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THE USE OF EXPECTANCY THEORY TO EXPLAIN AND PREDICT PERSISTENCE IN ADULT EDUCATION

The Ohio State University

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300 N. Zeeb Road, Ann Arbor, MI 48106
THE USE OF EXPECTANCY THEORY TO EXPLAIN AND
PREDICT PERSISTENCE IN ADULT EDUCATION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
William Zeigler Jr., B.S., M.A.

* * * * *

The Ohio State University
1980

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The author wishes to dedicate this dissertation to his wife, Anita, for her support, encouragement, understanding, and personal sacrifices which have made the doctoral study possible, and to his daughters, Christina and Amanda.
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CHAPTER I

INTRODUCTION

Background of the Problem

The magnitude of student dropout rates in adult education programs in the United States has been an outstanding concern of adult educators and program administrators for quite some time. A review of several programs in a study by Sainty (49) revealed an average dropout rate of approximately 66 percent, ranging from 48 to 84 percent. Rates such as these are not only troublesome in terms of administrative policy and planning decisions, but more fundamentally, they point out the existence of incongruencies between what educational institutions are offering and adult learners desire; or perhaps more adequately stated, they suggest incongruencies between institutional and participant expectations. This issue was touched upon by Bonham (4) when he said

Throughout this complex and changing nation, there are now thousands of educational institutions in search of new learners, and there are millions of Americans in search of some new learning experience. But between those two quests and their respective goals stands a host of complexities that are often overlooked
by enthusiasts for a prospective learning society, or they have triggered an excessive amount of skepticism and cynicism in the doubting Thomases.

Too often, adult learners are regarded as "older children" in terms of philosophies and methodologies of educational delivery, administration, and planning.

Knowles (28) states

Most of what is known about learning has been derived from studies of learning in children and animals. Most of what is known about teaching has been derived from experience with teaching children under conditions of compulsory attendance. In my estimation, the main reason why adult education has not achieved the impact on our civilization of which it is capable is that most teachers of adults have only known how to teach adults as if they were children.

Without undue assumption, it would seem that this statement would also apply to those who are responsible for the planning and administration of adult education programs. Perhaps the most striking differentiation between public school education and adult education, excepting age distribution, is the factor of motivation to participate. Children and youths are legally compelled to remain in school; as such, the public school system is rarely concerned with "selling" a program to its students. Conversely, adults seek the educational experience. According to a study by Tough (53) in 1977,

The most common motivation for (an adult) learning project is some anticipated use or application of the knowledge or skill . . .

One might infer from this statement that if an adult
enrolls in an educational program seeking specific outcomes, it would follow that he expects his participation in the program to result in his obtaining those outcomes. Voluntarily dropping out of the program would logically suggest an alteration of originally desired outcomes or of the feeling that participation will result in the obtaining of those outcomes.

While studies by Sainty (49), Boshier (6), Verner and Davis (55), and Dickinson and Verner (13) have attempted to identify dropouts by situational or social attributes such as age, marital status, and achievement in school, it would appear that these findings were but one facet of the total phenomenon. In reference to social and educational participation, McClosky (36) stated that it

... appears to be a complex phenomenon that depends upon a great many variables of different weights ... (the variables may be grouped into those) influences essentially internal (psychological and cognitive) and those derived from the individual's environment.

It is the cognitive variables which the study reported here addresses. More precisely, this study attempted to explain and predict the persistence decision of adult learners by utilizing a cognitive process model.

Expectancy theory has been used in the field of industrial and organizational psychology as a method of explaining decision-making. Moderate success has been achieved in predicting behavior in terms of alternative
task choice through models developed by Vroom (56), Porter and Lawler (47), and Lawler (29). Several studies such as those by Schneider (50) and Petty and Sheil (46) have used an expectancy theory model to predict job turnover. It is suggested in the study by Petty and Sheil that industrial turnover and educational dropout are synonymous in nature. As such, expectancy theory should be useful in an educational setting in which the task choice of interest is between persistence (one enrolling in and completing the adult education program; also referred to as a completer) or non-persistence (one enrolling but failing to complete the program requirements; also referred to as a dropout).

Statement of the Problem

The problem investigated in this study was the prediction and explanation of variation in persistence of adults in continuing education programs. The underlying objective was to see if implications derived from expectancy theory could be applied to an educational situation and used as a method to predict and explain persistence in adult programs.

Significance of the Problem

To adequately decrease the currently existing incongruencies between institutional and participant expectations, it is necessary to analyze and attempt to correct those factors which seem to produce non-persistence. The
ability to identify potential dropouts in adult education would be extremely beneficial to both the provider and the consumer. It would afford an opportunity to identify possible causal characteristics as well as provide early detection of potential dropouts such that corrective measures might be taken to prevent the student's early termination from the program.

Campbell and Pritchard (11) view motivation as a label for the determinants of the choice to (a) initiate effort, (b) expend a certain amount of effort, and (c) persist in expending effort over a period of time. The "c" portion of this definition encompasses the persistence phenomenon.

As mentioned earlier, previous studies have concentrated on categorizing non-persisters and persisters by way of situational or social attributes such as age, marital status, and achievement in school. While these studies may add to insight concerning characteristics of the average dropout, they do little to explain the process by which a decision is made to leave a program or persist. Studies such as those mentioned fail to recognize the adult student as a free-thinking, decision-making individual. They portray his/her fate as destined by situational constraints.

Expectancy theory views humans as displaying behaviors which are cognitively oriented. Campbell and Pritchard (11) comment that
an individual has an idea about the possible consequences of his or her acts and conscious choices are made among consequences according to the perceived probability of their occurrence and their perceived value to the individual.

The theory attempts to provide a generalized explanation of the processes involved with choices among alternative courses of action (in this case persistence versus non-persistence). It first tries to define major variables for explaining choice (valued outcomes and expectancies) and then attempts to show how variables interact in influencing dependent variables.

The effective use of expectancy theory in predicting and explaining the persistence phenomenon in adult education should provide new insight into answering the question of "Why do adults dropout?" as opposed to "Who are the adults that dropout?"

Assumptions

The basic assumptions affecting this study are:

1) The fundamental process of task choice in an industrial setting and the choice to persist in or dropout of an adult education program are essentially synonymous.

2) A certain amount of trust is held by respondents to the instruments used in the study such that responses are indicative of their true perceptions.
CHAPTER II

REVIEW OF RELATED LITERATURE

Overview

This chapter presents a review of pertinent literature and the hypotheses to be tested. The literature which is relevant to this study is presented under the following headings: dropouts in adult education, adult motivation to learn, general motivation theories, and expectancy theory. As it is not feasible to explore each of these topics exhaustively, the literature review will address only those studies which directly influence the present investigation.

Dropouts in Adult Education

Although the dropout phenomenon has constantly plagued adult educators and administrators, relatively few studies have attempted to develop methods which adequately analyze and alleviate the problem. The research that has been conducted has resulted in little observable alteration of the condition. Londoner (33) mentions that the major questions dealt with in studies were involved with such factors
as traits which differentiate dropouts from persisters, comparative goals of the two groups, and prediction of dropouts.

Verner and Davis (55) conducted a study in 1964 to compare characteristics of adult completers and dropouts. They identified 26 personal and 18 situational variables used in earlier studies; however, they revealed that most of the variables had been tested with inconclusive results.

In 1967, Dickinson and Verner (13) observed a 28 percent dropout rate in an adult education evening program in British Columbia. They found that completers differed from dropouts in terms of age, marital status, number of dependents, occupation, and previous participation in adult education programs. Generally, dropouts tended to be young and single, whereas completers were older, married housewives with children. The results they obtained were consistent with the findings of a national profile analysis conducted by Johnstone and Rivera (25).

Sainty (49) studied dropouts of a retraining program for adults in Alberta, Canada, in 1971. The purpose of the study was to develop a dropout prediction model. He found the most reliable predictors to be age, number of school grades repeated, and number of employment changes made in the previous twelve months. Dropouts tended to be younger and less successful in their previous schooling and job experience than completers.
In 1971, Londoner (32) completed a study which revealed that dropouts and completers could be differentiated in terms of their stated educational goals. His analysis of data showed that

Completers typically stated educational goals involving the strengthening of their external orientations to their work and social environments, while dropouts revealed goals related to satisfaction of personal inner directed needs which would result in a more integrated, stable, and self-assured person in the vocational and social environment. (32:181)

Boshier's (5) study in 1972 of the participants of two adult education programs in New Zealand proved relatively successful in testing his Dropout Prediction Scale (D.P.S.). The D.P.S. is a 23 item Semantic Differential instrument which was constructed to obtain attitudes toward dropouts and persisters. Boshier found that

... respondents who consider a persister adult education participant to be significantly more worthy (in terms of overall evaluation) than a dropout participant are less inclined to drop out of class than persons who regard dropouts in the same or more positive light as persisters. (5:97)

Boshier (6) has more recently developed another theoretical model to explain participation and persistence in adult education programs. In 1973, he referred to a "congruence" model which was based on Self Theory. He depicts participation as a function of self/institution incongruence and dropout as a function of intra-self and self/other incongruence. He states that previous studies using social,
psychological and institutional variables reflect mediating factors within his model.

In 1978, Irish (24) conducted a study to attempt to differentiate persisters and dropouts in terms of the effects of attendance associated reinforcements. She found that persisters reported greater positive reinforcement of class attendance than dropouts.

Adult Motivation to Learn

The participation and persistence of an adult in an education program is most often explained in terms of motivational constructs. Theory and research of adult motivation to learn is interwoven in studies covered in the previous section of this chapter. However, there are some studies which have been limited to motivation without specific reference to the dropout/persister phenomenon.

Knowles (28) defines motivation to learn as those efforts aroused by the realization of an individual's educational need. In turn, educational need is explained as "... the discrepancy between what an individual (or organization or society) wants himself to be and what he is; the distance between an aspiration and a reality ..." (28:87) The realization of these educational needs in turn arouses the effort identified as motivation to learn. As motivation to learn is a function of educational need, variation in its presence and intensity exist. Some factors which have been
correlated with the force are sex, regional locational, urban or rural residence, race, size and type of community, and progression through the life cycle. Knowles goes on to identify his concept of basic human needs as 1) physical needs, 2) growth needs, 3) need for security, 4) need for new experience, 5) need for affection, and 6) need for recognition.

Houle's (21) work is viewed as one of the most generally accepted studies of adult motivation to learn. He did an indepth study of 22 cases which comprised a highly select sample of adults. As a result, he classified each of them into one of three categories: 1) the goal oriented, 2) the learning oriented, and 3) the activity oriented adult. The goal-oriented adult has specific objectives in mind which he wants to obtain through participation in an adult education program. Examples would be such as accumulating credits, obtaining certification, becoming more efficient at performing a particular task such as typing. The learning-oriented adult is motivated by a desire to know. He learns merely for the sake and enjoyment of learning. He is primarily interested in the content rather than coincidental secondary outcomes. The activity-oriented learner is usually attracted to learning in a formal (or informal) setting for social reasons. However, the distinguishing factor is that he participates for reasons indirectly related to the content of the program. He views the educational
experience in terms of such outcomes as facilitating socializing, meeting new people, or escaping from less desirable environments. Several educational researchers have used Houle's typology as a basis of further research and have successfully validated his general findings.

Axford (3) summarized several studies and found the primary motivational factors to include 1) development of a skill, improvement in one's job; 2) making up a deficiency, completion of a certification, diploma, or degree once begun; 3) becoming a better citizen; 4) broadening one's view of the world and of the people in it; 5) learning about health and how to improve health habits; 6) learning how to be more effective as a family member, father, mother, budget maker, consumer, provider; 7) development of skills in communication and human relations; 8) deepening an understanding of a hobby, interest or latent ability; 9) increasing one's income; 10) meeting a requirement demanded by business, industry or profession; 11) filling leisure time with something meaningful.

