. A total of 49 additional individuals responded to family and work environment subscales, but not to church environment subscales, while 19 more persons completed family and church subscales but not work items. Fourteen persons did not respond to work or church items.

Treatment of Data

The primary emphasis of this study was to determine the relative importance of perceived social support system variables in predicting Adult Basic Education persistence. In order to accomplish this it was necessary both to assemble and to compare data pertaining to the three

major categories of independent variables and to set forth criteria for categorizing dependent variable measures.

Data collected in this study were measured at two levels. Three sociodemographic variables (sex, race, and employment status) were measured at the nominal level. The other two sociodemographic variables (age and time since last school attendance) and all personality and social support variables were measured at the interval level.

The primary analyses of this study were performed on those 70 data sets which included measures for all three categories of social support variables as well as sociodemographic and personality measures. Additional (incomplete) sets of data were used where appropriate in the investigation of the prediction abilities of particular individual variables. The sociodemographic variable employment status was involved only in these supplementary analyses, since all 70 persons providing complete data sets had to have been employed in order to respond to the Work Environment Scale.

As discussed in the preceding section, measures of personality variables were derived through use of the self-confidence, achievement, and affiliation subscales of the Adjective Check List. Since only 91 of the 300 adjectives on the ACL figure in the scoring of these subscales, subjects were presented with these adjectives only. This necessitated a means of altering the ACL manual's formula for adjusting subscales according to the total number of adjectives checked (out of a possible 300) on the entire instrument.

The Adjective Check List Manual provides a method of placing test respondents in categories according to each individual's sex and total number of adjectives checked. For example, Category A is 1-75 adjectives checked for males, 1-78 for females. Raw scores are then adjusted according to category designations for each subject. Since the present study gave respondents the opportunity to check only 91 adjectives, adjusted categories were derived by multiplying each of the present category ranges by $91/300$ in order to determine the appropriate breadth of each adjusted range and then ordering the adjusted ranges consecutively from the bottom to the top of the new 1-91 total range. For example, Category A for the full 300 item instrument is 1-75 items checked for males. The adjusted range would be $91/300 \times 75$ or 23 (to nearest whole number) and thus the adjusted range for the new Category A is 1-23. Category B for the full instrument is 76-95 for males, comprising a range of 20. The adjusted range is thus $91/300 \times 20$ or 6 (approximately) and the new Category B 24-29, etc.

In order to assess the predictive worth of each different environment area, it was decided to derive a single measure to represent perceived strength for each individual of each of the three potential support systems considered in this study. This was possible through use of the mean score for those subscales employed under each of the three major scales: a total of five subscales for the Family Environment Scale and four subscales each for the Work Environment and Group Environment Scales. Since the family conflict subscale is an essentially negative measure, conflict scores are "reversed," each score

representing the extent to which conflict is perceived to be absent from a particular family environment.

The average of the designated subscale scores for each major scale was intended to approximate the combined strength of those aspects of the individual's family, work, and church support systems which would most likely be associated with Adult Basic Education persistence according to the present study's conceptual framework. Since the focus of this study was upon the relative predictive worth of social support system variables as compared to other types of variables rather than on the intricate analysis of particular variable components, it was decided that this averaging procedure was sufficient for the needs of the present research.

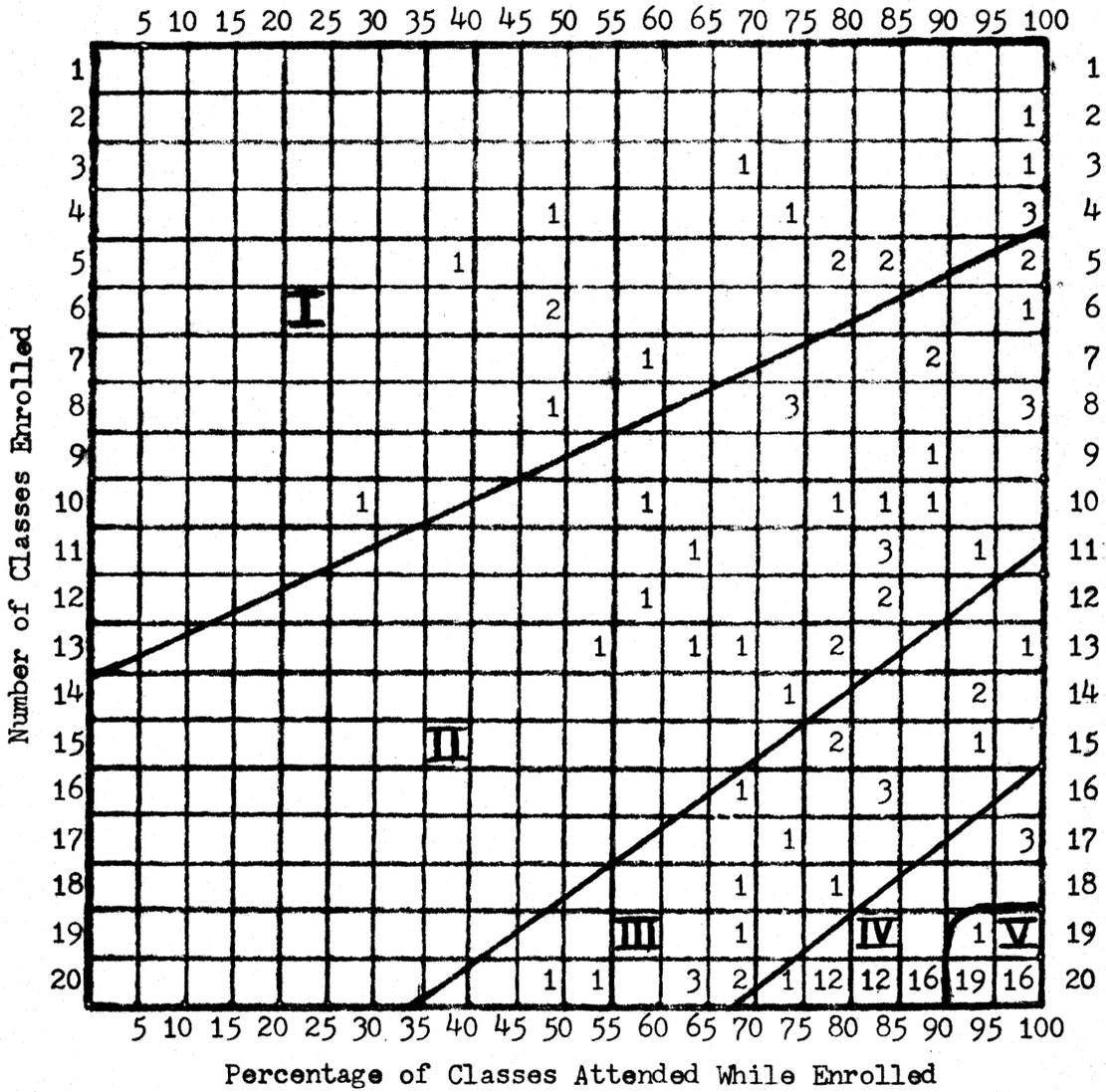
Persistence, the dependent variable in this study, has been defined both in terms of length of Adult Basic Education enrollment and regularity of attendance in ABE classes. For purposes of classifying persistence levels, each subject was assigned to a persistence category which combines measures for length of enrollment and regularity of attendance. The rationale for combining enrollment and attendance measures into single persistence categories is based on maximizing the functional value of this study's results. If the association between sociodemographic, personality, and/or social support variables and persistence had been computed separately for enrollment and attendance measures, considerable confusion might have occurred. This situation would have prevented this study's results from being interpretable without considerable difficulty.

Five persistence categories, which are operationally defined in Chapter IV, were derived from this researcher's review and analysis of fall (1976) attendance records for the Roanoke, Newport News, and Richmond GED programs. This analysis, which was conducted without reference to student names, served strictly as a means of establishing boundaries between persistence categories in a realistic and meaningful manner. Each student's attendance record was represented by a mark on a two dimensional grid (Figure 1). One dimension specified the number of classes enrolled (up to 20) and the other the percentage of classes attended during the enrollment period. Boundary lines were then established between persistence categories separating clusters of marks. These lines were logically constructed such that individual attendance records could reasonably be assigned to categories, based on a realistic distribution of actual persistence levels in the study population. Although the exact placement of category boundaries was necessarily somewhat dependent on researcher discretion, this procedure is much superior to a totally arbitrary establishment of persistence levels. If categories had been defined without reference to actual attendance records, persistence data might have been extremely misleading. Some categories would likely have encompassed disproportionately high numbers of subjects and others disproportionately low numbers for this study's GED population.

After the boundaries between persistence levels had been firmly established, each student attendance record was assigned to one of five categories (lowest numbers for lowest persisters). For purposes of this

Figure 1

Two Dimensional Grid for Determination of Persistence Categories



assignment, a student's class enrollment was considered to cease on the last day he attended class unless he attended the eighteenth or a later session of the twenty session interval of this study. In this case, a student was considered to have remained enrolled for the entire twenty class period because one or two absences following an individual's last attendance was not considered sufficient evidence for classifying him as a dropout.

After the necessary support system information was obtained along with appropriate measures of demographic and personality variables, and after persisters were classified into appropriate categories, the major analyses of this research were undertaken. This study focused upon evaluating the relative effectiveness of social support variables as predictors of persistence as compared to other types of variables. More particularly, the study's emphasis has been to investigate the worth of gathering support system data for the purpose of improving the accuracy of predicting persistence for GED students upon whom sociodemographic and personality data are already available. In order to explore these issues and to determine the best overall approach to persistence prediction which can be derived from all the predictor variables in this study, a number of regression analyses were performed. These were undertaken in three stages relating to each of the three research questions presented in Chapter I.

Multiple regression was employed in this study because it is the appropriate statistical procedure for predicting measures of a dependent

variable from those of several independent variables. Kerlinger (1973) made the following statement about the use of multiple regression:

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, through the analysis of the interpretations of all the variables. It tells how much of Y is presumably due to X_1, X_2, \dots, 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 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 hypothesis-testing and inferencing 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)

The first stage of the regression analysis focused upon the separate prediction abilities of each of the three categories of variables. All sociodemographic, all personality, and all social support variables (average subscale measures for family, work, and church environments) were entered into separate multiple regressions in order to compare the amounts of persistence variance controlled by each category.

The second stage of the regression analysis was first focused upon only sociodemographic and personality variables, producing the best equation for predicting persistence variance which can be derived from these variables alone. Those variables of this group which helped prediction (partial F values of greater than .01) were force-

entered to a second equation (of the second stage) also including social support system measures (environment averages). These were allowed to enter freely on a stepwise basis after the appropriate socio-demographic and personality variables had been force-entered. A comparison of the amounts of persistence variance accounted for by the first and second equations was accomplished statistically by use of a partial F test. This provided a basis for drawing conclusions in regard to the added predictive worth of social support data for students upon whom sociodemographic and personality data are already available.

In order to investigate the other primary research issue in this study, a third stage of regression analysis was necessary. This stage consisted of a single stepwise multiple regression equation which allowed all the variables in all three categories (sociodemographic, personality, and social support environment averages) to be "free variables" and to produce the best overall prediction equation for persistence based on these measures.

The 70 sets of complete data which this study generated were divided according to a 2-1 ratio into separate groups of 47 and 23. The larger group was used as a basis for deriving a regression equation to predict persistence categories for the smaller group. Predicted persistence levels for the smaller group were then correlated with the actual persistence categories achieved by the same 23 persons. This procedure provided a rough indication of the consistency of prediction effectiveness.

In addition to the results of the primary analyses described in this section, a variety of additional findings are reported in Chapter IV. Several of these include comparisons of the average persistence categories attained by workers as opposed to non-workers, church goers as opposed to non-church goers, and students who had had previous ABE experience as opposed to those who had not. Other findings which are discussed were derived from supplementary data treatments not set forth in this study's original design. These investigations became appropriate in view of the results of the primary research analyses.

Chapter IV

FINDINGS

The purpose of this chapter is to report the effects on persistence in GED preparatory classes of three categories of predictor variables: sociodemographic, personality, and social support system. Discussion focuses first on the boundaries between persistence levels which were derived from attendance records used in this study. Then, after a general explanation of how the chapter's seven tables are organized, statistical findings are presented and discussed relating to the three research questions set forth in Chapter I. Each question is restated and followed by the results of both the primary statistical treatments described in Chapter III and any supplementary analyses which were undertaken to further investigate and expand these original findings.

Each GED student's attendance record, based on a combination of his length of enrollment and number of classes attended during that period, was assigned to one of five persistence categories (lowest persisters to lowest numbered categories). These categories, as explained in Chapter III, were divided according to groups of individual students' persistence measures, each measure being represented by a mark on a two dimensional grid. Although the exact establishment of category boundaries was necessarily somewhat arbitrary, an effort was made to place them between "natural" clusters of marks representing actual

persistence levels (categories) attained by students in the GED programs involved in this research. In this manner the chances were increased that a realistically proportionate number of students fell into each category. A visual demonstration of the boundaries between persistence categories appears in Figure 1. The zones depicted in Figure 1 thus set forth criteria by which individual student attendance records were assigned to persistence categories.

For the 70 persons involved in this study's primary statistical analysis, 9 were placed in the first or lowest persistence category, 20 in the second, 6 in the third, 20 in the fourth, and 15 in the fifth or highest category. These figures and others for the complete study sample are summarized in Appendix B.

Before discussing statistical findings related to the individual research questions, it is necessary to explain the organization of the chapter's seven tables, all of which follow a similar format. Tables 1-5 and 7 all consist of five columns. In each case the first column lists the variables being summarized while the remaining four columns present various statistical data about each variable. The second column, labelled Multiple R, refers to the degree of correlation between the combination of a particular independent variable and preceding independent variables (previously listed in the same section of the table) on the one hand and the dependent variable on the other. The third column, labelled R Square, lists the square of the corresponding entries in the second column. In a multiple regression analysis

this squared multiple correlation coefficient can be interpreted as the percentage of variability in the dependent variable which can be attributed to a corresponding variation in the independent variables (predictors). In the discussion of the research questions which follows this section, this is the column in the tables most frequently referenced.

The fourth column in the tables, not often referred to in this chapter, represents the difference in R Square (or amount of variance explained) when each variable is added to the regression equation over that prior to the addition of the new variable. This column, in other words, indicates the difference between the corresponding entry in the R Square column and the figure immediately above that entry in the R Square column. The fifth column contains simple correlation coefficients between the corresponding predictor variables in the first column and the dependent variable, persistence.

Table 6 includes the same five columns as Tables 1-5 and 7 plus an additional one. In the case of Table 6, a sixth column lists the coefficients for each variable which were included in the best equation for predicting persistence involving a particular combination of variables.

Question I

This study was concerned with the comparative abilities to predict persistence in Adult Basic Education classes of three types of variables.

The first research question was stated: In predicting the persistence of Adult Basic Education students what are the relative strengths of three categories of variables: sociodemographic, personality, and social support system?

Primary Analyses

Investigation of this question first required three separate stepwise multiple regressions. These involved the several individual variables in each of the three variable categories for the 70 persons who provided complete sets of data. Summaries of these three analyses are found in Table 1.

Sociodemographic variables including sex, age, race, and time since last school attendance accounted for 10.37 percent of persistence variance ($R^2 = 10.37\%$). The age variable was not included in the equation of predictors which comprised the other sociodemographic variables because it did not appreciably increase prediction effectiveness. Operating procedures for SPSS (Statistical Package for the Social Sciences) specify that the partial F ratio for a potentially entering variable must be greater than .01 in order for that variable to be included in the prediction equation. Personality variables including self-confidence, achievement need, and affiliation need explained 2.10 percent of persistence variance ($R^2 = 2.10\%$). Thirteen individual social support subscales were reduced to three combined measures by averaging the scores which pertained to each of three social environments investigated: family, work, and church. A stepwise multiple

Table 1

Prediction of Persistence by Categories of Variables

<u>Sociodemographic Variables</u>				
Variable	Multiple R	R Square	RSQ Change	Simple r
Time	0.27338	0.07474	0.07474	0.27338
Sex	0.31782	0.10101	0.02627	-0.24182
Race	0.32204	0.10371	0.00270	0.03428
<u>Personality Variables</u>				
Self-confidence	0.05339	0.00285	0.00255	-0.05339
Achievement need	0.13921	0.01936	0.01653	0.05295
Affiliation need	0.14482	0.02097	0.00159	-0.02809
<u>Social Support Environment Average Variables</u>				
Work average	0.05537	0.00307	0.00307	-0.05537
Family average	0.06479	0.00420	0.00113	-0.03064

regression for these three composite variables indicated that they controlled less than one percent of persistence variance ($R^2 = 0.42\%$). The church environment average was not included in the regression equation for these variables.

The figures in Table 1 indicate that while the sociodemographic category of variables explained substantially more persistence variance than the amounts controlled by personality and social support system categories, very little variance was accounted for in any case. In a separate regression analysis it was found that the total amount of variance controlled by all ten variables in all three categories (eight entering the regression equation) was only 13.42 percent ($R^2 = 13.42\%$). It can also be readily observed from Table 1 that the social support measures derived from the averaging procedure set forth in Chapter III have little relationship to the educational persistence of the adult students involved in this study.

This last observation enhances the possibility that the averaging of social support measures diminishes their effectiveness as predictors. The averaging procedure had been conceptualized in this study's design as providing gross overall measures of the degrees of supportiveness in particular student environments which might be conducive to Adult Basic Education persistence. After the data for the study was collected, however, even before it was analyzed, the meaningfulness of these average measures became suspect. It was observed in the cases of a number of students that considerably more disparity existed among the individual

subscale scores within each environment than had been anticipated. This fact suggested that the items being averaged in this study's treatment of data represented environmental characteristics not as closely associated in the research population as had been expected. Statistical evidence that the average social support measures are extremely poor predictors supports the probability that these measures represent an unjustified combination of dissimilar items which tends both to obscure their individual identities and to reduce their prediction effectiveness. As a result, it became appropriate at this point to investigate the relationship between student persistence and scores on the individual subscales which had previously comprised the average measures used to represent family, work, and church environments.

Secondary Analyses

As stated and defined in Chapter I, the five separate subscales for family environment are cohesion, expressiveness, conflict, independence, and achievement orientation. For work environment the four subscales are involvement, peer cohesion, staff support and autonomy; and for church environment they are cohesion, leader (or minister) support, expressiveness, and independence.

Separate stepwise multiple regressions were performed to determine the prediction effectiveness (individually and totally) of the separate measures in each environmental area. Table 2 shows the results of these analyses. The five family environment subscale variables

Table 2

Prediction of Persistence by Individual Social Support Subscales

<u>Family Subscales</u>				
Variable	Multiple R	R Square	RSQ Change	Simple r
Family independence	0.13713	0.01880	0.01880	-0.13713
Family conflict (absence)	0.21012	0.04415	0.02534	0.13627
Family cohesion	0.23643	0.05590	0.01175	-0.00424
Family expressive- ness	0.24574	0.06039	0.00449	-0.08517
Family achievement	0.25170	0.06335	0.00297	-0.06701
<u>Work Subscales</u>				
Work autonomy	0.16765	0.02811	0.02811	-0.16765
Work staff support	0.19718	0.03888	0.01077	0.03280
Work involvement	0.19814	0.03926	0.00038	-0.01558
<u>Church Subscales</u>				
Church expressive- ness	0.29938	0.08963	0.08962	-0.29938
Church leader support	0.37463	0.14035	0.05072	0.18104
Church independence	0.37896	0.14361	0.00326	0.00409
Church cohesion	0.37919	0.14378	0.00017	0.12807
<u>Best Predictors of all Social Support Subscales</u>				
Church expressive- ness	0.29938	0.08963	0.08963	-0.29938
Church leader support	0.37463	0.14035	0.05072	0.18104
Work autonomy	0.43081	0.18560	0.04525	-0.16765
Family achievement	0.46905	0.22001	0.03441	-0.06701

controlled 6.34 percent of the variance in persistence categories ($R^2 = 6.34\%$) while the four work environment variables accounted for 3.93 percent ($R^2 = 3.93\%$). None of the correlation coefficients between persistence and individual family or work environment subscale scores were as high as $(-).17$, and the majority of these coefficients were negative. Although each group of subscale measures, when taken collectively, demonstrated a stronger ability to predict persistence than either the three environment averages or the personality variables as a group, the amount of persistence variance explained was still negligible.