Miller (37) theorizes three motivational aspects and refers to them as follows:

1) Pure intellectual curiosity tends to be a definite motivation force for some individuals initially; however, because such motivation or need is relatively easily satisfied or met by less formal methods, it does
not often seem to be sufficient to perpetuate the initial desire to learn.

2) Motives which lead people to adult educational experiences for human relationships, group belonging, or due to a desire for status recognition appear to be of little consequence. The motives often bear little immediate relationship to the primary purpose of the programs.

3) Adults desire to talk things over; they seek rationality. This has often been misinterpreted as a desire to learn for learning's sake. Some adults want to clarify their thoughts, but not necessarily in a scholarly fashion, which learning for learning's sake implies.

In summarizing his review of literature, Kidd (27) professes that the basis for motivation is physical and social. The physical motives result from physiological needs which he states as being most prevalent in the early years of childhood and again in the very late years of life when the physical losses may impose some limits on behavior and become apparent. These physical characteristics are labeled primary motives. Secondary motives reflect those motives which may have origins related to primary motives, but are generally socially oriented. The term "secondary"
relates only to formulation and not necessarily to relative potency. These motives stem from an individual's need to "get along" with his family, in his school, in his job associations, and in society in general. They are seen as being very personal but highly influenced by culture. In addition to this, Kidd points out two key influences affecting motivation -- time and money. Time is viewed as affecting motivation in three ways:

1) Time is usually approached by individuals in a budgetary manner. As a result, there is not enough time for all needs to be met simultaneously; therefore, often some needs are pushed aside, negated, or nullified, while others are reinforced. For example, a mother may have strong personal need to develop professionally but feels that she must devote her present time to her young children. Such situations often lead to frustration.

2) Time can be seen as a limiting factor when viewed in relation to life expectancy. To a teenager, all the time in the world is available and nothing seems impossible. An individual of sixty may have a deep desire to do something but feels constricted by lack of foreseeable time and therefore abandons any
hope of accomplishing it. Conversely, one may also feel that "my time is limited, so I'd better get started right away to get this thing finished."

3) Time also plays a role in terms of attention span. While attention span does increase from early childhood through adulthood, it seems to be related much more closely to interests than to physical factors.

Money influences motivation in that it creates or destroys relative freedom to choose what one will do; for example, one might have to decide if he can financially afford to go back to school full-time or to attend night classes rather than take on a second job to increase his income.

A study was conducted by Tough (54) in 1967 in which 35 individuals participating in some form of adult education were interviewed in depth as to why they chose to begin a learning project. Tough had hypothesized 13 reasons or motivating factors from previous literature which seemed to encompass the realm of possible responses, before the interviewing sessions. The interviewers were responsible for reviewing each of the 13 factors with the interviewees and for facilitating selection of those which the interviewees felt were relative to their situations. Response was indicated by deeming the influence as being a) very strong, b) fairly strong, c) weak, but definitely present, or d) not present
at all. The interviewers were also directed to elicit any additional influential factors not listed. The findings were as follows:

1) A mean number of 6.7 and median of 6 reasons were found to contribute to participation. A mean of 5.4 was identified for reasons deemed strong (very strong or fairly strong). This outcome points to the complexity of motivation in adult learning and the inappropriateness of generalizing extensively concerning why adults learn.

2) Generally, there were one to two more reasons cited for continuation in the program than for initial participation.

3) The most important and common reason found for participation was the desire to use or apply the knowledge and skill; commitment to an action goal. A variation of this was to learn certain knowledge and skill as a step toward achieving the action goal more efficiently. The second most popular motivational force was puzzlement, curiosity, or a question. The third was the enjoyment of the process of learning or of the content of the learning project.
In 1971, Burgess (8) attempted to expand Houle's classifications by using an instrument which he developed entitled "Reasons for Educational Participation." The raw data were factor analyzed producing seven groups of reasons: 1) the desire to know, 2) the desire to reach a personal goal, 3) the desire to reach a social goal, 4) the desire to reach a religious goal, 5) the desire to escape, 6) the desire to take part in an activity, and 7) the desire to comply with formal requirements.

Dickinson and Clark (12) conducted a study in 1975 of female registered nurses. The purpose of the study was to correlate Houle's typology of adult learning orientation with participants in self-education and continuing education. A stratified random sampling of 1240 nurses resulted in a group of 250 subjects plus alternates. Subjects were asked to respond to a questionnaire (Sheffield's Continuing Learning Orientation Index) which uses Likert-type scales to extract reasons for participation in all types of educational endeavors. Through the use of factor analysis, eight categories resulted of which only seven were interpretable. They were 1) learning orientation, 2) sociability orientation, 3) occupational orientation, 4) professional orientation, 5) societal orientation, 6) interactive orientation, and 7) relief from boredom and frustration, in that ranking from most to least popular. The seven factors are conceptually consistent with Houle's typology as numbers 3, 4, and 5.
are considered goal orientations; 2, 6, and 7 are activity oriented; and the learning orientation is identical.

Boshier (6) suggested a theoretical model in 1973 for participation in adult education programs. He based his model on a factor analysis of 48 statements of "motives for attendance." As a result, he characterized participants as being "deficiency" or "growth" motivated. Growth-motivated individuals are primarily internally motivated while those who are deficiency-motivated are impelled by social or environmental pressures. Deficiency-motivated adults use education as a means of achieving lower level needs, neurotic needs, as a mean to an end, and as a response to cultural expectations. Growth-motivated people (who by definition have satisfied lower level needs in Maslow's hierarchy), desire more and more education; gratification increases motivation. They are inner-directed and autonomous. Deficiency-motivated people are more fearful of their environment because there is always the possibility that it may fail or disappoint; they tend to feel externally controlled. It is not suggested, however, that an individual is in one category or the other. An individual may be growth-motivated with respect to one behavior and deficiency-motivated with respect to another. Boshier also approaches his two categories from a Rogerian viewpoint in which he refers to growth-motivated people as exhibiting intra-self and self/other congruence, while deficiency-oriented persons display intra-self
and self/other incongruencies. As Boshier's study was conducted in New Zealand, Morstain and Smart (40) decided to replicate it in 1974 using adult education students in the United States. Their findings did indeed support those of Boshier, affirming the theory's cross-cultural value.

In a study by Morstain and Smart (39) in 1977, an attempt was made to develop a typological framework for assessing adult learners' reasons or motivations which influence their educational activities. A sample of adults in college level courses was used. A factor analysis of the raw data resulted in the identification of five statistically supported types of adult learners as follows:

1) **Non-directed.** This group indicated no one specific reason for participation but rather a general motivation in several of the areas indicated on the instrument.

2) **Social.** This group scored most highly in the area of social/interpersonal needs.

3) **Stimulation seeking.** This group was most interested in escape from routine and boredom either in their personal or occupational lives.

4) **Career oriented.** The major interest in this group was professional advancement.

5) **Life change.** Scoring highly in areas of both social relations and escape/stimulation, this
group is characterized as individuals desiring a general change in their lives.

Grotelueschen and Caulley (18) presented a theoretical model in 1977 explaining determinants of a professional's intention to participate in continuing education. It was based on Fishbein's (16) general theoretical model. While a more indepth description of expectancy theory occurs later in this chapter, one comment is in order at this point to relate the significance of this study. There is a similarity between this model and the use of expectancy theory proposed in the present study. Hackman and Porter (19) comment that the components of Fishbein's model are 1) strength of belief about an object, 2) evaluation associated with that belief, and 3) beliefs held by the individual about an object. These parallel the components of the expectancy model which are 1) contingency of desired outcomes upon effort, 2) valence of the individual for the desired outcomes, and 3) outcomes associated with behavior. Grotelueschen and Caulley view their model as a response to the need to move away from the traditional descriptive studies.

General Motivation Theories

Motivation is a term which is assigned differing meanings dependent upon usage and user. As mentioned in Chapter I, this study regarded motivation as it is explained
It seems most meaningful to view motivation as a label for the determinants of a) the choice to initiate effort on a certain task, b) the choice to expend a certain amount of effort, and c) the choice to persist in expending effort over a period of time. . . motivation has to do with a set of independent/dependent variable relationships that explain the direction, amplitude, and persistence of an individual's behavior, holding constant the effects of aptitude, skill, and understanding of the task, and the constraints operating in the environment.

There have been many different motivational theories which attempted to explain or predict behavior. While they seem varied and sometimes contradictory at first glance, there appear to be at least two common threads running through them. Campbell, Dunnette, Lawler and Weick (10) have dichotomized the existing theories into those they consider to be "content" theories and those considered "process" theories. In reviewing the existing more prominent theories, attention will be focused first to "content" theories and then to "process" theories.

Content Theories

The theories falling under this classification are characterized by their attempt to identify variables such as needs, rewards, or incentives which arouse an individual's behavior. Lists of desired outcomes or states are normally produced as part of the theories. While the interactions of some of the variables in producing behavior may
be touched upon, the theories are fundamentally concerned with entities rather than procedures.

Need theories fall into this category. Perhaps the most noteworthy theories are those proposed by Murray (41), Maslow (35), and Alderfer (2). Murray compiled a list of 20 basic needs which appear to motivate individuals. These included 1) abasement, 2) achievement, 3) affiliation, 4) aggression, 5) autonomy, 6) counteraction, 7) defendance, 8) deference, 9) dominance, 10) exhibition, 11) harmavoidance, 12) infaavoidance, 13) nurturance, 14) order, 15) play, 16) rejection, 17) sentience, 18) sex, 19) succorance, and 20) understanding. The importance of Murray's hypothesizing is that it was not based upon empirical research but through his clinical experiences; however, his list contains almost all those needs suggested by more modern theories.

Maslow is hailed as one of the most famous need theorists. His was the first noteworthy effort to arrange a listing of needs in hierarchical fashion. The basic thrust of his hierarchy rests on the assumption that lower level needs must be satisfied before higher level needs become prominent in a motivational sense. Maslow's hierarchy from lowest to highest level of need is 1) physiological needs, 2) safety needs, 3) social needs, 4) esteem needs, and 5) self-actualization. Maslow's work as Murray's is founded on clinical experience rather than empirical research.
Alderfer's ERG Model (Existence-Relatedness-Growth) was proposed in an attempt to further refine Maslow's model. The major differences between Maslow's and Alderfer's theories are as follows:

1) Alderfer has condensed the number of needs to three: existence, relatedness and growth. These three encompass those of Maslow.

2) The phenomenon of prepotency of needs is questioned by Alderfer who feels that all needs are always present and recognized.

3) Alderfer attempts to address the topic of satisfaction/frustration and motivational processes.

A fourth content theory which is under the general heading of need theory is Herzberg's (20) Two-Factor Theory. This theory is differentiated from the other three in that it deals exclusively with job outcomes and rewards that are associated with job behavior. Herzberg proposes that motivation is determined by extrinsic factors (hygiene factors) and intrinsic factors (motivator factors). The extrinsic factors are characterized by those factors associated with the organization (pay, supervision, human relations, policy and administration, working conditions, job security). Intrinsic factors are those which are derived directly from the job itself (achievement, recognition, responsibility, advancement). The major importance of this theory from a motivational viewpoint is its unique method of analyzing motivating factors related to behavior.
Process Theories

Process theories differ from content theories in that the emphasis is more on "how" than "why". They attempt to explain the processes involved which result in choices among alternative courses of action, degrees of effort expended, and persistence over time.