A more effective combination of predictors than any group previously discussed was the four church environment subscale variables. These controlled 14.38 percent of persistence variance ($R^2 = 14.38\%$) with one correlation coefficient (member expressiveness) at $-.30$ and another (leader support) at $.18$. The four church environment subscale measures, though still not effective predictors, not only accounted for more persistence variance than had been explained by any previous group of variables, but more than was accounted for by the combination of all sociodemographic, personality, and social support composite (environment average) variables ($R^2 = 13.42\%$).

One further investigation of the predictive worth of social support variables involved the combination of those subscales which emerged as the best predictors from all three environmental areas. This was accomplished by allowing all thirteen social support subscale

variables to enter a stepwise multiple regression equation and identifying the three and four best predictors, while noting the amount of persistence variance explained by these variables individually and collectively. (The numbers three and four were selected because these are the numbers of variables that were generally entered into the stepwise multiple regression analyses used to compare the relative predictive strengths of different categories of variables relating to the first research question. They are thus the appropriate numbers for comparison purposes.) The best four predictors, which appear in the bottom section of Table 2 were two church environment variables, member expressiveness and leader support; a work environment variable, autonomy; and a family environment variable, achievement orientation. The first three of these variables accounted for 18.56 percent of persistence variance ($R^2 = 18.56\%$), while all four accounted for 22.00 percent ($R^2 = 22.00\%$). All of these predictors except church leader support correlated negatively with persistence categories.

It can be readily observed that the best predictors from all thirteen subscale measures explained more persistence variance than any of the preestablished variable categories (such as, for example, all sociodemographic variables or all work environment subscales) previously investigated. This comparison, however, may be misleading. In the case of the thirteen social support subscales, three or four items have emerged as best predictors from a much longer list of variables. These several measures could logically be expected by

chance alone to exceed the prediction success of a similar number of variables in any preestablished category of unproven prediction ability. This situation can be effectively illustrated by an analogy. By holding a race involving all the senior boys in a particular high school, one could identify the three or four fastest runners. If these fastest runners were then pitted in a race against the three or four male class officers, or any group of senior boys grouped together for any reason other than proven running ability, it could logically be expected that the proven runners would be faster.

It remains true, of course, that the sociodemographic and personality variables employed in this study have previously demonstrated some ability to predict persistence. These variables were selected because they were identified by earlier research as key factors relevant to Adult Basic Education participation and persistence.

In summary, statistical findings related to the first research question reveal that no category of variables investigated in this study explained a substantial amount of persistence variance. It is apparent, however, that each group of social support subscales were better predictors than the three social support composite (environment average) variables conceptualized in the study's design. Certain combinations of these subscale variables were also substantially better predictors than comparable numbers of sociodemographic and personality variables, though this observation must be accepted with caution.

Question II

Previous research in Adult Basic Education has failed to identify specific factors which consistently are strongly related to the persistence of ABE students. The conceptual framework of the present study suggests that part of the reason for this failure may be the fact that these studies have relied almost exclusively on sociodemographic and personality variables while almost entirely ignoring social support factors. This study has sought to investigate whether or not social support measures provide enough increase in the potential to predict student persistence to justify the effort required to obtain them. The second research question, which has focused on this issue, was stated: If sociodemographic and personality data (as represented in this study by certain selected measures) are available on particular groups of beginning Adult Basic Education students, how much will the addition of support system data contribute to the degree of accuracy with which these persons' class persistence can be predicted?

Primary Analyses

In order to assess the added predictive worth of the social support variables in this study, it was first necessary to measure the combined prediction abilities of the sociodemographic and personality variables alone. A stepwise multiple regression was performed, using sex, age, race, time since last school attendance (sociodemographic variables), self-confidence, achievement need, and affiliation need (personality

variables) as predictors of persistence categories. This analysis was applied to the data supplied by the 70 GED candidates who had provided responses relating to all the variables investigated in this study.

The order of best prediction for sociodemographic and personality variables and the amounts of variance controlled by each are summarized in Table 3. Table 3 indicates that for these two categories of variables this order includes time since last school attendance, sex, self-confidence, achievement need, race, and affiliation need. The age variable was eliminated from the prediction equation composed of these variables because, as in an earlier regression analysis, it failed to add appreciably to prediction success. In regard to the six variables which were included in the predictive equation, it must be emphasized that these were able to account for only 12.84 percent of persistence variance ($R^2 = 12.84\%$), a negligible proportion.

In order to assess the improvement in prediction capability provided by the addition of social support (environment average) variables to an equation which previously included only sociodemographic and personality variables, a further regression procedure was necessary. At this point of analysis social support variables were allowed free entry into the prediction equation on a stepwise basis after the variables from the previous regression procedure (except age) had been forced into the same equation.

The results of the procedure described above appears in the lower section of Table 3. It was found that family and church environment

Table 3
 Increase in Persistence Prediction by Addition of Social
 Support Environment Average Variables

<u>Sociodemographic and Personality Variables as Predictors of Persistence (Stepwise)</u>				
Variable	Multiple R	R Square	RSQ Change	Simple r
Time	0.27338	0.07474	0.07474	0.27338
Sex	0.31782	0.10101	0.02627	-0.24182
Self-confidence	0.32464	0.10539	0.00438	-0.05339
Achievement need	0.34431	0.11855	0.01316	0.05295
Race	0.35782	0.12804	0.00948	0.03428
Affiliation need	0.35830	0.12838	0.00034	-0.02809
<u>Sociodemographic and Personality Variables (Force-entered) followed by Social Support Environment Average Variables (Added Stepwise) as Predictors of Persistence</u>				
Sex	0.24182	0.05848	0.05848	-0.24182
Race	0.24187	0.05850	0.00002	0.03428
Time	0.32204	0.10371	0.04521	0.27338
Self-confidence	0.32911	0.10832	0.00461	-0.05339
Achievement need	0.35782	0.12804	0.01972	0.05295
Affiliation need	0.35838	0.12838	0.00034	-0.02809
Family average	0.36460	0.13294	0.00456	-0.03064
Church average	0.36630	0.13418	0.00124	-0.01626

average variables provided only very minimal additions to the amount of persistence variance controlled by sociodemographic and personality variables. The work environment average variable did not add enough to persistence prediction to be entered into the equation. The total amount of persistence variance controlled as a result of the addition of the average social support measures increased only negligibly from 12.84 percent ($R^2 = 12.84\%$) before the addition of these variables to 13.42 percent afterwards ($R^2 = 13.42\%$), representing an increase of only 0.58 percent. A partial F test indicated that this difference was not significant at the .05 level.

It is unquestionably clear from the preceding discussion that the social support average measures (composite variables) investigated in this study were ineffective additions to the prediction ability of sociodemographic and personality variables. As in the case of the previous research question, further exploration with individual social environment subscale scores was appropriate.

Secondary Analyses

As a beginning stage of exploration all thirteen separate subscale measures were allowed to enter a multiple regression equation on a stepwise basis after the sociodemographic and personality variables (except age) had been force-entered. The results of this analysis appear in Table 4. The combination of variables in this multiple regression (nineteen entered in the equation) accounted for 38.82 percent of persistence variance ($R^2 = 38.82\%$). This represented a substantial

increase over the figure for sociodemographic and personality variables alone ($R^2 = 12.84\%$). Although this difference (25.98%) appears impressive, it must be emphasized that an increase in the number of independent variables (at least twice as many in this case as in any previous analysis) can be expected to bring about a substantial increase in the amount of variance controlled in the dependent variable. This is particularly true under circumstances where the number of cases (70 in this situation) is not large. A partial F test indicated that the 25.98 percent difference is not significant at the .05 level.

The three social support subscales which were the best additions to prediction were church member expressiveness, family achievement orientation, and church leader (or minister) support. These three independent variables, the first two of which were negatively correlated with persistence, more than doubled the existing 12.84 percent variance accounted for by the seven (six entering) sociodemographic and personality variables ($R^2 = 12.84\%$), raising it to 28.12 percent ($R^2 = 28.12\%$). This difference (15.28%) is, of course, subject to the same cautions in interpretation as the similar biased comparison discussed in reference to the first research question. Nonetheless, the fact that it is significant at the .01 level is worth noting.

One further exploration was undertaken in regard to the second research question. Since it was observed from the analyses pertaining to the first research question that the church environment subscales

Table 4
 Increase in Persistence Prediction by Addition of
 Social Support Subscale Variables

<u>Sociodemographic and Personality Variables (Force-entered) followed by all Individual Support System Variables (Added Stepwise) as Predictors of Persistence</u>				
Variable	Multiple R	R Square	RSQ Change	Simple r
Sex	0.24182	0.05848	0.05848	-0.24182
Race	0.24187	0.05850	0.00002	0.03428
Time	0.32204	0.10371	0.04521	0.27338
Self-confidence	0.32911	0.10832	0.00461	-0.05339
Achievement need	0.35782	0.12804	0.01972	0.05295
Affiliation need	0.35830	0.12838	0.00034	-0.02809
Church expressive- ness	0.46619	0.21734	0.08896	-0.29938
Family achievement	0.49487	0.24489	0.02756	-0.06701
Church leader support	0.53023	0.28115	0.03625	0.18104
Work autonomy	0.54920	0.30163	0.02048	-0.16765
Family independence	0.56850	0.32319	0.02157	-0.13713
Church independence	0.58419	0.34127	0.01808	0.00409
Work staff support	0.59489	0.35389	0.01262	0.03280
Family conflict (absence)	0.60340	0.36409	0.01020	0.13627
Family cohesion	0.60889	0.37074	0.00665	-0.00424
Family expressive- ness	0.61280	0.37552	0.00478	-0.08517
Church cohesion	0.61862	0.38269	0.00717	0.12807
Work involvement	0.62293	0.38804	0.00535	-0.01558
Work peer cohesion	0.62306	0.38821	0.00017	-0.03878

were the best predictors among the preestablished categories of variables, it was appropriate to investigate the extent to which these measures improved the prediction effectiveness of sociodemographic and personality variables. The four church environment subscale scores were thus allowed to enter a multiple regression equation on a stepwise basis after the six previously entering sociodemographic and personality variables had been forced in. As shown in Table 5, the result was an increase in the amount of persistence variance controlled from 12.84 percent ($R^2 = 12.84\%$) to 25.92 percent ($R^2 = 25.92\%$). When the same procedure was applied to 89 cases instead of the 70 cases used in all previous analyses, the increase was from 11.79 percent ($R^2 = 11.79\%$) to 18.05 percent ($R^2 = 18.05\%$) in persistence variance accounted for. The first of these increases is significant at the .05 level. The additional 19 cases employed in the second comparison included data provided by persons who responded to the church environment subscales but not to the work environment subscales necessary in previous analyses.