Three names are historically associated with process theories. They are B.F. Skinner, Clark Hull, and Kurt Lewin. Skinner (51) is one of the most renowned behaviorists. His theory of motivation is founded on understanding the historical reinforcement contingencies to which an individual has been responsive. This knowledge in turn creates the opportunity to understand and control the individual's behavior.

Hull's (22) behaviorist orientation has caused his theory to be predicated upon S-R connections. After two major revisions of his original theory, Hull presented his currently existing theoretical model in 1952. It explains behavior by way of the following formula:

\[ S_{ER}^E = f(S_{HR} X D X K) \]

where \( S_{ER}^E \) represents behavior or reaction potential, \( S_{HR} \) represents learning, D represents motivation and K represents the incentive value of the reward. This model implies that behavior can be interpreted as reaction to a need or an
Lewin (31) presented a theory which completely ignored the previously held importance of reinforcement history, and for what seemed to be the first time, added a human element to the view of motivation. His theory viewed an individual as having both physiological and psychological needs. The needs were thought to have the characteristics of both creating tensions which the individual sought to relieve and creating attractiveness to certain actions or outcomes due to their association in relieving the tensions. The attractiveness was referred to as "valence". Generally, an individual's behavior was explained as a combination of the force created by the state of tension and the valence for an outcome which pulled the individual in the direction of that behavior. Campbell and Pritchard (11) feel that Lewin's work was the fundamental forerunner of the bulk of motivational theory today.

Currently, the most visual motivational theories are in the area of cognitive process theories. It is generally felt that people do indeed think, and these theories take this into account. Dissonance theory and expectancy theory are examples of contemporary cognitive theories.

The person most closely associated with dissonance theory is Festinger (15). The basis of the theory is the belief that if a perceived discrepancy exists within an individual, he or she is motivated to correct it; the greater
the discrepancy, the greater the motivation. The discrep-
ancy is generally viewed as a conflict between elements
which does not appear to be logical to the individual --
for example, if an individual perceives himself to be an
outstanding worker but never is given a raise in pay, or
if an individual feels that she is superior to a co-worker
who is receiving greater compensation, the result is a feel­
ing of conflict. The latter example is a situation which
is suited to an applied version of dissonance theory pro­
posed by Adams (1) which he calls Equity Theory.

As expectancy theory is of central concern to this
study, it will be reviewed in greater detail.

Expectancy Theory

In 1977, Nadler and Lawler (42) stated

... Expectancy Theory still needs further
testing, refining, and extending. However,
enough is known that many behavioral scien-
tists have concluded that it represents the
most comprehensive, valid, and useful approach
to understanding motivation.

Expectancy theory, which is often referred to as in-
strumentality theory or valence-instrumentality-expectancy
(VIE) theory, is founded on the belief that individuals hold
certain expectancies in terms of behaviors and outcomes re-
sulting from those behaviors. Porter, Lawler, and Hackman
(47) refer to expectancies as

... beliefs individuals hold about what leads
to what in an environment ... (expectancies)
can serve as a "map" for the individual in planning how he will go about fulfilling his needs and achieving his goals in the organization since they are predictions about the likely future consequences of a course of action.

The roots of the theory are found in the works of Lewin (31) and Tolman (52). While Lewin's work was primarily related to humans and Tolman's to animals, they both interpreted motivation as resulting from a combination of expectancies relating actions to outcomes and values attached to the outcomes. These works were later expanded and refined by individuals such as Vroom (56), Porter and Lawler (47), and Lawler (29). As a theoretical and operational model, expectancy theory was created to explain and predict choice between levels of effort within tasks or alternate tasks. It explains motivation, in terms of forces on an individual to choose between tasks or levels of effort, as being determined by:

1) The valence or perceived value of the outcomes associated with the task

2) The expectancy or belief that successful completion of the task will lead to the desired outcomes

3) The expectancy that expenditure of effort will lead to the successful performance of the task.

These three factors are combined multiplicatively in the following manner:
Force = (E→P)(P→O)(V)

where (E→P) represents the expectancy that effort will lead to performance, (P→O) the expectancy that performance will lead to a desired outcome, and (V) the valence an individual attaches to the outcome. Expectancies are probabilities and therefore range in value from 0 through 1. Valence values may be positive, negative, or zero. The multiplicative relation of the three factors allows a zero value in any of the three positions to nullify motivational force and for a negative valence to create an avoidance force. Values are thus determined for all outcomes associated with a task and are summed to obtain an overall motivational force as follows:

\[
\text{Force} = (E\rightarrow P) \times \sum [(P\rightarrow O)\times(V)]
\]

This equation can in turn be expanded to indicate the fact that individuals often combine the possibility of successful performance with that of failure, as follows:

\[
\text{Force} = \sum [(E\rightarrow P) \times \sum [(P\rightarrow O)\times(V)]]
\]

The formula discussed above is useful for descriptive purposes. Compared to the former model, analyzing factors of the model as separate entities makes it less complicated to
explain the basic concepts of expectancy theory. However, for the purposes of this study, it was felt that the use of Vroom's (56) model was more appropriate.

Vroom's model was specifically developed to predict choice among alternative tasks, which in relation to this study would result in choice between persisting in and dropping out of an educational program. The basic difference between Vroom's model and the aforementioned model is that Vroom's fundamental formula is as follows (11):

\[
\text{Force} = (\text{Expectancy that effort results in attaining outcomes}) \times (\text{the valence of the outcomes})
\]

or

\[
F = (E) \times (V)
\]

The "E" portion of the formula is a condensation of the (E→P) and (P→O) portions of the former model. It is felt that examining expectancies in this manner will furnish comparable data to the expanded form yet be less complex to apply.

In addition to this variation, Vroom proposed calculating individual forces for each alternative behavior on a within-person basis. That behavior exhibiting the greatest force would be the one predicted to occur. As a result, in this study, force to persist and force to drop out scores were calculated. The following formula represents
the manner in which Motivational Force scores (the overall motivational force) are determined:

\[ MF = F_p - F_D \]

In this formula \( MF \) represents the Motivational Force score, \( F_p \) is the force to persist score, and \( F_D \) is the force to drop out score. As such, a positive \( MF \) score resulted in a prediction of persistence, whereas a negative \( MF \) score resulted in a prediction of non-persistence.

The use of expectancy theory in relation to theories and research concerning motivation of adults to participate in educational programs proves to be quite interesting. First, in terms of expectancy theory, adult educators and researchers have thus far been involved in appraising only the desirable outcomes and valences for those outcomes in their attempt to determine motivational factors contributing to learning. Influence and nature of expectancies have not been examined, and as is evidenced by the formula, are of at least equal concern in determining overall force to perform a task. Second, expectancy theory proposes that desired outcomes and valences are the most difficult motivational factors to alter. As a result, adult educators wishing to influence the motivational contributors to the educational experience should concentrate on understanding expectancy components and how they may be altered to improve
motivation.

Expectancy of successful performance of a task leading to desired outcomes can clearly be understood in view of adult education. A prominent comment of adult educators involves the ultimate concern of relevance, which tends to influence adults in the educational setting. In other words, they are interested in realizing that what they are learning is going to actually facilitate promotion on the job, obtaining the certification, meeting interesting people, feeling more adequate, or whatever their desired outcomes. The practical and objective perception the adult adheres to of education would seem to very likely enter into his or her decision to participate in an educational program and remain once enrolled.

"You can't teach an old dog new tricks," one of the most difficult obstacles to overcome with older adults, is actually a representation of a very low or non-existent effort to performance expectancy. While relatively recent studies of intelligence and aging have helped to dispel this belief, it is still present to some extent. Because humans generally do not enjoy failure, an adult who feels that his or her chances to succeed in a learning situation are very low is less likely to begin or continue the activity.

Very closely associated with expectancy theory implications is the belief held by such industrial psychologists
as Wanous (58) that inflated expectations of employees prior to organizational entry are primarily responsible for early voluntary job turnover. It is felt that the inflated expectations of what will result from employment in a particular organization or upon securing a certain position are generated by erroneous or biased information presented by the organization, whether it be intentional or not. Recruitment is often viewed as a method of attracting as many potential applicants as possible regardless of the technique used. As such, there is a tendency for an organization to concentrate on and/or exaggerate the positive aspects of a job while delineating and/or ignoring the negative factors. The realistic job preview is a philosophy developed to overcome this problem by integrating in proportion to reality both the positive and negative factors associated with a position and organization as part of the recruitment procedure.

Two studies which dealt with the effects of the realistic job preview on participant expectancies and turnover tendencies were by Youngberg (59) in 1963 and by Wanous (57) in 1973. Youngberg's study was of 404 male life insurance agents. The experimental group received realistic job literature while the control group received traditional literature. It was found that nine percent more agents in the experimental group were hired, the experimental group had slightly more realistic expectations
upon entry, and 80 percent of the experimental group reported being satisfied with their jobs at the end of three month as opposed to 64 percent in the control group.

The study Wanous conducted dealt with 80 female telephone operators. The experimental group watched a realistic recruitment film during the recruitment stage while the control group watched a traditional recruitment film. Expectancies were found to be lower upon entry in the experimental group than in the control group and thoughts of quitting were significantly lower in the experimental group than in the control group.

Possible implications from the study of realistic job previews research may aid in decreasing the persistence problem in adult education. Voluntary turnover, once again, has many similarities to dropping out of an educational program. Two studies have touched upon application of the realistic job preview philosophy in an educational setting. In 1969, Macedonia (34) used a sample of 1260 male cadets entering the United States Military Academy at West Point. Approximately half were mailed booklets containing realistic information, after written acceptance but prior to entry, and the remaining half comprised the control group. The results indicated that 10.6 percent of the experimental group chose not to enter the institution as opposed to 21.1 percent of the control group; 91.3 of the experimental group were enrolled after one year versus 86.1 percent of the
control group. Ilgen and Seely (23) conducted a study in 1974 of West Point cadets similar to that done earlier by Macedonia. The sample included 234 males in the experimental group and 234 in the control group. In this study the survival rate was reported as 94 percent for the experimental group and 88.5 percent for the control group, after two months. Both studies indicate a significant reduction in turnover \( p < .01 \) and \( p < .05 \) respectively through the use of the realistic job preview model.

Concluding Comments

It is evident that the bulk of literature concerning dropouts in adult education and adult motivation to learn is descriptive. It is as evident that changes in this tradition are beginning to occur. The following two excerpts tend to put the status of relevant research into focus and set the stage for the present study. Flinck (17) summarized a review of studies on the topic as follows:

... adults also report varying reasons for participation. There seems to be only slight accordance, however, between the steps taken by educational authorities and the situational and psychological factors or reasons stated by the adults.

In a review of adult learning and motivational orientations research over the past fifteen years, Boshier (7) concluded his study by stating:

This review has focused on the measurement of participants' motives. The orientations
are reasonably stable across time and space. Now could be the time to shift emphasis toward an explanation of the psychological concomitants and antecedents of motivation.

The review of general motivation theories revealed a marked transition from the use of content theories to the use of process theories in explaining and predicting human behavior. At the same time, the literature reviewed dealing with motivation in adult learning seems to still be fairly entrenched in the use of content theory models. It is the feeling of this researcher as well as those previously quoted (Flinck and Boshier) that the time is at hand to assume a new view of motivational theory in adult education and that the results of studies in psychology utilizing cognitive process theories appear to be particularly appropriate and inviting.
Hypotheses

The bulk of previous research attempting to explain or describe variation in persistence in adult education programs involved the employment of demographics and independent variables. The present study investigated not only the use of an additional variable resulting from the use of expectancy theory, but explored the further refinement of selected demographic variable contributions to variation explanation by examining them in terms of their intercorrelations with expectancy theory components.

As a result of the literature reviewed and theoretical framework described, the following hypotheses were proposed in an attempt to validate implications derived from expectancy theory for the prediction and explanation of persistence in adult education programs:

**Hypothesis 1:** Motivational Force scores calculated before the first class meeting will be higher than those calculated after the second class meeting, for those adults who drop out of the educational programs in the study.

**Hypothesis 2:** Motivational Force scores calculated before the first class meeting will be lower than or equal to those calculated after the second class meeting for adults who persist in the educational programs in the study.
Hypothesis 3: The expectancy theory model will identify adults who persist and those who drop out of the educational programs of the study better than such predictions made by chance.

Hypothesis 4: Motivational Force scores will increase explanation of variation in persistence over that explained by selected demographic variables.

Hypothesis 5: Motivational Force scores will be found to be a mediating variable between selected demographic variables and persistence.
CHAPTER III

METHODOLOGY

Overview

This chapter is divided into four sections. Section one describes the population and sample. A description of the research design and method of data collection comprise the second section. The third section provides a detailed description of the instrument and scoring procedures. The final section deals with statistical analysis as related to the hypotheses to be tested.

Population and Sample

The Office of Continuing Education at The Ohio State University offers from 400 to 600 courses per quarter through its credit program. These courses are taken by a variety of people for a variety of reasons. The population of interest in this study was students who registered for credit courses for the first time during the 1980 Spring Quarter. It was anticipated that approximately 300 students would fall into this category; the actual number was 344. The sample was to
be synonymous with the population in that all newly registering students would be surveyed. The overall dropout rate for continuing education students in credit courses was expected to be between 17 and 20 percent. It was determined to study new students because the Assistant Director of the Office of Continuing Education suggested that individuals categorized as such could be expected to have the highest degree of variation in program persistence.

The frame for the population was to be created by using data supplied on registration forms at the Office of Continuing Education. New students who registered in credit programs through that office did so during the week prior to the first week of classes; this was done on a walk-in basis. Data from registration forms necessary in conducting this study were the student's name, identification number, address, and telephone number. It was discovered that data could not be used from those registering students who indicated on their forms that information was not to be used for purposes other than that directly related to the Office of Continuing Education. As a result of this and faulty or illegible addresses and telephone numbers, the population frame was composed of 145 names of newly registering students. This number was approximately 42 percent of all newly registering students for the 1980 Spring Quarter. As the usable frame could not be assumed to be representative of the total population of newly registering students, and it was not
possible to sample the remainder of the population, the popu-
lation of the study resulted in being limited to those stu-
dents who consented to release of information from their re-
gistration forms. This outcome would tend to limit general-
ization of the results of this study, as it was not possible
to determine whether a significant difference existed between
those consenting and those not consenting to release of the
information.

Research Design and Data Collection

The study was of a correlational and descriptive de-
sign by Campbell and Stanley's (9) definition. It was
structured to determine relationships between selected demo-
graphic variables, Motivational Force scores derived from an
expectancy theory model, and persistence of newly registering
students in credit courses through the Office of Continuing
Education during the 1980 Spring Quarter at The Ohio State
University. As this expectancy theory model had not previ-
ously been used in an educational setting to predict and ex-
plain persistence, the study was viewed as a pilot study.

The dependent variable of interest was student per-
sistence (persister or dropout). Persistence status was de-
termined on a by course basis. As such, a student could drop
one course and be deemed a dropout, but in reference to that
course only. Verification of persistence status was obtained
after the second week of classes during the Spring Quarter by
survey instrument and data from the Office of Continuing Education administration.

The major independent variable of interest was student Motivational Force score. The score was computed using an instrument adapted from Vroom's (56) expectancy theory model, an expectancy theory questionnaire from the Michigan Organizational Assessment Package (42), an expectancy theory questionnaire developed by Lawler and Suttle (30), and empirical findings from a study conducted by Parker and Dyer (45).

Selected demographic variables were utilized as other independent variables. Demographic variables of interest included:

1) Number of previously taken credits beyond high school
2) Age
3) Method of fee payment
4) Sex
5) Marital status
6) Head of household status
7) Number of dependents
8) Program classification (degree or non-degree)

Of the above variables, "number of previously taken credits", "age", "sex", "marital status", "head of household status", and "number of dependents" were identified in previous studies as those variables most consistently exhibiting significant (p < .05) contributions in explaining variation in the dependent variable. "Method of fee payment" and "program
classification" were added in this study as additional possible contributors.

Data collection activities consisted of two administrations of the survey instrument. The first administration was to gather demographic data and Motivational Force scores prior to having participated in classes. As newly registering students did so on a walk-in basis within the one week period before classes began, it was not possible to obtain a population frame and collect these data on a completely random basis. Data were therefore collected by supplying the Office of Continuing Education Credit Programs staff with administration directions (see Appendix A) and a supply of survey instruments. As an individual came into the office to register and designated himself/herself as a new student, he/she was asked to complete the instrument and return it with the registration materials. As is indicated in Table 1 below, of those administered, 75 usable instruments were returned.

The second administration of the instrument was conducted by mail after the second week of classes. The purpose of the second administration was to obtain Motivational Force scores for subjects after exposure to classes and to secure demographic data from those not responding to the first administration. Instruments were sent to all 145 subjects in the population. Those who did not respond to the first administration were sent the parts necessary to obtain
TABLE 1
RESPONSE RATES FOR FIRST AND SECOND ADMINISTRATIONS OF SURVEY INSTRUMENT

<table>
<thead>
<tr>
<th>Administration</th>
<th>Non-respondents</th>
<th>Respondents</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>70</td>
<td>75</td>
<td>52%</td>
</tr>
<tr>
<td>Second</td>
<td>51</td>
<td>94</td>
<td>64%</td>
</tr>
<tr>
<td>Both</td>
<td>90</td>
<td>55</td>
<td>38%</td>
</tr>
</tbody>
</table>

demographic data and Motivational Force score information; those who did respond were sent the parts necessary to obtain Motivational Force scores only. The response rate, as shown in Table 1 above, was 64 percent for the second administration.

A third row displayed in Table 1 above concerns the number and rate of subjects who responded to both survey administrations. Comparison data for those responding to both administrations were necessary in testing Hypotheses 1 and 2. As indicated in the table, a total of 55 subjects responded to both administrations. This represents 38 percent of the total population.

As there were an appreciable number of non-respondents in the two administrations, a 35 percent sample of the non-respondents was taken and compared with the respondents
to see if any significant difference could be detected between the two groups. As the figures in Table 2 below suggest, there was no appreciable difference by inspection between the sample of respondents and non-respondents. To assure no significant difference between the groups in terms of the variables indicated, t-tests were conducted confirming what was suggested in Table 2 (Appendix B). This outcome resulted in the data from the non-respondents being pooled with that from the respondents; furthermore, it justified the assumption that the sample from which data were collected was representative of the population of interest.

The final data collection activities dealt with verification of the actual persistence status of subjects and was conducted following the fourteenth day of the quarter, which is when the University freezes computer entries for its official enrollment count. For the purposes of this study, any student enrolled after the fourteenth day count was considered a persister. Technically, any student withdrawing from an individual class or the entire program, who is registered through the Office of Continuing Education Credit Programs, is to take part in a counseling session and complete withdrawal or dropping forms. However, in some cases such as where an individual may be registered for a single class and decided to withdraw, he or she may feel that the procedure is unnecessary and ignore it. As
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Non-respondents</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits beyond high school (mean)</td>
<td>116.7</td>
<td>111.8</td>
</tr>
<tr>
<td>Age (mean)</td>
<td>26.7</td>
<td>28.7</td>
</tr>
<tr>
<td>Method of fee payment</td>
<td>2.4</td>
<td>2.9</td>
</tr>
<tr>
<td>(ratio of student to other)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex (ratio of female to male)</td>
<td>2.0</td>
<td>1.6</td>
</tr>
<tr>
<td>Marital status (ratio of married to unmarried)</td>
<td>.7</td>
<td>.7</td>
</tr>
<tr>
<td>Head of household status (ratio of no to yes)</td>
<td>1.6</td>
<td>.7</td>
</tr>
<tr>
<td>Number of dependents (mean)</td>
<td>.5</td>
<td>.7</td>
</tr>
<tr>
<td>Program classification (ratio of degree to non-degree)</td>
<td>.6</td>
<td>.4</td>
</tr>
<tr>
<td>Motivational Force Score:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>First administration (mean)</td>
<td>92.3</td>
<td>87.0</td>
</tr>
<tr>
<td>Second administration (mean)</td>
<td>86.1</td>
<td>83.3</td>
</tr>
</tbody>
</table>
a result, the University has no record of his or her withdrawal. In an attempt to allow for this and the normal withdrawal procedure, a question was included in the second administration of the survey instrument allowing subjects to self-report their persistence status. Additionally, information from the withdrawal file was obtained from the Office of Continuing Education. Any discrepancies between withdrawal file and self-report data were decided in favor of the dropout status.

Instrumentation

One survey instrument was used during the first data collection activity and a modified version of that instrument was used during the second administration (see Appendix A). Part I of the instrument was designed to categorize subjects in terms of the selected demographic variables mentioned earlier in this chapter. Listed below are the variables and a description of their respective levels.

1) Number of previously taken credits beyond high school was treated as a continuous variable. Subjects were expected to vary greatly in number of credits taken due to the nature of continuing education students.

2) Age was also treated as a continuous variable and was again expected to vary considerably.
3) **Method of fee payment** was considered a dichotomous variable. Levels were "you" indicating that the student paid his or her own course fees and "other" indicating course fees were paid by someone other than the student such as a parent, employer, or spouse.

4) **Sex** was considered a dichotomous variable having levels of "female" and "male".

5) **Marital status** was treated as a dichotomous variable. The levels were "married" and "unmarried".

6) **Head of household status** was considered a dichotomous variable having levels of "yes" indicating that the student was considered the head of household were he or she lived and "no" meaning that someone other than the student was considered head of the household.

7) **Number of dependents** was treated as a continuous variable.

8) **Program classification** was considered a dichotomous variable. The levels were "degree" indicating the student was or considered himself/herself to be enrolled in a degree program, or "non-degree" indicating the student was not enrolled in a degree granting program.

Parts II through IV of the instrument provided data for calculating Motivational Force scores. As mentioned
earlier, this portion of the instrument was adapted from Vroom's expectancy theory model, an expectancy theory questionnaire from the Michigan Organizational Assessment Package, an expectancy theory questionnaire developed by Lawler and Suttle, and empirical finding from a study by Parker and Dyer. The basic instrument was validated in these and several other studies. Adaption of the instrument for this study was primarily in terms of selecting a meaningful list of outcomes associated with persistence status. The formulation of this list will be discussed shortly.

To compute a Motivational Force score intended to predict choice between two alternative behaviors (persistence and non-persistence), it was necessary to

1) generate a list of outcomes associated with persistence in an adult education program
2) measure the expectancy which each subject held of persistence resulting in obtaining the desired outcomes
3) measure the expectancy which each subject held of non-persistence resulting in obtaining the desired outcomes
4) measure the valence of individual subjects for each outcome.

The list of outcomes was developed from studies conducted by Tough (53), Boshier (7), Houle (21), and a
consensus of participants of ED-VOTEC 932, Winter Quarter 1980 at the Ohio State University. ED-VOTEC 932 was a graduate level adult education course taught by Dr. William D. Dowling. The participants were a combination of graduate students (adult students), adult educators, and adult education administrators. The resulting list included 17 associated outcomes (see Part IV of instrument in Appendix A). These 17 outcomes comprise the foundation of the expectancy theory portion of the instrument. The instrument was piloted on a small group of continuing education students to test comprehension of directions and structure of statements. Those portions which were initially unclear to the group were restructured such that they were comprehended correctly.