In summary, the three composite social support variables (environment averages) were found to add little to the prediction ability of sociodemographic and personality variables. On the other hand, some combinations of individual social support subscale measures substantially increased the minimal amount of persistence variance controlled by these two variable categories.

Table 5
 Increase in Persistence Prediction by Addition of Social
 Support Church Subscale Variables

<u>Sociodemographic and Personality Variables (Force-entered) followed by Individual Church Variables (Added Stepwise) as Predictors of Persistence</u>				
Variable	Multiple R	R Square	RSQ Change	Simple r
Sex	0.24182	0.05848	0.05848	-0.24182
Age	0.30738	0.09448	0.03601	0.25631
Race	0.31412	0.09867	0.00419	0.03428
Time	0.32204	0.10371	0.00504	0.27338
Self-confidence	0.32911	0.10832	0.00460	-0.05339
Achievement need	0.35783	0.12804	0.01973	0.05295
Affiliation need	0.35830	0.12838	0.00034	-0.02809
Church expressive- ness	0.46818	0.21919	0.09081	-0.29938
Church leader support	0.49734	0.24735	0.02816	0.18104
Church independence	0.50888	0.25896	0.01161	0.00409
Church cohesion	0.50915	0.25924	0.00028	0.12807
<u>Sociodemographic and Personality Variables (Force-entered) followed by Individual Church Variables (Added Stepwise) as Predictors of Persistence (for 89 Cases)</u>				
Sex	0.20724	0.04295	0.04295	-0.20724
Age	0.30832	0.09506	0.05211	0.28196
Race	0.30832	0.09506	0.00000	0.08989
Time	0.31794	0.10108	0.00602	0.29574
Self-confidence	0.32354	0.10468	0.00359	-0.04266
Achievement need	0.34311	0.11773	0.01305	0.07449
Affiliation need	0.34338	0.11791	0.00018	-0.00875
Church expressive- ness	0.39978	0.15983	0.04192	-0.22942
Church leader support	0.41965	0.17611	0.01628	0.15998
Church cohesion	0.42285	0.17881	0.00270	0.05411
Church independence	0.42484	0.18049	0.00168	-0.00252

Question III

The remaining research issue of this study pertains to the best overall means of predicting persistence from all three major categories of independent variables. The third research question was stated: What combination of all sociodemographic, personality, and social support system variables included in this study renders the best possible approach to predicting persistence among Adult Basic Education students?

Primary Analysis

The primary analysis pertaining to this final research question was a stepwise multiple regression which allowed all sociodemographic, personality, and support system environment averages to be "free variables" and to produce the best prediction equation based on all available information. In order to authenticate this prediction equation a cross-validation procedure was employed. The data sets supplied by the 70 individuals who returned complete responses were divided according to a 2-1 ratio. The larger group (47 randomly selected data sets) was used as a basis for deriving the regression equation and the smaller (the remaining 23 data sets) as a population for its validation. The following prediction equation was derived from the larger group of cases based on the information presented in Table 6.

$$\begin{aligned} \text{PREDICTED PERSISTENCE LEVEL} &= 4.155 + .027 \text{ AGE} - .022 \text{ FAVE} \\ &+ .131 \text{ RACE} - .245 \text{ SEX} - .066 \text{ CHAVE} \\ &- .013 \text{ SELFC} + .012 \text{ ACHV} \end{aligned}$$

FAVE = Family Environment Average

CHAVE = Church Environment Average

It can be noted from Table 6 that the seven variables listed in the order of best prediction controlled only about 10.04 percent of persistence variance ($R^2 = 10.04\%$) for the 47 cases used for prediction purposes. One variable in each of the three variable categories failed to enter the equation. These included time since last school attendance, affiliation need, and work environment average.

At first glance it seems rather surprising that the time variable failed to enter the equation, since this variable, it may be recalled, was the best predictor in the original group of sociodemographic and personality variables. On the other hand, age, which was the best predictor in the latest equation failed to enter the original one. This seemingly contradictory situation is explained by the fact that the time and age variables correlate approximately .95. Two variables which correlate .95 are essentially equal as predictors. Thus, if one of these variables has been included in the prediction equation, there would be little to be gained from adding the other. Actually, a high correlation between age and time since last school attendance is not surprising. This is true because, generally, the older a person is, the longer he has been out of school.

Table 6
Order of Best Prediction

<u>Order of Best Prediction and Coefficients for all Entering Sociodemographic, Personality, and Support System Environment Average Variables (Stepwise) (47 Cases)</u>					
Variable	Multiple R	R Square	RSQ Change	Simple r	B
Age	0.22156	0.04909	0.04909	0.22156	0.02711
Family average	0.28438	0.08087	0.03178	-0.12372	-0.02217
Race	0.30015	0.09009	0.00922	0.16087	0.13113
Sex	0.030700	0.09425	0.00416	-0.18045	-0.24471
Church average	0.31090	0.09666	0.00241	-0.05603	-0.00556
Self-confidence	0.31273	0.09780	0.00114	-0.02381	-0.01251
Achievement need	0.31690	0.10042	0.00263	0.02253	0.01201
(constant)					4.15483

The equation presented above provides the best possible prediction of persistence for 47 randomly selected ABE students based upon the ten predictor variables set forth in this study's design. By substituting into the equation the data provided by each student, a predicted persistence level was computed for each of the 23 randomly selected individuals in the cross-validation sample. These computed scores for persistence were then correlated with the actual persistence categories achieved by these students, yielding a result of only .23. This is a simple correlation coefficient ($r = .23$), measuring the association between two variables, persistence categories predicted and persistence categories achieved.

The .23 correlation coefficient ($r = .23$) between persistence and predicted persistence indicates that the prediction equation is able to account for only 5.29 percent of the variance ($r^2 = R^2 = 5.29\%$) for the 23 cases in the cross-validation sample. This compares to 10.04 percent ($R^2 = 10.04\%$) for the 47 cases in the calibration sample. These figures indicate some shrinkage due to capitalization on specific errors in selection of regression weights, but also some predictability is carried over from the calibration to the cross-validation sample. This suggests that there is some "truth" in the prediction equation, though the amount of persistence variance explained is negligible for both groups of individuals and the correlation coefficient ($r = .23$) is not significant at the .05 level.

In summary, the equation of best prediction consisting of seven variables, from sociodemographic, personality, and social support environment average categories accounted for only about ten percent of persistence variance ($R^2 = 10.04\%$) in the calibration sample of 47 randomly selected cases. The same equation, however, explained only a little more than five percent of persistence variance ($R^2 = 5.29\%$) in the cross-validation sample of 23 cases.

Additional Findings

The preceding paragraph completes the presentation of findings specifically related to each of the three research questions. There were, however, a number of other findings and observations resulting from additional analyses of this study's data which need to be discussed generally.

The multiple regression equation which controlled more persistence variance than that including any other group of variables was based on a combination of the seven sociodemographic and personality measures and the thirteen social support subscale scores. As reflected in Table 7, these 20 predictor variables (19 of which entered the equation) accounted for 39.96 percent of persistence variance for 70 cases ($R^2 = 39.96\%$). It should be reemphasized at this point that higher numbers of independent variables can be expected to control more variance in the dependent variable. The best ten predictors among those variables listed in Table 7, including eight social support variables,

Table 7

Order of Best Prediction

Order of Best Prediction and Coefficients for all Entering
Sociodemographic, Personality, and Individual Support
System Variables from all Support System
Categories (Stepwise) (70 Cases)

Variable	Multiple R	R Square	RSQ Change	Simple r
Church expressive- ness	0.29938	0.08963	0.08963	-0.29938
Time	0.39304	0.15448	0.06485	0.27338
Church leader support	0.43317	0.18763	0.03315	0.18104
Family achievement	0.47464	0.22529	0.03765	-0.06701
Work autonomy	0.50166	0.25167	0.02638	-0.16765
Family independence	0.52462	0.27523	0.02356	-0.13713
Family conflict (absence)	0.54282	0.29465	0.01942	0.13627
Work involvement	0.55569	0.30879	0.01414	-0.01558
Age	0.56865	0.32334	0.01455	0.25631
Church cohesion	0.58110	0.33768	0.01434	0.12807
Sex	0.58755	0.34521	0.00753	-0.24182
Family expressive- ness	0.59491	0.35392	0.00871	-0.08517
Family cohesion	0.60149	0.36179	0.00787	-0.00424
Race	0.60570	0.36688	0.00509	0.03428
Affiliation need	0.61007	0.37219	0.00531	-0.02809
Self-confidence	0.61562	0.37899	0.00680	-0.05339
Achievement need	0.62017	0.38461	0.00562	0.05295
Church independence	0.62582	0.39165	0.00704	0.00409
Work staff support (constant)	0.62983	0.39668	0.00503	0.03280

accounted for about 85 percent of this amount or 33.77 percent of persistence variance ($R^2 = 33.77\%$) as opposed to the 13.42 percent ($R^2 = 13.42\%$) for the ten original variables including the three composite environment average measures. In the case of the former analysis, it was also interesting to note that seven of the best eight predictors were social support variables.