As this study deals with a "course-by-course" view of persistence, subjects were requested to indicate in the instrument the particular course to which responses pertained. In this way, it was insured that individuals would respond to the various questions in a consistent manner and that the researcher would know which course to use, in the case of those subjects enrolled in more than one course, during the verification of persistence activity.

Part II of the instrument represents the initial collection of expectancy theory data. The section dealt with obtaining measures of subjects' expectancy that staying in the course would lead to acquisition of the various outcomes.
An example of a statement from this section is
"___ Staying in this course — Getting a better job"
Subjects responded by entering a number in the blank preceding the statement to indicate degree of expectancy as follows:

0 - Not at all likely  
1 - Somewhat likely  
2 - Quite likely  
3 - Very likely  
4 - Extremely likely

Part III was similar to Part II except that it measured the subject's expectancy that dropping the course would lead to acquisition of the various outcomes. Statements were structured as
"___ Dropping this course — Avoiding unnecessary demands on your time."
Response was performed as in Part II.

Part IV involved assessment of the subject's valence for the various outcomes associated with participation. An example from this section is
"___ How desirable is getting a better Job?"
Subjects responded, again, by placing a number in the blank preceding the statement to indicate the degree of desirability as follows:

0 - Undesirable  
1 - Slightly desirable
2 - Fairly desirable  
3 - Very desirable  
4 - Extremely desirable  

The data collected from these three sections was then combined to arrive at the Motivational Force Score in the following manner:

1) **Force to Persist Scores (FPS)** were calculated first by multiplying the response indicated in Part II statements by corresponding responses from Part IV. For example, in the following situation, the product would be 12. Then the

3 Staying in this course → Getting a job promotion (from Part II)  
4 How desirable is getting a job promotion? (from Part IV)

products from the pairs of statements were summed resulting in the FPS for the subject.

2) **Force to Drop Scores (FDS)** were calculated in a similar manner using paired responses from Parts III and IV.

3) **Motivational Force Scores (MFS)** were finally calculated by subtracting FDS from FPS for each subject.
Analysis of Data

As the design of this study was multivariate in nature and was primarily concerned with correlational aspects of the variables, the major statistical technique employed in analyzing the data was multiple regression. However, because of the varying techniques required for the five hypotheses and several ancillary analyses carried out beyond those originally proposed, a description of analysis techniques by major hypothesis is given below.

Hypotheses 1 and 2 were concerned with comparing the Motivational Force Scores of subjects before and after exposure to the educational programs. Hypothesis 1 predicted the MFS to be higher before exposure than its counterpart after exposure for dropouts, while Hypothesis 2 predicted the MFS before exposure to be lower or equal to its counterpart after exposure for those subjects who persist. To test both hypotheses, a t-test for dependent samples was used as suggested by Kerlinger (26) for the situation when scores are compared which are produced by the same group. As a second method of analysis, the Sign Test was used as Minium (38) advocates its use because of its ease of application and fewer restrictions (such as its not requiring a normal distribution) than the t-test.

Hypothesis 3 read, "The expectancy theory model will identify adults who persist and those who drop out of the educational program better than such predictions made by
chance." According to Nie et al. (44), the test generally used in this case would be the Chi Square. As the Chi Square is used only as a test of significance, assuming rejection of the null hypothesis, it would be followed by calculation of a statistic such as the Phi Coefficient to determine the intensity of the relationship. However, in the case of cell frequencies less than 5, as in this study, the use of Fisher's Exact Test is recommended by Dixon and Massey (14) and was therefore utilized.

Hypothesis 4 predicted that "Motivational Force Scores will increase explanation of variation in persistence over that explained by selected demographic variables." To test this hypothesis, multiple regression was used as suggested by Nie et al. (44). To insure the observance of any additional explanation offered by the MFS variable, the demographic variables were forced into the multiple regression procedure prior to the introduction of the MFS variable.

Hypothesis 5 stated, "Motivational Force Scores will be found to be a mediation variable between selected demographic variables and persistence." To test this hypothesis, multiple regression was used once again. To arrive at a more precise view of the direct and indirect correlational aspects of the variables, a path analysis model was used as described by Kerlinger (26). As such, a firmer position could be taken concerning the mediating effects of MFS.
All data items were coded and punched on IBM data cards for computer processing. Computations for analysis were performed by using the Statistical Package for the Social Sciences (SPSS) (44).
CHAPTER IV

PRESENTATION AND INTERPRETATION OF DATA

Overview

The primary purpose of the study was to see if implications derived from expectancy theory could be applied to an educational setting and used as a method to predict and explain persistence in an adult education program. As the majority of previous studies in adult student persistence employed demographic variables to attempt prediction and explanation, such data were collected in this study to compare the relative adequacy of demographics and expectancy theory components in predicting and explaining adult student persistence status.

This chapter contains two sections. The first utilizes descriptive statistics to present selected demographic characteristics of the subjects in the study. The second section displays the results of the statistical analyses used in testing the hypotheses.

55
Characteristics of the Subjects

The subjects participating in this study were newly registering students (students registering for the first time) during the 1980 Spring Quarter through the Office of Continuing Education Credit Programs at the Ohio State University. Demographic data were collected on a total of 113 individuals (Appendix A). The data included

1) Number of credits received for coursework beyond high school
2) Age
3) Method of course fee payment (by student or other)
4) Sex
5) Marital status (married or unmarried)
6) Head of household status
7) Number of dependents
8) Program classification (degree or non-degree)

Tables 3 through 10 display the statistical data pertaining to each of the demographic variables.

The mean number of credits received for coursework beyond high school for the 113 subjects was 112.6 credits with a range of 0-300 credits. This may be interpreted as the average subject's having slightly less than a baccalaureate degree; the sample included individuals who had no coursework beyond high school through post-master's degree students. Table 3 below summarizes the data displaying the mean number of credits received for coursework beyond high school, standard deviation, and range for the subjects.
### TABLE 3
MEAN, STANDARD DEVIATION, AND RANGE OF CREDITS FOR COURSEWORK BEYOND HIGH SCHOOL OF ALL SUBJECTS

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects</td>
<td>113</td>
<td>112.6</td>
<td>74.7</td>
<td>0-300</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.

### TABLE 4
MEAN, STANDARD DEVIATION, AND RANGE OF AGE OF ALL SUBJECTS

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects</td>
<td>113</td>
<td>28.4</td>
<td>7.4</td>
<td>18-57</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.

### TABLE 5
METHOD OF PAYMENT DISTRIBUTION OF ALL SUBJECTS

<table>
<thead>
<tr>
<th>Total</th>
<th>Fees Paid by Students</th>
<th>Fees Paid by Other</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Subjects</td>
<td>113</td>
<td>83</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.
TABLE 6
SEX DISTRIBUTION OF ALL SUBJECTS

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Subjects</td>
<td>113</td>
<td>42</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.

TABLE 7
MARITAL STATUS DISTRIBUTION OF ALL SUBJECTS

<table>
<thead>
<tr>
<th></th>
<th>Married</th>
<th>Unmarried</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Subjects</td>
<td>113</td>
<td>47</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.

TABLE 8
HEAD OF HOUSEHOLD STATUS OF ALL SUBJECTS

<table>
<thead>
<tr>
<th></th>
<th>Head of House.</th>
<th>Not Head of House.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Subjects</td>
<td>113</td>
<td>58</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.
### TABLE 9

**MEAN, STANDARD DEVIATION, AND RANGE OF NUMBER OF DEPENDENTS OF ALL SUBJECTS**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjects</td>
<td>113</td>
<td>0.7</td>
<td>1.0</td>
<td>0-6</td>
</tr>
</tbody>
</table>

*Note: All values rounded to the nearest tenth.*

### TABLE 10

**PROGRAM CLASSIFICATION STATUS OF ALL SUBJECTS**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Degree</th>
<th>Non-degree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Subjects</td>
<td>113</td>
<td>28.3</td>
<td>81</td>
</tr>
</tbody>
</table>

*Note: All values rounded to the nearest tenth.*
Table 4 presents the age distribution of the subjects. The group mean was 28.4 years and the subjects ranged from 18-57 years of age.

The data in Table 5 indicate that the majority of subjects paid their own course fees as opposed to having fees paid by such sources as employers, parents, or spouses. A total of 83 of the 113 subjects, or 73.5 percent, paid their fees while 30, or 26.5 percent, had their fees paid by others.

The study dealt with a sample which was predominantly female. As can be seen in Table 6, 42 or the 113 subjects were male and 71 were female; the ratio of females to males was just under 2 to 1.

In Table 7, the data indicate that most of the subjects were unmarried. There were 47, or 41.6 percent, who were married while 66, or 58.4 percent, were married.

The data concerning the head of household status is displayed in Table 8. There were almost equal groups in the two categories. Of the 113 subjects, 58 reported themselves as head of the household while 55 reported that they were not head of the household.

Table 9 presents the distribution of dependents among the subjects of the study. The number of dependents per subject ranged from 0-6, but the mean was 0.7 dependents. Table 9 displays the mean, standard deviation, and range of the number of dependents.
Subjects were asked to indicate how they classified themselves in terms of program status -- degree or non-degree. Of the 113 subjects, 32, or 28.3 percent, classified themselves as being in a degree program while 81, or 71.7 percent, classified themselves as being in a non-degree program. Data concerning the program classification status of subjects is displayed in Table 10.

Testing the Hypotheses

A restatement of hypotheses had to occur in order to analyze the hypotheses of this study with the statistical procedures previously outlined. Therefore, the following hypotheses were stated in the null to meet statistical analysis requirements.

Hypothesis 1

The first null hypothesis tested was:

There will be no significant difference between the Motivational Force scores calculated before the first class meeting and those calculated after the second class meeting for those adults who drop out of the educational programs in this study.

Table 11 presents the results of the testing of Hypothesis 1. The t-test indicated that there was no significant difference between the means of Motivational Force scores of the first and second administrations in the dropout group, at the .05 level. As the calculated t value was less than the critical t value, the null hypothesis of no
difference failed to be rejected. However, examination of the data in the table reveals that the calculated \( t = 1.86 \),

**TABLE 11**

**COMPARISON OF MEAN SCORES OF DROPOUTS FROM FIRST AND SECOND ADMINISTRATION OF MOTIVATIONAL FORCE INSTRUMENT**

\((N=8)\)

<table>
<thead>
<tr>
<th>Administration</th>
<th>Mean</th>
<th>SD</th>
<th>( t )</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>121.60</td>
<td>76.50</td>
<td>1.86</td>
</tr>
<tr>
<td>Second</td>
<td>86.10</td>
<td>63.70</td>
<td></td>
</tr>
</tbody>
</table>

\( t(7) = 1.86; p = \text{ns} \)

Note: All values rounded to the nearest hundredth.

was relatively close to the critical \( t = 1.895 \), thus indicating that a significant difference between the means does exist at slightly more than the .05 level. This observation in conjunction with examination of the relative positions of the means (first administration of 121.6 and second administration of 86.1) would suggest that there is a tendency for support in the direction of hypothesis 1 as stated.

Data from only eight respondents were available for the testing of this hypothesis. This means that eight of the fifty-five respondents who completed both administrations were classified as dropouts. This small number of dropouts made testing of the hypothesis by the sign test unplausible
at the .05 level of significance. The small sample size also tended to weaken the t-test which would lend further support to hypothesis 1 in the case of analysis using a larger sample.