All but one of the regression procedures previously discussed in this chapter involved 70 sets of complete data. Under circumstances where selected social support variables were omitted from analysis, it was possible to include more sets of data, as in the earlier analysis involving the four church subscales for 89 cases. In this manner, multiple regressions were performed using various numbers of cases, involving in each instance all sociodemographic and personality variables but different combinations of social support measures. These analyses included 152 cases for family (omitting work and church) subscales, 119 cases for work (omitting family and church) subscales, 119 cases for work and family (omitting church) subscales, and 89 cases for family and church (omitting work) subscales.

None of the analyses described above produced noteworthy results in terms of total amounts of persistence variance explained. In some instances, however, it seems worth noting that individual support system variables fared rather well in prediction effectiveness as compared to sociodemographic and personality variables. In the regression involving the four church measures, for example, two of these were the

second and third best predictors out of eleven total variables. In the equation involving separate church and family subscales, sixteen total variables including sociodemographic and personality measures, church and family subscale scores provided the second, third, fourth, and fifth best predictors.

A review of all the multiple regression analyses conducted in this study has suggested a recurring pattern which, despite occasional exceptions, usually holds true. Generally, as previously discussed, the greater the number of predictor variables, the more effective the prediction achieved in terms of the amount of persistence variance explained. Also, when a few variables of one category are added to a substantially larger number of variables from another category or categories, the relative improvement in the amount of variance accounted for is usually slight. This is apt to be true regardless of which type(s) of variables (larger group) are force-entered as a first step and which are allowed to enter freely as a second step.

The preceding generalizations can be illustrated by reference to two specific analyses. The addition of three average social support measures to a regression equation already containing six (one failing to enter) sociodemographic and personality variables, as shown in Table 3, increased the total persistence variance controlled only negligibly from 12.84 percent ($R^2 = 12.84\%$) to 13.42 percent ($R^2 = 13.42\%$). On the other hand, when the much larger number of individual social support measures (thirteen) were forced into a regression equation, these accounted for 31.68 percent ($R^2 = 31.68\%$) of the variance in persistence

categories. The addition of sociodemographic and personality variables then expanded the total variance explained to 39.96 percent ($R^2 = 39.96\%$), an increase of less than eight percent.

In efforts to make every reasonable use of the data generated by this study which is consistent with its purposes, a number of computer runs were made which have not been individually discussed. Because of suspicions regarding the accuracy of attendance records supplied by two GED teachers (in one case because attendance seemed too good; in the other because it seemed to have been imprecisely recorded), the major analyses described in this chapter were repeated, eliminating the two "suspect" classes. Other computer runs were conducted which compared amounts of persistence variance controlled in the same regression procedures for different combinations of "suspect" and "non-suspect" data. Such investigations failed to support suspicions that the two GED teachers in question had supplied less dependable attendance records. Prediction based on these records was accomplished with virtually the same effectiveness as that based on the records of other classes involved in this study.

It may be recalled from Chapter III that the sociodemographic variable employment status was not intended for use as a predictor in the primary analyses in this study. This was true because all 70 GED students involved in the primary analyses of this research had to have been presently or recently employed in order to have responded to the work environment subscales. In some of the supplementary procedures

used to evaluate the predictive abilities of individual family and church variables, however, parallel multiple regressions were conducted with and without the employment variable. In these instances employment status proved not to be one of the strongest predictors and not one that appreciably influenced persistence variance. In order to investigate the employment variable somewhat more thoroughly, mean persistence categories were computed and compared for the 115 GED students who were employed (3.28) and the 37 who were unemployed (3.76). As compared by a simple two-group t-test, the difference in these means barely fails to achieve significance at the .05 level.

Mean persistence categories were similarly compared for those who responded to church environment subscales and those who did not. Since the fact of church affiliation was not a variable specifically investigated in this study, it is not reasonable to assume that persons not filling out church items were not affiliated in every case, though this is believed to have been true in the vast majority of such instances. In any event, the difference in means between the 89 individuals who responded to church items ($\bar{X} = 3.27$) and those who did not ($\bar{X} = 3.57$) was not significant at the .05 level.

A third comparison of mean persistence categories revealed that those 26 GED students who had had previous Adult Basic Education experience had virtually the same average persistence ($\bar{X} = 3.42$) as those who had not ($\bar{X} = 3.39$). Also, the correlation coefficient for relating the persistence categories of those persons with past

experience and the number of years since that experience ($r = .006$) revealed no association between persistence and time since previous enrollment.

One final exploration was conducted to investigate an alternative conceptualization of persistence, the dependent variable in this study. For comparison purposes, one of the study's major analyses was repeated, using total classes attended rather than persistence categories as the variable being predicted. The analysis selected for this purpose was the primary multiple regression relating to the second research question which allowed social support composite variables (environment averages) to enter freely into the regression equation after sociodemographic and personality variables had been force-entered. The original analysis, using persistence categories as the dependent variable, explained 13.42 percent of persistence variance ($R^2 = 13.42\%$) while the alternative analysis, using total classes attended, accounted for 16.25 percent for 70 cases ($R^2 = 16.25\%$). The alternative conceptualization of the dependent variable thus involved a slight increase in persistence variance explained for the variables involved in this particular analysis. Further investigation revealed that persistence categories and total classes attended correlate .97 for the 70 cases primarily employed in this research ($r = .97$).

Chapter V

SUMMARY, CONCLUSIONS, RECOMMENDATIONS

This chapter provides a summary of the present study, including its purpose, methodology, and findings. The summary is followed by the researcher's conclusions and recommendations for further study.

Summary

Purposes of the Study

The problem explored in this study was the importance of social support system variables as potential predictors of Adult Basic Education persistence. Particular aspects of the problem which were analyzed were:

1. The relative comparative strengths in predicting Adult Basic Education persistence of sociodemographic, personality, and social support system variables.
2. The value, in terms of predicting Adult Basic Education persistence, of acquiring social support system data pertaining to ABE students on whom sociodemographic and personality data are already available.
3. The particular combination of sociodemographic, personality, and support system variables which best predicts Adult Basic Education persistence.

Sample

The sample for this study consisted of 163 adult students in the three Virginia school districts of Roanoke, Richmond, and Newport News who were beginning classes to prepare for the GED (high school equivalency) examination. These individuals, who were enrolled in a total of seven classes, represent virtually all of those present at the particular class sessions during which the study's instruments were administered. This occurred in each case during the second week of class meetings (third or fourth class period). The three school districts included in this research were selected because they all provided urban Virginia populations whose organization of GED classes satisfied this study's criteria (5-6 hours per week in two evening sessions).

Methodology

Data collection for this study involved two established instruments: The Adjective Check List (Gough and Heilbrun, 1952) and the Social Climate Scales (Moos, 1974). Three of the Adjective Check List subscales were used to investigate three personality variables: self-confidence, achievement need, and affiliation need. Social Climate Scales employed were the Family Environment Scale, the Work Environment Scale, and the Group Environment Scale (used to measure church environments). Although each of the Social Climate Scales includes ten subscales, only four or five of these were deemed appropriate for this study's purposes in each of the environmental areas investigated. Family Environment subscales employed were cohesion, expressiveness,

conflict, independence, and achievement orientation. Work Environment subscales included involvement, peer cohesion, staff support, and autonomy. Group Environment subscales (church) were cohesion, leader (minister) support, expressiveness, and independence. The three original social support variables investigated in this study each consisted of an average of the subscale measures employed in one of these three environmental areas.

In addition to the use of established instruments to gather data relating to personality and social support variables, a brief questionnaire designed by this researcher was employed to gather information pertaining to sociodemographic variables.

Instruments were administered to 163 beginning enrollees in GED preparatory classes during the week of September 20-27, 1976. Of this number it was necessary to discard those of 11 individuals for various reasons, leaving a total of 152 responses which were usable. These usable responses included 70 complete sets of data in which students had provided information pertaining to all three of the social environments (family, work, and church) investigated in this study. In the remainder of cases, though all individuals had provided sociodemographic, personality, and family environment information, many were unable (or possibly in some cases unwilling) to respond to work and/or church items, presumably because they were unemployed and/or unaffiliated with a church or synagogue. It is also possible, of course, that some may have been unwilling to share information pertaining to these areas.

Partial data sets, added to the 70 complete sets, included those provided by 49 individuals who responded to all but church items, 19 who responded to all but work items, and 14 who responded to all but work and church items.

In order to assure meaningful comparisons among the different categories of predictor variables investigated in this study, the primary analyses of this research were conducted on the 70 sets of complete data obtained. Various supplementary analyses, however, which were conducted to examine the separate predictive effects of various subcategories of social support system variables, made use of the additional "incomplete" data sets.

Findings

A series of multiple linear regressions established that none of the variables or variable categories investigated in this study was a substantial asset to predicting persistence among adult students in GED preparatory classes. Although sociodemographic variables were clearly the primary category most associated with persistence, these measures accounted for only about ten percent of persistence variance ($R^2 = 10.04$). It was found that individual social support subscale scores, though still weak predictors, accounted for somewhat more persistence variance than the average social environment measures previously discussed. The four church environment measures, the best category of predictors among the social environment subscales, accounted for 14.38 percent of the variance ($R^2 = 14.38\%$) in persistence categories, more than that

controlled by any of the three primary categories of variables (socio-demographic, personality, or the three social environment averages taken collectively).

When all thirteen of the social support subscales were combined in a regression equation, it was found that the best four predictors among all of these variables (church member expressiveness, church minister support, work environment autonomy, and family achievement orientation) accounted for 22.00 percent of persistence variance ($R^2 = 22.00\%$).