Hypothesis 2

The second null hypothesis tested was:

There will be no significant difference between the Motivational Force scores calculated before the first class meeting and those calculated after the second class meeting for those adults who persist in the educational programs in this study.

The results of the testing of hypothesis 2 can be seen in Table 12. The t-test indicated that there was no significant difference between the means of the Motivational Force scores of the first and second administrations in the persister group at the .05 level, as the calculated t, .004, is well below the critical t, 1.676. The null hypothesis therefore failed to be rejected. However, as hypothesis 2 predicts that the first administration scores will be lower or that the scores on the two administrations will be equal for the persisters, the data support the research hypothesis. While visual examination of the means indicates only a very slightly higher second, 82.96, than first administration mean, 82.94, if there is a tendency it would seem to be in the predicted direction. The sign test which was originally designated for use with the testing of this hypothesis was not employed because of the extremely low t value calculated.
TABLE 12
COMPARISON OF MEAN SCORES OF PERSISTERS ON FIRST AND SECOND ADMINISTRATION OF MOTIVATIONAL FORCE INSTRUMENT (N=47)

<table>
<thead>
<tr>
<th>Administration</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>82.943</td>
<td>48.664</td>
<td>0.004</td>
</tr>
<tr>
<td>Second</td>
<td>82.962</td>
<td>45.883</td>
<td></td>
</tr>
</tbody>
</table>

\[ t(46) = 0.004; p=ns \]

Note: All values rounded to the nearest thousandth.

The results of the testing of Hypotheses 1 and 2 suggest that the Motivational Force scores of the dropouts decreased from pre to post-exposure measurements while those of the persisters remained constant. This outcome is in keeping with the behavior and expectations relationship proposed in the realistic job preview literature by Wanous (58) reviewed in chapter 2. Essentially, the theory would propose in this situation that dropouts are entering the educational setting with inflated expectations of the consequences of program participation. As a result, realization of program components causes expectations to decrease Motivational Force and lead to dropping out. On the other hand, persisters tend to be those subjects who begin with more realistic expectations of the consequences of
program involvement.

Hypothesis 3

The third null hypothesis tested was:

There will be no difference between the Expectancy Theory model's ability to identify adults who persist and those who drop out of the educational programs of the study, and such predictions made by chance.

The results of the testing of hypothesis 3 are presented in Table 13. The chi-square was calculated to test the hypothesis. As the calculated chi-square, 0.96, was well below the critical value, 3.84, the null hypothesis failed to be rejected. The phi coefficient was calculated to investigate the strength of correlation between Expectancy Theory predictions and actual status; the resulting value was 0.10 which is interpreted as a negligible relationship.

TABLE 13

RELATIONSHIP BETWEEN PREDICTED AND ACTUAL PERSISTENCE STATUS OF SUBJECTS (N=93)

<table>
<thead>
<tr>
<th>Actual Status</th>
<th>Predicted Status</th>
<th>D</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>12</td>
<td>78</td>
<td></td>
</tr>
</tbody>
</table>

$\chi^2 = 0.965$ with 1 df; $p = ns$  \hspace{1cm} \text{phi} = 0.102
To view the outcome of hypothesis 3 from another perspective, Table 14 presents the patterns of percentages of correct predictions. The overall accuracy of the predictions was 85.1 percent; however, the percentage for persisters was 97.5 percent while that for dropouts was 7.6 percent. It is felt once again that the relatively low number of dropouts and small sample size at least partially contributed to the outcome.

**TABLE 14**

**ACCURACY OF PERSISTENCE STATUS PREDICTIONS MADE BY THE EXPECTANCY THEORY MODEL**

<table>
<thead>
<tr>
<th>Predicted Status</th>
<th>Actual Status</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dropout</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Persister</td>
<td>0.78</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>0.93</td>
</tr>
</tbody>
</table>

Hypothesis 4

The fourth null hypothesis tested was:

There will be no significant increase in explanation of variation in persistence offered by Motivational Force scores over that explained by the selected demographic variables.

The initial results of the testing of hypothesis 4 are presented in Tables 15, 16, and 17. The stepwise multiple regression in Table 15 shows that the multiple R and
TABLE 15

STEPWISE MULTIPLE REGRESSION OF PERSISTENCE STATUS ON INDEPENDENT VARIABLES (N=93)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R-Square</th>
<th>R-Square Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits beyond high school</td>
<td>0.001</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>0.020</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Method of fee payment</td>
<td>0.160</td>
<td>0.026</td>
<td>0.026</td>
</tr>
<tr>
<td>Sex</td>
<td>0.185</td>
<td>0.035</td>
<td>0.009</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.195</td>
<td>0.038</td>
<td>0.003</td>
</tr>
<tr>
<td>Head household status</td>
<td>0.249</td>
<td>0.062</td>
<td>0.024</td>
</tr>
<tr>
<td>Number of dependents</td>
<td>0.277</td>
<td>0.077</td>
<td>0.015</td>
</tr>
<tr>
<td>Program classification</td>
<td>0.293</td>
<td>0.086</td>
<td>0.009</td>
</tr>
<tr>
<td>Motivational Force (2nd ad.)</td>
<td>0.294</td>
<td>0.087</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest thousandth.

and the R-Square increased by merely 0.001 by the addition of the Motivational Force variable to the demographic variables. To further clarify the effect of the addition of the Motivational Force variable in explaining persistence variation, Table 16 displays an ANOVA of the effects of the
demographic variables only on persistence status. The F value of 0.988 indicated that significance at the .05 level was not reached. This result can be compared with an ANOVA of the effects of demographic variables and the Motivational

### TABLE 16
ANOVA OF PERSISTENCE STATUS BY DEMOGRAPHIC VARIABLES COLLECTIVELY

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>8</td>
<td>0.961</td>
<td>0.120</td>
<td>0.988</td>
</tr>
<tr>
<td>Residual</td>
<td>84</td>
<td>10.221</td>
<td>0.122</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p = ns

### TABLE 17
ANOVA OF PERSISTENCE STATUS BY DEMOGRAPHIC VARIABLES WITH MOTIVATIONAL FORCE VARIABLE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>9</td>
<td>0.973</td>
<td>0.108</td>
<td>0.879</td>
</tr>
<tr>
<td>Residual</td>
<td>83</td>
<td>10.210</td>
<td>0.123</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p = ns
Force variable on persistence status which is shown in Table 17. It can be seen that the F value has actually decreased, 0.879, in comparison with the F value in Table 16. These data result in the failure to reject null hypothesis 4.

In attempting to test this hypothesis, a priori judgements suggested that use of the data collected in the second administration of the instrument might be more beneficial than that collected in the first administration. The reasoning was that Motivational Force scores calculated before exposure of subjects to classes would tend to be more homogeneous and pro-participation. It would seem that individuals would be positively oriented toward persisting or otherwise would tend not to register originally. The second administration, on the other hand, would measure Motivational Force after exposure to classes and would tend to reflect a more realistic view of the subjects' opinions toward participation in the programs.

To examine the empirical support of this supposition and investigate correlations of the various independent variables with the dependent variable, a correlation matrix was produced. Table 18 displays the correlations of interest in viewing the above supposition. A positive correlation indicated that an increase in the variable measure was associated with persistence while a negative correlation indicated that an increase in variable measure was associated with non-persistence.
TABLE 18
CORRELATIONS OF INDEPENDENT VARIABLES WITH PERSISTENCE STATUS
(N=93)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits beyond high school</td>
<td>0.00</td>
<td>0.96</td>
</tr>
<tr>
<td>Age</td>
<td>-0.02</td>
<td>0.76</td>
</tr>
<tr>
<td>Method of fee payment</td>
<td>0.16</td>
<td>0.13</td>
</tr>
<tr>
<td>Sex</td>
<td>0.10</td>
<td>0.32</td>
</tr>
<tr>
<td>Marital status</td>
<td>-0.04</td>
<td>0.64</td>
</tr>
<tr>
<td>Head household status</td>
<td>-0.15</td>
<td>0.17</td>
</tr>
<tr>
<td>Number of dependents</td>
<td>0.00</td>
<td>0.95</td>
</tr>
<tr>
<td>Program classification</td>
<td>-0.11</td>
<td>0.22</td>
</tr>
<tr>
<td>Motivational Force (1st admin.)</td>
<td>-0.11</td>
<td>0.22</td>
</tr>
<tr>
<td>Motivational Force (2nd admin.)</td>
<td>-0.01</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest hundredth.

The table reveals that none of the independent variables presented are significantly correlated with persistence status. Of the demographic variables, the most highly
correlated is "method of fee payment." Its R is 0.16 which is negligible as defined by Kerlinger (26). Both the first and second administration Motivational Force scores were found to be insignificantly correlated with persistence. In addition, if there could be any relationship claimed, indications were of a negative nature. As the first administration R was -0.11 and the second administration R was -0.01, it might be said that the a priori suggestions concerning the second administration scores were somewhat feasible.

The results of initial testing of the hypothesis raised two questions which begged attention: (1) Why were the Motivational Force scores tending to be negatively correlated with persistence status as the opposite was hypothesized, and (2) were there further components of the expectancy theory model which might more appropriately account for some of the variation in persistence status? In attempting to answer the first question, components of the Motivational Force scores were examined. Table 19 presents components of the Motivational Force scores for both the first and second administrations. Recall that the Motivational Force (MF) scores were obtained by subtracting the Force to Drop (FD) scores from the Force to Persist (FP) scores. As mentioned earlier in this chapter, the relatively high first administration MF score of the dropouts (103.5) in comparison to the persisters (87.2) would suggest the
possibility of inflated expectations before course entry.

TABLE 19
COMPARISON OF MOTIVATIONAL FORCE COMPONENTS
FOR DROPOUTS AND PERSISTERS
(N=55)

<table>
<thead>
<tr>
<th>Group</th>
<th>First Administration</th>
<th>Second Administration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MF</td>
<td>FP</td>
</tr>
<tr>
<td>Dropouts</td>
<td>103.5</td>
<td>124.5</td>
</tr>
<tr>
<td>Persisters</td>
<td>87.2</td>
<td>103.8</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest tenth.

Further investigations reveal that the higher MF scores were due primarily to the difference in the FP scores of the dropouts (124.5) and persisters (103.8) rather than the FD scores (21.0 and 16.3 respectively). The FP score in turn was calculated as the sum of the products of the "expectancy of persistence leading to desired outcomes" scores and the corresponding "valence" score for the individual outcomes. These data suggest that the dropouts were expecting much more of the courses than the persisters. This inflated expectations phenomenon is what was felt by the researcher to be responsible for the negative correlation between MF scores and persistence status. While it appears to be more pronounced in the first administration scores, it seems to still be in effect in the second
administration scores. The dropouts consistently exhibited higher expectancy scores than the persisters initially, and it was felt that as the second administration was conducted by mail and spanned over a period of three weeks, that the time period between response and verification of persistence status may have allowed some of the inflated expectations to be deflated by continued course exposure. The result in turn was that while the instrument measured a still at least partially inflated expectancy, exposure in the mean time had caused deflation of expectancies and thus dropping of the course.