Another multiple regression analysis added the average subscale scores for family, work, and church environments to sociodemographic and personality variables which had previously been forced into a regression equation. This procedure indicated that these average social support measures did not significantly improve prediction success, which was negligible in any case. Again, further exploration revealed that individual support measures fared somewhat better. The best three predictors among the individual support system subscales increased the amount of persistence variance controlled by sociodemographic and personality variables from 12.84 percent ($R^2 = 12.84\%$) to 28.12 percent ($R^2 = 28.12\%$). Although this increase is not the result of an unbiased comparison, the fact that it is significant at the .01 level is worth noting. A somewhat fairer contrast (because it involves an established category rather than a set of best predictors) revealed that the four individual church subscales raised the 12.84 percent figure ($R^2 = 12.84\%$) to 25.92 percent ($R^2 = 25.92\%$) for the 70 cases

used in previous analyses. This increase was significant at the .05 level. When nineteen additional cases were added (unavailable for previous analyses because they did not include work scale data), however, the increase was from 11.79 percent ($R^2 = 11.79\%$) to 18.05 percent ($R^2 = 18.05\%$), not significant at the .05 level.

The best equation for predicting persistence which could be established from all of the original variables investigated in this study (including the support system average measures) included in order of prediction success for 47 randomly selected cases: age, family environment average, race, sex, church environment average, self-confidence, and achievement need. This equation, however, was able to account for only 10.04 percent ($R^2 = 10.04\%$) of persistence variance for this particular group of cases. The remaining 23 complete data sets (approximately one third of those available) were used for cross-validation purposes. The correlation coefficient between persistence categories predicted based on this data and actual categories achieved was only about .23, indicating that not only are the original predictor variables in this study able to explain only a small portion of persistence variance, but that the portion which is explained is inconsistent for different groups of cases.

When social support average environment measures were replaced, as in previous stages of analysis, by individual environment subscale scores, an equation was formed consisting of 19 entering variables which accounted for 39.96 percent of persistence variance ($R^2 = 39.96\%$) for

all 70 cases. Although this was the most persistence variance accounted for by any regression analysis performed in this research, 39.96 is not a surprising percentage due to the large number of total variables entered relative to the inexcessive number of cases (70). It is interesting to note in regard to the latest prediction equation that seven of the best eight predictors were social support variables.

In addition to analyses involving measures intended to characterize work and church environments, t-tests were performed involving the entire study population (152 cases) to determine whether participation as opposed to non-participation in employment and church environments had any relationship to persistence. It was found in both cases that non-participants had higher average persistence rates, the difference between workers and non-workers barely failing to achieve significance at the .05 level. A similar comparison of average persistence categories revealed virtually no difference between students who had had previous Adult Basic Education experience and those who had not. For those with previous experience there was also no relationship between persistence and time since last ABE participation.

In summation, the findings of this research reveal that no category (or combination of categories) of variables investigated in this study were effective predictors of ABE persistence. Social support variables, when conceptualized as averages of individual environment subscale measures, did not add appreciably to the prediction abilities of socio-demographic and personality variables. On the other hand, certain

social support subscale scores proved to be better predictors of persistence than the social support average measures or either socio-demographic or personality variables.

Conclusions

A number of observations and conclusions can be drawn from the findings presented in Chapter IV. These pertain to the present study's findings related to those of other research, to its implications for practitioners, and to the success of the study's methodology in accomplishing its purposes.

Research Perspective of Findings

It is apparent from the findings of this study that no category or combination of variables investigated in this research were effective predictors of Adult Basic Education persistence. Social support system variables were not found to add substantially to the meager prediction ability of sociodemographic and personality measures. The most effective combination of predictor variables from all categories, in fact, failed to account for enough persistence variance to be of much practical importance.

In its failure to offer any meaningful (in a practical sense) formula for the persistence of Adult Basic Education students, the present study is similar to a number of previous research efforts. Such diversified earlier studies as Killian (1969), Moore (1970), Brooke (1973), and Richardson and Nyer (1974) investigated a broad range of

variables in attempting to separate persisters (or participants) from dropouts (or non-participants). Collectively, this research failed to designate more than a handful of statistically significant predictors, none of which was identified by more than a single study. Furthermore, it indicated no combination of predictors which accounted for a practically important portion of persistence variance.

The present study evolved out of a conceptual framework which suggested that past research may have been unsuccessful because it tended to concentrate rather narrowly on sociodemographic and personality variables. The addition of social support measures, it was contended, might substantially improve persistence prediction. The fact that no substantial improvement occurred is probably attributable to several factors, but is not necessarily an implication that social support factors are unrelated to Adult Basic Education persistence.

The inability of the present study as well as that of previous research to associate the persistence of undereducated adults with a particular pattern of student characteristics may be due largely to the complex nature and set of life circumstances faced by each individual Adult Basic Education participant. The ABE student is faced not only with the anxiety producing situation surrounding his return to school, but must also contend with a number of his own personality and environmental characteristics which might tend to make both his general behavior and his educational perseverance inconsistent and unpredictable. Puder (1968) refers in this context to the undereducated person's

inclination to avoid feared stimuli, his anxiety toward authority, and his tendencies toward shyness and withdrawal. Wilson (1975) cites research relating to the disadvantaged which emphasizes their proneness toward low income, ill health, low self-esteem, poor verbal facility, and lack of motivation to achieve educational goals.

It may be that the personality and environmental stresses faced by individual Adult Basic Education students and their reactions to these stresses are simply too complicated and too diverse to be meaningfully measured. Intervening circumstances which contribute to the interruption or termination of an educationally deficient adult's enrollment in evening classes, a supplementary and marginal activity for all participants, are often impossible to anticipate or evaluate. In many cases teachers, administrators, and researchers may never become aware of circumstances which genuinely and unavoidably affect enrollment. In other cases student dropouts offer socially acceptable reasons for lack of perseverance in remedial classes which may be only incidentally related to their real reasons. These factors are difficult to sort out. It is not easy to judge, for example, whether a certain family illness or transportation problem is an insurmountable difficulty for a particular student or simply a convenient means of escaping an activity he no longer wishes to pursue.

Interestingly, two almost identical studies which succeeded far better than most in identifying significant personality differences between ABE participants and non-participants, Hershey (1966) and

Cottrell (1974), were conducted in prisons. Although no significant non-personality differences were found (no social support dimensions were investigated), the results of these studies suggest that confined remedial populations may afford researchers a better opportunity to control or at least to estimate the effects of extraneous influences on student participation and persistence.

The best predictors among the preestablished variable categories investigated in this study were the individual support system subscale scores for church environment. This group of measures explained more persistence variance than sociodemographic variables, personality variables, support system averages as a group, family environment subscales, or work environment subscales. They also increased the amount of persistence variance explained by sociodemographic and personality measures by more than any other category of social support variables, an increment significant at the .05 level for 70 cases. Although this researcher could locate no previous investigation of variables pertaining to church environments in connection with Adult Basic Education research, these findings appear to justify further investigation. This is true despite the fact that church attendance itself is not a predictor of ABE persistence, non-church goers having a higher persistence rate.

While the findings of this study indicate that no preestablished category of variables explained much persistence variance, it was found that a specific combination of subscale variables from all three

environmental areas accounted for considerably more persistence variance. It thus appears that Adult Basic Education persistence is related to particular characteristics in a variety of different environments.

Implications for Practitioners

This study has identified relative differences in the abilities of different categories of variables to predict persistence in Adult Basic Education. It has not, however, explained enough persistence variance to be of much practical value to teachers and administrators dealing with relatively small populations of adult remedial students, such as those employed in this research. For this reason it would be difficult for Adult Basic Education practitioners to implement the findings of this study in a manner which would be of direct benefit to their programs.

Appropriateness of Methodology

The findings of the present study indicate that the averaging of selected environment subscales of the Social Climate Scales did not provide a meaningful measure of the degree of supportive strength within a particular social environment (family, work, or church). The averaging procedure had been conceptualized as an appropriate means of providing a gross measure of the extent of potential supportiveness in each environmental area. Such a general measure, if representative, would have been sufficient for the pilot purposes of this study. Before any statistical treatment was undertaken, however, a cursory

review of the data revealed that there was a much greater disparity of subscale scores within each environmental area than this researcher had anticipated. As a result of this observation and the fact that social support average measures proved to be very ineffective predictors, it was concluded that the averaging procedure employed in this study destroyed much of the prediction ability of the individual subscale measures. A series of supplementary regressions verified that each group of environment subscales (the four work environment subscales, for example) was able to control more persistence variance, and thus provide better prediction, than the combination of family, work, and church environment averages. Individual subscale measures were thus observed to be better predictors than the environment averages, though still only minimally effective ones.

In addition to the apparent fact that it destroyed the prediction abilities of individual social support subscale measures, the averaging of subscale scores appears to have been based on a somewhat faulty premise. The conceptual framework of this study was based on the expectation that, for the most part, the items being averaged would correlate positively with persistence. This was the case because all environment subscale scores were thought to be representative of social support factors which were positively associated with Adult Basic Education persistence. In fact, the majority of correlation coefficients between persistence and individual subscale scores, although negligible in size, were negative. This was particularly true in the family

environment area where the coefficients for persistence and family cohesion, expressiveness, independence, and achievement orientation were all negative.

The point of the preceding discussion is to indicate that the environmental average variables which had been conceived as gross measures of (positive) supportiveness actually included a majority of items which were negatively associated with persistence. These negative correlations do not, of course, detract from the prediction capabilities of these items, but do suggest that some social support factors may work in opposite directions than had been anticipated. Church member expressiveness, for example, was the social support score most highly correlated with persistence ($r = -.30$). This subscale had been included in this research because it had been anticipated that individual expressiveness within a church congregation would be positively associated with persistence at least to some extent. The negative correlation suggests that the reverse is the case, indicating perhaps that low levels of individual expressiveness are more apt to be associated with persistence among GED students. One logical explanation of this possibility is that low levels of expressiveness are more consistent with conformity in churches where the educational pursuits of members are encouraged.

The final data treatment discussed in the last chapter was concerned with an alternative conceptualization of this study's dependent variable, persistence. This exploration repeated one of the study's

primary regression analyses, using total number of classes attended as an operational definition of persistence rather than persistence categories. The results indicated that the analysis involving the alternative definition explained slightly more persistence variance than that involving the original definition. Nonetheless, it may be somewhat dangerous to assume that number of classes attended is a more suitable conceptualization of persistence. Although not often the case in the present study, students with the same total numbers of classes attended may have very different attendance patterns. The use of persistence categories to represent the combined variables of length of enrollment and regularity of attendance will be more meaningful in such instances. This would be particularly true with research populations whose individual attendance patterns are more diverse than was the case in the present study.

Social support variables, as well as other predictor variables employed in this study, were able to account for only relatively small amounts of persistence variance. This fact, however, should not be interpreted to suggest that environmental factors do not play an important role in affecting educational persistence among remedial adult students. It can be tentatively concluded that selected social support variables predict persistence among GED preparatory students at least as well as representative sociodemographic and personality variables employed by previous research. Nonetheless, prediction efforts based on any of these variable categories are not likely to account for enough persistence variance to be of much practical value.

The present study focused entirely upon three urban Virginia school districts and 163 adult students. Its primary analyses were performed on data provided by 70 of these individuals. Future research could benefit from a larger sample, representatively drawn from an increased number of school districts over a larger geographical area.

Recommendations

The present study has drawn attention to the possibility that social support factors may have an important influence on Adult Basic Education persistence. The final section of this chapter will discuss recommendations for further study which have been suggested by this research.

In addition to an increased sample size, future research might focus on a somewhat different group of remedial adult students than that involved in the present study. While this study's conceptual framework suggests that social support variables have an important bearing on the persistence of all remedial adult education participants, it may be that these factors weigh differently in the cases of ABE students whose educational levels and immediate goals vary. Since the incentives, progress rates, and anticipated rewards may be different for illiterates, for example, than for GED candidates, it could well be that social support factors have a different impact on their persistence as well.

Perhaps the most important area to be considered in future research into the impact of social support systems on Adult Basic Education persistence is what support dimensions are investigated and how they are measured. The present study employed a total of thirteen subscales from three of Moos' (1974) Social Climate Scales, pertaining to three environmental areas: family, work, and church. A gross measure was then computed for each environment by averaging the selected subscales relating to that area. The results of the present study dictate that future researchers would undoubtedly do better to avoid this averaging procedure and to retain the individual subscales as predictor variables. It may be the case, however, that other subscales may predict as well or better than those employed in this study or that instruments other than the Social Climate Scales may be more effective in studies similar to the present one.

Future research should perhaps attempt to measure the educational values of ABE students and to compare these to the educational values of persons in environments to which these persons belong. This basic methodology has been employed to some extent in previous educational research, such as that conducted by Malec (1968) and Frandson (1970), but not in studies involving ABE populations. Future research should also investigate the influences upon ABE students of groups of people not considered in the present study. These might include, for example, friends, neighbors, fellow members of organizations, and most admired persons.

The focus of the present research has been on the social support received by ABE students outside of the classroom. Another area for

exploration is that which Darkenwald (1974) has described as the "cultural dialogue" between teacher and student within the ABE program. Darkenwald found that black students tended to have lower dropout and absentee rates when taught by black teachers. Further research can be undertaken to investigate whether other populations of adult remedial students are more apt to persist when matched with teachers of similar cultural backgrounds. Irish (1975) emphasized that Adult Basic Education students, like other persons, draw their particular values and aspirations from the various social environments of which they are a part. These values and aspirations in turn "influence both their perceptions of problems and their choice of strategies in dealing with problems" (p. 125). It would thus seem logical that students might more likely persist when associated with teachers who were culturally equipped to understand these strategies and problems.

A final general recommendation is that future research investigating the impact of social support systems on Adult Basic Education persistence is worth undertaking. Previous studies attempting to characterize ABE participants, persisters, and dropouts have focused, for the most part, on relatively fixed traits of these adult students. Sociodemographic and personality characteristics which may have hindering effects on student persistence simply have to be accepted by ABE teachers and administrators. Except for the possibility of increasing student self-confidence, professionals can really do little to change these factors within the Adult Basic Education framework.

Similarly, of course, teachers and administrators are limited in the effects that they can have upon student environments. If they were aware, however, that students came from family, work, or church (or other) environments which were deterrents to continued participation in educational activities, ABE professionals could perhaps help equip students to overcome such obstacles. This could be attempted, at least, by helping ABE participants to interpret and justify their educational activities to their associates in these environments. Also, in some cases, teachers and administrators might seek direct contact with persons in potential student support systems in order to help clarify the benefits of ABE participation. These efforts could, of course, be much more meaningfully directed if research were able to provide concrete evidence of the extent to which different social support factors are and are not conducive to Adult Basic Education persistence.

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APPENDICES

APPENDIX A
INSTRUMENTATION

PLEASE FILL IN THE FOLLOWING BLANKS

NAME _____

INSTRUCTOR'S NAME _____

AGE _____ SEX _____ RACE _____

Are you employed full time? _____

How many years has it been since you last attended school
full time? _____

Have you attended ABE/GED classes before? _____

If so, when? _____

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PLEASE CIRCLE THE NUMBERS OF THOSE ADJECTIVES WHICH
YOU BELIEVE DESCRIBE YOURSELF

- | | | |
|--------------------|-------------------|---------------------|
| 1. active | 31. efficient | 61. peaceable |
| 2. adaptable | 32. energetic | 62. persevering |
| 3. affected | 33. enterprising | 63. persistent |
| 4. aggressive | 34. enthusiastic | 64. planful |
| 5. alert | 35. fickle | 65. pleasant |
| 6. ambitious | 36. forceful | 66. poised |
| 7. anxious | 37. gentle | 67. praising |
| 8. apathetic | 38. good-natured | 68. progressive |
| 9. appreciative | 39. high-strung | 69. quiet |
| 10. arrogant | 40. humorous | 70. quitting |
| 11. assertive | 41. independent | 71. rational |
| 12. attractive | 42. indifferent | 72. rattlebrained |
| 13. capable | 43. industrious | 73. relaxed |
| 14. careless | 44. inhibited | 74. reserved |
| 15. cautious | 45. initiative | 75. resourceful |
| 16. cheerful | 46. intelligent | 76. self-controlled |
| 17. clear-thinking | 47. irresponsible | 77. sharp-witted |
| 18. commonplace | 48. kind | 78. shiftless |
| 19. confident | 49. lazy | 79. shrewd |
| 20. conscientious | 50. leisurely | 80. slipshod |
| 21. considerate | 51. loyal | 81. sociable |
| 22. contented | 52. mannerly | 82. strong |
| 23. cooperative | 53. mature | 83. talkative |
| 24. courageous | 54. mischievous | 84. thorough |
| 25. curious | 55. modest | 85. thoughtful |
| 26. daring | 56. obliging | 86. trusting |
| 27. determined | 57. opportunistic | 87. unambitious |
| 28. distractible | 58. optimistic | 88. understanding |
| 29. dominant | 59. outspoken | 89. versatile |
| 30. easy going | 60. patient | 90. warm |
| | | 91. wholesome |

FAMILY SCALES A, B, C, D, E.

PLEASE MARK THE FOLLOWING ITEMS TRUE (T) OR FALSE (F) AS THEY DESCRIBE YOUR FAMILY.

(Circle T if the statement is true, F if false.)

SCALE A

- | | | |
|--|---|---|
| 1. Family members really help and support one another. | T | F |
| 2. We often seem to be killing time at home. | T | F |
| 3. We put a lot of energy into what we do at home. | T | F |
| 4. There is a feeling of togetherness in our family. | T | F |
| 5. We rarely volunteer when something has to be done at home. | T | F |
| 6. Family members really back each other up. | T | F |
| 7. There is very little group spirit in our family. | T | F |
| 8. We really get along well with each other. | T | F |
| 9. There is plenty of time and attention for everyone in our family. | T | F |

SCALE B

- | | | |
|---|---|---|
| 1. Family members often keep their feelings to themselves. | T | F |
| 2. We say anything we want to around home. | T | F |
| 3. It's hard to "blow off steam" at home without upsetting somebody. | T | F |
| 4. We tell each other about our personal problems. | T | F |
| 5. If we feel like doing something on the spur of the moment we often just pick up and go. | T | F |
| 6. Someone usually gets upset if you complain in our family. | T | F |
| 7. Money and paying bills is openly talked about in our family. | T | F |
| 8. We are usually careful about what we say to each other. | T | F |
| 9. There are a lot of spontaneous discussions in our family. (Discussions which start all of a sudden when something comes up on the spur of the moment.) | T | F |

SCALE C

- | | | |
|---|---|---|
| 1. We fight a lot in our family. | T | F |
| 2. Family members rarely become openly angry. | T | F |

- | | | |
|---|---|---|
| 3. Family members sometimes get so angry they throw things. | T | F |
| 4. Family members hardly ever lose their tempers. | T | F |
| 5. Family members often criticize each other. | T | F |
| 6. Family members sometimes hit each other. | T | F |
| 7. If there's a disagreement in our family, we try hard to smooth things over and keep the peace. | T | F |
| 8. Family members often try to one-up or out-do each other. | T | F |
| 9. In our family, we believe you don't ever get anywhere by raising your voice. | T | F |

SCALE D

- | | | |
|--|---|---|
| 1. We don't do things on our own very often in our family. | T | F |
| 2. In our family, we are strongly encouraged to be independent. | T | F |
| 3. We think things out for ourselves in our family. | T | F |
| 4. We come and go as we want in our family. | T | F |
| 5. There is very little privacy in our family. | T | F |
| 6. Family members almost always rely on themselves when a problem comes up. | T | F |
| 7. Family members strongly encourage each other to stand up for their rights. | T | F |
| 8. It's hard to be yourself without hurting someone's feelings in our household. | T | F |
| 9. We are not really encouraged to speak up for ourselves in our family. | T | F |

SCALE E

- | | | |
|--|---|---|
| 1. We feel that it is important to be the best in whatever you do. | T | F |
| 2. Getting ahead in life is very important in our family. | T | F |
| 3. How much money a person makes is not important to us. | T | F |
| 4. We believe in competition and "may the best man win." | T | F |
| 5. We always strive to do things just a little better the next time. | T | F |
| 6. Family members rarely worry about job promotions, school grades, etc. | T | F |
| 7. In our family we don't try that hard to succeed. | T | F |

- | | | |
|---|---|---|
| 8. "Work before play" is the rule in our family. | T | F |
| 9. Family members are often compared with others as to how well they are doing at work or school. | T | F |

WORK ENVIRONMENT SCALES F, G, H, I

PLEASE MARK THE FOLLOWING ITEMS TRUE (T) OR FALSE (F) AS THEY DESCRIBE YOUR WORK ENVIRONMENT.