The second question was, "Were there further components of the expectancy theory model which might more appropriately account for some of the variation in persistence status?" After considering the previously displayed information concerning data from the first and second administrations of the instrument, it was decided to investigate possible components of the second administration Motivational Force scores. Empirical results of a study by Parker and Dyer (45) showed that correlational aspects of the MF score and alternative behaviors could be improved by reducing the number of outcomes considered. Specifically, Parker and Dyer reduced the original 25 outcomes in their expectancy theory model to the 8 most valent outcomes and increased the phi coefficient from 0.319 to 0.415. This same procedure was therefore attempted in this study. The 8 most
valent outcomes in the second administration were identified (Appendix B) and MF scores were again calculated. A correlation matrix was then produced to investigate the relationships between the MF components and persistence status. Table 20 presents the pertinent correlations. As in the originally

**TABLE 20**

RELATIONSHIP BETWEEN MOTIVATIONAL FORCE COMPONENTS USING EIGHT MOST VALENT OUTCOMES AND PERSISTENCE STATUS (N=93)

<table>
<thead>
<tr>
<th>Variable</th>
<th>R</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivational Force Score</td>
<td>-0.05</td>
<td>0.61</td>
</tr>
<tr>
<td>Force to Persist Score</td>
<td>-0.21</td>
<td>0.02</td>
</tr>
<tr>
<td>Force to Drop Score</td>
<td>-0.29</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest hundredth.

calculated MF scores, there was a negligible correlation. The Force to Persist score remains negative as before, presumably influenced by the inflated expectations; however, it is more significantly correlated than the original FP score. The new Force to Drop score was the most highly correlated component from the expectancy theory model which was observed. The new FD score was therefore examined more
throughly for its contribution to the explanation of persistence variation. Table 21 reveals the results of a stepwise multiple regression where the demographic variables were forced in first followed by the new Force to Drop variable.

TABLE 21
STEPWISE MULTIPLE REGRESSION OF PERSISTENCE STATUS ON INDEPENDENT VARIABLES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Multiple R</th>
<th>R-Square</th>
<th>R-Square Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credits beyond high school</td>
<td>0.001</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>0.020</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Method of fee payment</td>
<td>0.160</td>
<td>0.025</td>
<td>0.025</td>
</tr>
<tr>
<td>Sex</td>
<td>0.185</td>
<td>0.035</td>
<td>0.009</td>
</tr>
<tr>
<td>Marital status</td>
<td>0.195</td>
<td>0.038</td>
<td>0.003</td>
</tr>
<tr>
<td>Head household status</td>
<td>0.249</td>
<td>0.062</td>
<td>0.024</td>
</tr>
<tr>
<td>Number of dependents</td>
<td>0.277</td>
<td>0.077</td>
<td>0.015</td>
</tr>
<tr>
<td>Program classification</td>
<td>0.293</td>
<td>0.086</td>
<td>0.009</td>
</tr>
<tr>
<td>New Force to Drop</td>
<td>0.421</td>
<td>0.177</td>
<td>0.091</td>
</tr>
</tbody>
</table>

Note: All values rounded to the nearest thousandth.
The data in Table 21 display an obvious improvement in explanation of variation as the R-Square value doubled with the introduction of the new Force to Drop variable. Table 22 presents an ANOVA using the new regression data and persistence status. Results of the ANOVA indicate a significant F value at the .05 level.

**TABLE 22**

ANOVA OF PERSISTENCE STATUS BY DEMOGRAPHIC AND NEW FORCE TO DROP VARIABLE

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>9</td>
<td>1.981</td>
<td>0.220</td>
<td>1.986</td>
</tr>
<tr>
<td>Residual</td>
<td>83</td>
<td>9.201</td>
<td>0.111</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

p<.05
Note: All values rounded to the nearest thousandth.

While an R-Square of 0.177 is not an outstanding one by any means, the point of concern of the hypothesis deals with improvement of explanation of persistence variation by expectancy theory components over that done by demographics. As this is a significant increase in explanation, the null hypothesis would be rejected and the alternative hypothesis of increased explanation of variation of persis-
tence status by the addition of the Motivational Force data over demographic data would be accepted.

Hypothesis 5

The fifth hypothesis to be tested was:

Motivational Force scores will be found to be a mediating variable between selected demographic variables and persistence.

Hypothesis 5 was not stated in the null because conditions did not warrant its testing. As none of the demographic variables were found to be significantly correlated with persistence, a path analysis model could not be feasibly constructed and tested.

Summary

The overall findings of this study were mixed in relation to support of the research hypotheses. The decrease in Motivational Force scores for dropouts between the first and second measurements was only slightly less than significant at the predesignated level. The constant level of Motivational Force scores between first and second measurements forpersisters was supported. These two findings in conjunction tend to support the view of dropouts as having inflated expectancies of the consequences of educational program participation. The expectancy theory model did not significantly predict persistence status of the subjects in their programs. While Motivational Force scores did not significantly increase explanation of variance in persistence
as originally proposed, the Force to Drop component of the model using the 8 most valent outcomes was found to increase explanation significantly over that done by the demographic variables. No meaningful conclusions could be drawn concerning the mediating effect of the Motivational Force scores on the demographic variables and persistence as none of the demographic variables were found to be significantly correlated with persistence status.
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The primary purpose of this investigation was to see if implications derived from expectancy theory could be applied to an educational situation and used as a method to predict and explain persistence in adult programs. As the majority of previous research in persistence dealt with the use of demographic data as independent variables, the study also proposed to investigate the relationship between the explanatory capabilities of demographic and expectancy theory data.

The study was of correlational and descriptive design. It was structured to determine relationships between selected demographic variables, Motivational Force scores derived from an expectancy theory model, and persistence of 113 newly registering adult students in credit courses through the Office of Continuing Education during the 1980 Spring Quarter at The Ohio State University. The dependent variable was student persistence (persister or dropout) and was determined on a by course basis through data from the Office of Continuing Education. The selected demographic independent variables were:
1) Number of credits received for coursework beyond high school
2) Age
3) Method of fee payment (student or other)
4) Sex
5) Marital status
6) Head of household status
7) Number of dependents
8) Program classification (degree or non-degree)

The major independent variable was student Motivational Force score and was measured and computed using an instrument and formula adapted from Vroom's expectancy theory model.

Data collection activities consisted of two administrations of the survey instrument. The first administration was to gather demographic data and Motivational Force scores prior to exposure to classes. The second administration was conducted after the second week of classes to obtain Motivational Force scores for subjects after exposure to classes.

The following hypotheses were tested with the accompanying statistical findings:

1) Motivational Force scores calculated before the first class meeting will be higher than those calculated after the second class meeting, for those adults who drop out of the educational programs in the study.

A t-test performed to compare the means of the scores of the two administrations indicated that there was no
significant difference between them at the .05 level. However, it was observed that the calculated t was only slightly less than the critical t indicating a significant difference at slightly higher than the .05 level. This in conjunction with the observation of the relative positions of the means being in the hypothesized direction suggested a tendency toward support of the hypothesis.

2) Motivational Force scores calculated before the first class meeting will be lower or equal to those calculated after the second class meeting for adults who persist in the educational programs in the study.

A t-test performed to compare the means of the scores of the two administrations indicated that there was no significant difference at the .05 level. As the failure to reject the null hypothesis in this case was in keeping with the stated hypothesis, the results of testing supported hypothesis 2.

3) The expectancy theory model will identify adults who persist and those who drop out of the educational programs of the study better than such predictions made by chance.

A chi-square calculated to test this hypothesis revealed that there was no significant difference between a chance prediction and the ability of the expectancy theory model to predict persistence at the .05 level. A phi coefficient calculated indicated that there was a negligible relationship between Motivational Force scores and the persistence status.
4) Motivational Force scores will increase explanation of variation in persistence over that explained by selected demographic variables.

Stepwise multiple regression and ANOVA were used in testing this hypothesis. Initial indication was that there was no significant explanation offered by either the demographic or Motivational Force variables. Further investigation revealed that a significant contribution was made in variation explanation by using the Force to Drop data from a model using the 8 most valent outcomes in the second administration. The use of this component of the model did support the hypothesis.

5) Motivational Force scores will be found to be a mediating variable between selected demographic variables and persistence.

As none of the demographic variables were found to be significantly correlated with persistence, a path analysis model could not be feasibly constructed and tested. As such, the hypothesis was not tested.

Conclusions

The conclusions that can be drawn as a result of this study are related to the four tested hypotheses of the originally proposed five.

1) The mean Motivational Force scores of the first administration were substantially higher than those of the second administration for the dropouts. While the difference
was not statistically significant at the predetermined level, the difference was quite marked in relation to the difference observed in the scores of the persisters. It is suggested, therefore, that the dropouts were affected by inflated expectations of the results of participation in the educational programs. This finding is synonomous with the results of studies by Wanous (58), Youngberg (59), Macedonia (33), and Ilgen and Seely (23). As such, it would appear that an academic counterpart to realistic job preview might be well worth investigating.

2) The predictive ability of the expectancy theory model as presented in this study did no better than a chance prediction of persistence status among subjects. It was felt by the researcher that the limited sample size and the relatively small number of dropouts occurring in the sample hindered the adequate testing of the predictive capability. As the Parker and Dyer study referred to previously dealt with a sample of 700, it is believed that replication of this study with a larger "n" might prove beneficial in attempting to confirm hypotheses.

3) At least one component of the Motivational Force score was successful in achieving a significant increase in explanation of persistence status over the demographic variables. As all independent variables were most probably affected similarly by the small sample size, it was felt that the reaching of significance by the Force to Drop
component of the Motivational Force score created by the 8 most valent outcomes was supportive of the explanatory capabilities of the model.

4) The significant relationship found between the Force to Drop score and persistence and not between the Motivational Force score and persistence, may result from the controlling effect for inflated persistence expectancies which resulted from use of Force to Drop scores only. This phenomenon would again point to the very possible existence of the inflated expectations.

Recommendations

Prior to generalizing the results of this study to other populations and conditions, the following factors should be considered:

1) All subjects were newly registering students and were only those who consented to release of information from registration materials.

2) The sample was composed of only 113 subjects and in some tests of hypotheses, as few as 55 subjects provided usable data.

3) The study was viewed as a pilot study in that the model was being used for the first time in an educational setting.

With due consideration to these limitations and the observations, results, and conclusions from this study, the
following recommendations are proposed relative to future research in this specific area of study.

1) The foundation of valid instrument usage lies in the selection of feasible outcomes which the population under investigation associates with persistence and non-persistence in the educational programs. Establishment of a valid list of outcomes is essential. There would be value in establishing this list by sampling the actual population of the study and in further investigation concerning the optimum number of outcomes to be used in the instrument.

2) The timely administration of the instrument and retrieval of data from the administration is important in obtaining valid force scores. The time lag between establishment of scores and persistence status determination should be reduced to a minimum, and/or taken in consideration when a appreciable lag does exist. It is suggested that administration be conducted in an in-class or group situation rather than by mail such that response rates and lag are not serious factors.

3) As mentioned previously, it was felt that the relatively small sample in this study hindered adequate testing of the hypotheses. As this was
a pilot study, it is suggested that future research in this area be conducted with a much larger sample size such that variation might be examined in greater detail across all variables. It is hoped that replication of this study with a much larger sample will occur in the future.

4) The inflated expectancies phenomenon of the drop-outs is fertile ground for research in and of itself. It would most probably prove very beneficial to examine the realistic job preview material from industrial/organizational psychology in more detail and to structure an experimental study to assess the causal factors pertaining to the phenomenon similar to that which has been done in the industrial setting.

5) While no conclusive predictive results were a product of this study, there was evidence of definite implications for further research into the use of the model for explanatory and predictive purposes. There may be indirect factors which prevent direct conversion of the model from the industrial to the educational setting. Investigation of the role of components of the model, such as Force to Drop score in this study, are seen as the beginning to exploring the necessary
steps in creating effective adaption. It is hoped that further investigation of the components will occur and that replications of this initial attempt will be realized.

6) Subjects participating in this study were enrolled in a variety of academic areas. It is felt that certain variables contributing to persistence status may be specific to individual departments and schools. It is therefore suggested that this study be replicated using subjects within a specific academic area such that variables exclusively related to that area might be investigated.

7) While it was felt that the proposed model was sufficient to study the persistence phenomenon, the existence of the contribution made by extraneous variables in determination of persistence status should not be overlooked. Future studies dealing with the expectancy theory model should attempt to build in such situational variables as child care problems, transportation difficulties, and relocation. These are all variables which might cause a predicted persister to drop out and thus detract from the actual predictive power of the model.
DATE: March 11, 1980

TO: Continuing Education staff involved in registration of new students for the Spring 1980 Quarter

FROM: Dr. Anthony Basil and William Zeigler

SUBJECT: Distribution of the "Survey Instrument for Students Enrolled in Credit Courses"

It is requested that copies of the "Survey Instrument for Students Enrolled in Credit Courses" and the attached cover letter be distributed to NEW STUDENTS, registering for the first time, during their registration procedure at the CE office beginning March 17, 1980. While the instrument is to be included in the usual package of registration material, it should be understood that student response is completely optional and in no way influences the registration procedure. The cover letter on the instrument explains this to the student.

If you will collect the instrument with the registration material as it is returned and place them in the box provided at the front counter of the office lobby, it would be extremely helpful in the conducting of the study. If there are any problems in following these procedures, please call Bill Zeigler at 486-3655 ext. 321 during the day or 457-7978 after 4:30 p.m.

Thank you very much for your cooperation.
Dear Student:

The attached form is being used to assess to what degree the courses offered through the credit program of the Office of Continuing Education are meeting the needs of the participants. Your response to the items which follow is not mandatory; however, you are encouraged to help us in determining how we might more adequately provide offerings to meet your educational needs.

The use of your social security number is for purposes of collating data only. Your responses will be kept in the strictest confidence and will be made known only to the individual conducting the survey.

Please return the completed form in the stamped envelope provided. Thank you very much for your cooperation.

*PLEASE RESPOND EVEN IF YOU ARE NO LONGER ENROLLED IN THIS PROGRAM.

* The form will take approximately 10 minutes to complete.
Dear Student:

This form represents the follow-up to the one you completed during the registration period. Your cooperation in completing this form will be deeply appreciated. Please respond to the items to indicate how you CURRENTLY feel about each statement, EVEN IF YOU ARE NO LONGER IN THIS PROGRAM. You may place your completed form in the enclosed self-addressed, stamped envelop.

Please complete and return the form as soon as possible. Your cooperation is essential in the successful completion of our assessment.

Sincerely,

[Signature]

Dr. Anthony Basil
Assistant Director
Office of Continuing Education
SURVEY INSTRUMENT FOR STUDENTS ENROLLED IN CREDIT COURSES
Office of Continuing Education
The Ohio State University
Columbus, Ohio 43210

A survey is being conducted of adult participants in the credit portion of the Continuing Education Office. Your help is needed to achieve an accurate assessment. Please complete the following form.

PART I

Please respond to the following in the manner indicated.

1) How many credits for coursework beyond high school have you received? (Fill in the blank)

2) What is your present age? (Fill in the blank)

3) By whom was the fee for this course paid? (Circle the number which applies and fill in the blank if appropriate)
   1. you (the student)
   2. other ________________

4) Sex (Circle the number which applies)
   1. female
   2. male

5) Marital status (Circle the number which applies)
   1. married
   2. unmarried

6) Are you head of the household? (Circle the number which applies)
   1. yes
   2. no

7) Number of dependents (Fill in the blank)

8) Program classification (Circle the number which applies)
   1. degree
   2. non-degree
Parts II and III of this instrument, which follow directly, should be completed in reference to the or one of the courses for which you have registered for the Spring 1980 Quarter. Please indicate the name of the course which you will have in mind when responding to the following Parts II and III and the day(s) and time it meets. (Fill in blanks)

name: ___________________ days: ____ time: _______

PART II

Below you will see a number of factors that look like this:

Staying in this course → Personal growth

You are to indicate on the line to the left of each pair the degree to which the first factor might increase the chances of obtaining the second factor. REMEMBER TO THINK OF THE COURSE YOU INDICATED ABOVE WHEN YOU RESPOND TO THESE PAIRS OF FACTORS.

0 - Not at all likely
1 - Somewhat likely
2 - Quite likely
3 - Very likely
4 - Extremely likely

___ 1) Staying in this course → Getting a job promotion (21)
___ 2) Staying in this course → Getting a better job (22)
___ 3) Staying in this course → Gaining respect from other people (23)
___ 4) Staying in this course → Meeting interesting people (24)
___ 5) Staying in this course → Feeling competent (25)
___ 6) Staying in this course → Receiving a particular degree or certificate (26)
___ 7) Staying in this course → Avoiding boredom (27)
___ 8) Staying in this course → The recreation experienced in learning (28)
___ 9) Staying in this course → Personal growth (29)
___ 10) Staying in this course → Gaining new skills/revitalizing old skills (30)
PART II (cont.)

___ 11) Staying in this course — Acquiring additional knowledge

___ 12) Staying in this course — Acquiring information for solving a problem you have in your life

___ 13) Staying in this course — Relief of pressure imposed by other people

___ 14) Staying in this course — Avoiding unnecessary demands on your time

___ 15) Staying in this course — Using your extra time to do things you really want to do

___ 16) Staying in this course — Spending money for things you want

___ 17) Staying in this course — Making the best use of your time

PART III

Below you will see a number of factors that look like this:

Dropping this course — Avoiding unnecessary demands on your time

You are to indicate on the line to the left of each pair the degree to which the first factor might increase the chances of obtaining the second factor. REMEMBER TO THINK OF THE COURSE YOU INDICATED ABOVE WHEN YOU RESPOND TO THESE PAIRS OF FACTORS.

0 - Not at all likely
1 - Somewhat likely
2 - Quite likely
3 - Very likely
4 - Extremely likely

___ 1) Dropping this course — Getting a job promotion

___ 2) Dropping this course — Getting a better job

___ 3) Dropping this course — Gaining respect from other people
PART III (cont.)

4) Dropping this course—Meeting interesting people

5) Dropping this course—Feeling competent

6) Dropping this course—Receiving a particular degree or certificate

7) Dropping this course—Avoiding boredom

8) Dropping this course—The recreation experienced in learning

9) Dropping this course—Personal growth

10) Dropping this course—Gaining new skills/revitalizing old skills

11) Dropping this course—Acquiring additional knowledge

12) Dropping this course—Acquiring information for solving a problem you have in your life

13) Dropping this course—Relief of pressure imposed by other people

14) Dropping this course—Avoiding unnecessary demands on your time

15) Dropping this course—Using your extra time to do things you really want to do

16) Dropping this course—Spending money for things you want

17) Dropping this course—Making the best use of your time
PART IV

Different people want different things in their lives. Here is a list of things a person could have or want to happen in his/her life. How desirable or attractive is each of the following to you? (Indicate on the line to the left of each item the degree to which it is desirable)

0 - undesirable
1 - slightly desirable
2 - fairly desirable
3 - very desirable
4 - extremely desirable

How desirable is . . . ?

1) Getting a job promotion  (55)
2) Getting a better job      (56)
3) Gaining respect from other people (57)
4) Meeting interesting people (58)
5) Feeling competent        (59)
6) Receiving a particular degree or certificate (60)
7) Avoiding boredom        (61)
8) The recreation experienced in learning (62)
9) Personal growth         (63)
10) Gaining new skills/revitalizing old skills (64)
11) Acquiring additional knowledge (65)
12) Acquiring information for solving a problem you have in your life (66)
13) Relief of pressure imposed by others (67)
14) Avoiding unnecessary demands on your time (68)
15) Using your extra time to do things you really want to do (69)
16) Spending money for things you want (70)
17) Making the best use of your time (71)
APPENDIX B
### TABLE 23

**COMPARISON OF MEAN NUMBER OF CREDITS FOR COURSEWORK BEYOND HIGH SCHOOL OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>111.8</td>
<td>72.1</td>
<td>0.268</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>116.7</td>
<td>24.8</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.268; \ p = \text{ns}$

### TABLE 24

**COMPARISON OF MEAN AGE OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>28.7</td>
<td>7.8</td>
<td>1.031</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>26.7</td>
<td>7.2</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 1.031; \ p = \text{ns}$
### TABLE 25

**COMPARISON OF MEAN METHOD OF COURSE FEE PAYMENT OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>1.256</td>
<td>0.438</td>
<td>0.346</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>1.294</td>
<td>0.432</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.346; \ p = \text{ns}$

### TABLE 26

**COMPARISON OF SEX DISTRIBUTION OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>1.384</td>
<td>0.481</td>
<td>0.421</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>1.333</td>
<td>0.486</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.421; \ p = \text{ns}$
### TABLE 27

**COMPARISON OF MARITAL STATUS DISTRIBUTION OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>1.588</td>
<td>0.495</td>
<td>0.064</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>1.580</td>
<td>0.499</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.064; p = ns$

### TABLE 28

**COMPARISON OF HEAD OF HOUSEHOLD CLASSIFICATION STATUS OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>1.411</td>
<td>0.518</td>
<td>1.565</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>1.615</td>
<td>0.522</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 1.565; p = ns$
### TABLE 29

**COMPARISON OF MEAN NUMBER OF DEPENDENTS OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>0.7</td>
<td>1.04</td>
<td>0.769</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>0.5</td>
<td>1.02</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.769; \ p = \text{ns}$

### TABLE 30

**COMPARISON OF PROGRAM CLASSIFICATION DISTRIBUTION OF RESPONDENTS AND NON-RESPONDENTS**

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>1.714</td>
<td>0.448</td>
<td>0.113</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>1.625</td>
<td>0.445</td>
<td></td>
</tr>
</tbody>
</table>

$t(111) = 0.113; \ p = \text{ns}$
TABLE 31
COMPARISON OF MEAN Scores FOR FIRST ADMINISTRATION MOTIVATIONAL FORCE INSTRUMENT OF RESPONDENTS AND NON-RESPONDENTS

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>87.0</td>
<td>52.9</td>
<td>0.306</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>92.3</td>
<td>53.7</td>
<td></td>
</tr>
</tbody>
</table>

t(111) = 0.306; p = ns

TABLE 32
COMPARISON OF MEAN Scores FOR SECOND ADMINISTRATION MOTIVATIONAL FORCE INSTRUMENT OF RESPONDENTS AND NON-RESPONDENTS

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>94</td>
<td>83.3</td>
<td>48.4</td>
<td>0.155</td>
</tr>
<tr>
<td>Non-respondents</td>
<td>19</td>
<td>86.1</td>
<td>47.6</td>
<td></td>
</tr>
</tbody>
</table>

t(111) = 0.155; p = ns
<table>
<thead>
<tr>
<th>Outcome Number</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Getting a job promotion</td>
</tr>
<tr>
<td>2</td>
<td>Getting a better job</td>
</tr>
<tr>
<td>5</td>
<td>Feeling competent</td>
</tr>
<tr>
<td>9</td>
<td>Personal growth</td>
</tr>
<tr>
<td>10</td>
<td>Gaining new skills/revitalizing old skills</td>
</tr>
<tr>
<td>11</td>
<td>Acquiring additional knowledge</td>
</tr>
<tr>
<td>12</td>
<td>Acquiring additional information for solving a problem you have in your life</td>
</tr>
<tr>
<td>17</td>
<td>Making the best use of your time</td>
</tr>
</tbody>
</table>
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