(Circle T if the statement is true, F if false.)

SCALE F

- | | | |
|--|---|---|
| 1. The work is really challenging. | T | F |
| 2. There's not much group spirit at work. | T | F |
| 3. A lot of people seem to be just putting in time. | T | F |
| 4. People seem to take pride in the organization. | T | F |
| 5. People put quite a lot of effort into what they do. | T | F |
| 6. Few people ever volunteer. | T | F |
| 7. Work is quite a lively place. | T | F |
| 8. It's hard to get people to do any extra work. | T | F |
| 9. The work is usually very interesting. | T | F |

SCALE G

- | | | |
|--|---|---|
| 1. People go out of their way to make a new employee feel comfortable. | T | F |
| 2. The atmosphere is somewhat impersonal. | T | F |
| 3. People take a personal interest in each other. | T | F |
| 4. Employees rarely do things together after work. | T | F |
| 5. People are generally frank about how they feel. | T | F |
| 6. Employees often eat lunch together. | T | F |
| 7. Employees who differ greatly from others in the organization don't get on well. | T | F |
| 8. Employees often talk to each other about their personal problems. | T | F |
| 9. Often people make trouble by talking behind others' backs. | T | F |

SCALE H

- | | | |
|--|---|---|
| 1. Supervisors tend to talk down to employees. | T | F |
| 2. Supervisors usually compliment an employee who does something well. | T | F |
| 3. Supervisors tend to discourage criticism from employees. | T | F |
| 4. Supervisors usually give full credit to ideas contributed by employees. | T | F |
| 5. Supervisors often criticize employees over minor things. | T | F |
| 6. Employees generally feel free to ask for a raise. | T | F |
| 7. Supervisors expect far too much from employees. | T | F |
| 8. Employees discuss their personal problems with supervisors. | T | F |
| 9. Supervisors really stand up for their people. | T | F |

SCALE I

- | | | |
|---|---|---|
| 1. Few employees have any important responsibilities. | T | F |
| 2. Employees have a great deal of freedom to do as they like. | T | F |
| 3. Employees are encouraged to make their own decisions. | T | F |
| 4. People can use their own initiative to do things at work. | T | F |
| 5. Supervisors encourage employees to rely on themselves when a problem arises. | T | F |
| 6. Employees generally do not try to be unique and different. | T | F |
| 7. Employees are encouraged to learn things even if they are not directly related to the job. | T | F |
| 8. Employees function fairly independently of supervisors. | T | F |
| 9. Supervisors meet with employees regularly to discuss their future work goals. | T | F |

GROUP ENVIRONMENT SCALES J, K, L, M (ADAPTED FOR CHURCH ENVIRONMENT:
The word church is substituted for the word group).

PLEASE MARK THE FOLLOWING ITEMS TRUE (T) OR FALSE (F) AS THEY DESCRIBE
YOUR CHURCH ENVIRONMENT.

(Circle T if the statement is true, F if false.)

SCALE J

- | | | |
|--|---|---|
| 1. There is a feeling of unity and cohesion (togetherness) in my church. | T | F |
| 2. There is very little group spirit among church members. | T | F |

- | | | |
|--|---|---|
| 3. There is a strong feeling of belongingness in my church. | T | F |
| 4. Members of my church feel close to each other. | T | F |
| 5. Members put a lot of energy into this church. | T | F |
| 6. A lot of members just seem to be passing time in this church. | T | F |
| 7. The members are very proud of this church. | T | F |
| 8. The members of my church are a rather apathetic group. (They don't seem to care much one way or another.) | T | F |
| 9. This church is a good place to make friends. | T | F |

SCALE K [The words or minister are added.]

- | | | |
|--|---|---|
| 1. The leader or minister spends very little time encouraging members. | T | F |
| 2. The leader or minister goes out of his way to help church members. | T | F |
| 3. The leader or minister does not know the church members very well. | T | F |
| 4. The leader or minister explains things to the church members. | T | F |
| 5. The leader or minister helps new members get acquainted in the church. | T | F |
| 6. The leader or minister takes a personal interest in the church members. | T | F |
| 7. The leader or minister doesn't expect much of the church members. | T | F |
| 8. The leader or minister tells church members when they are doing well. | T | F |
| 9. Church members can count on the leader or minister to help them out of trouble. | T | F |

SCALE L

- | | | |
|--|---|---|
| 1. When church members disagree with each other, they usually say so. | T | F |
| 2. It's hard to tell how members of this church are feeling. | T | F |
| 3. Church members often say the first thing that comes into their minds. | T | F |
| 4. Church members show a good deal of caution and self-control when together in a group. | T | F |

- | | | |
|--|---|---|
| 5. Church members tend to hide their feelings from one another. | T | F |
| 6. It's OK to say whatever you want to in this church. | T | F |
| 7. There is a lot of spontaneous discussion in this church.
(Discussion that comes up on the spur of the moment.) | T | F |
| 8. Church members are careful about what they say. | T | F |
| 9. People at this church think things out before saying anything. | T | F |

SCALE M

- | | | |
|---|---|---|
| 1. Individual talents are recognized and encouraged in this church. | T | F |
| 2. In this church members are learning to depend on themselves. | T | F |
| 3. Everyone in this church is pretty much the same. | T | F |
| 4. Most members of this church "go along with the crowd." | T | F |
| 5. Members are expected to take leadership in this church. | T | F |
| 6. Members of this church are encouraged to act independently. | T | F |
| 7. Church members need the other members' approval of their decisions before carrying them out. | T | F |
| 8. This church helps its members to become more self-reliant. | T | F |
| 9. There is a good deal of pressure to conform in this church. | T | F |

THANK YOU

For purposes of this research, I hereby grant permission for Mr. Ed Jones to consult my class attendance record after approximately 75 days from today's date. I understand that no names or individual attendance records will be mentioned in the research report and that none of my records (other than attendance in this class) will be consulted.

Signature

Date

APPENDIX B

DATA RESPONSE PATTERNS BY CITIES

Data Response Patterns by Cities

School System	Complete Responses	Family and Work Subscales and Sociodemographic and Personality Variables	Family and Church Subscales and Sociodemographic and Personality Variables	Family Subscales and Sociodemographic and Personality Variables	Total Number of Subjects
Newport News	14	20	5	6	45
Richmond	42	19	8	3	72
Roanoke	14	10	6	5	35
Totals	70	49	19	14	152

APPENDIX C

AGE, SEX, AND RACE OF RESPONDENTS BY CITIES

Age, Sex, and Race of Respondents by Cities

School System	Total Subjects	Mean age	Male	Female	White	Black	Other
Newport News	45 (14)	26.32 (26.64)	21 (5)	24 (9)	25 (7)	19 (7)	1
Richmond	72 (42)	30.12 (31.64)	18 (11)	54 (31)	26 (13)	46 (29)	
Roanoke	35 (14)	25.31 (28.00)	13 (8)	22 (6)	33 (13)	2 (1)	
Overall	152 (70)	27.89 (29.91)	52 (24)	100 (46)	84 (33)	67 (37)	1

Note: Figures in parentheses relate to subjects who supplied complete sets of data, including all sociodemographic, personality, and social support items.

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THE IMPORTANCE OF PERCEIVED SOCIAL SUPPORT SYSTEM CHARACTERISTICS IN
PREDICTING PERSISTENCE IN ADULT BASIC EDUCATION

by

Edward V. Jones, III

(ABSTRACT)

The purpose of this study was to investigate the relative effectiveness of three categories of variables--sociodemographic, personality, and social support system--in predicting persistence in Adult Basic Education. A particular emphasis was focused upon social support variables and the extent of their capacity to improve the level of prediction success which could be achieved by the other two categories of variables. This study was also concerned with identifying that combination of variables from all three categories which enabled the best possible prediction of persistence.

The sample population for this study included 163 adult students enrolled in GED preparatory classes in three urban Virginia school districts. These students all attended classes two nights a week for a total of 5-6 hours.

Sociodemographic data pertaining to age, race, sex, employment status, and time since last school attendance, were collected by means of a short questionnaire. Personality measures were acquired relating to self-confidence, achievement need, and affiliation need through use

of the appropriate subscales of the Adjective Check List developed by Gough and Heilbrun (1952). Selections of particular sociodemographic and personality variables were based on their frequent inclusion in past studies of Adult Basic Education persistence and participation. This assured meaningful comparisons of the prediction effectiveness of these variables with that of the social support variables emphasized in the present study.

Social support data were obtained pertaining to family, work, and church environments through use of selected subscales of the Social Climate Scales designed by Moos (1974). Composite measures were computed, consisting of the average of subscale scores pertaining to each environment area.

A series of multiple linear regressions were performed to determine the order of best prediction among various combinations of variables and variable categories. The composite social support (environment average) variables proved poor predictors, a fact which raised doubts about the meaningfulness of the averaging procedure used to derive them. Selected individual subscales of the Social Climate Scales, by contrast, were better predictors of persistence than any of the sociodemographic and personality variables employed in the study. This was particularly true of the group environment subscales used to measure church leader support and member expressiveness.

Despite the relative prediction effectiveness of some social support measures as compared to other variables, it should be noted that none of

the predictor variables or variable categories employed in this study explained a substantial portion of persistence variance. The results of the study are thus of questionable practical value for Adult Basic Education teachers and administrators. They do, however, suggest some directions for future research.

It is recommended that research continue to investigate social support systems of Adult Basic Education students. Social support measures are, on the whole, probably as effective predictors of ABE persistence as sociodemographic and personality measures, two categories of variables more frequently focused upon in previous studies. At the same time, many environmental factors can be addressed more directly and effectively by ABE practitioners than relatively fixed socio-demographic and personality characteristics.