AN EVALUATION OF SELECTED CHARACTERISTICS OF PARTICIPANTS IN THE ADVANCED MANAGEMENT PROGRAM

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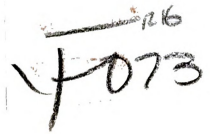

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ABSTRACT

AN EVALUATION OF SELECTED CHARACTERISTICS OF PARTICIPANTS IN THE ADVANCED MANAGEMENT PROGRAM

By

Ramon J. Aldag

The study considered four general sets of issues:

1. What has been the impact of the Michigan State University Advanced Management Program as measured by attitudes and suggestions of graduates, career activity of graduates, and changes in degree of participation of sponsoring firms?
2. What are some personal and situational correlates of favorability of attitudes toward the program, of feelings that the program was rigorous, and of feelings that administration and grading were fair? What are the relationships between those attitudes and success in the program, as measured by grade-point average? How are those attitudes related to career activity (salary increase, promotions, and interorganizational mobility) subsequent to program entry?
3. How are success in the program and career activity subsequent to program entry related? How similar are correlates of success in the program and of career activity?

4. What is the impact of the environmental volatility facing firms and industries of respondents on attitudes toward the program? Is there a "fit" between personality traits of respondents and environmental volatility as evidenced by trait-volatility correlations and by different trait-career activity and trait-attitude toward program relationships in stable and dynamic environments?

Questionnaires were sent to all past graduates of the M.S.U. Advanced Management Program. Questionnaires gauged attitudes toward the program and toward specific courses and instructors, a variety of personality traits and situational characteristics, grade-point in the program, career activity subsequent to program entry, and other variables. 176 managers, representing over 40 industries, responded in time to allow data analysis.

High overall levels of satisfaction with the program were evident, as was satisfaction with specific courses and instructors. Few instances of termination of sponsor participation for reasons other than lack of qualified candidates were evident. Greater computer and statistical emphasis, more reliance on case studies, and more practical orientation seem to be perceived by respondents as desirable directions of program change. Reported salary increases of AMP graduates were found to exceed the white collar average.

Favorable reaction to the program was found to be

positively related to achievement motivation and supervisory ability and negatively related to need for security. Consistent with prior research, positive orientation toward the program was positively related to satisfaction with work. Further, markedly similar sets of correlates were found for satisfaction with the AMP and for satisfaction with work.

Grade-point in the program appeared to bear little relationship to subsequent career progress or to favorability of attitudes toward the program. GPA was found to have no significant relationship to number of promotions, salary increase, satisfaction with work, or general positive orientation toward the program but to be negatively related to interorganizational mobility.

Contrary to expectations, such personality traits as initiative, self-assurance, decisiveness, and achievement motivation were found to be more positively related, and need for high financial rewards to be more negatively related, to satisfaction with work in stable than in dynamic environments. In general, however, the relationships of personality characteristics to general positive orientation toward the program were not found to be moderated by environmental volatility.

Refinement of volatility indices, longitudinal analyses, interviews with selection decision makers, use of a control group, and interviews with program dropouts were among suggestions for future research.

AN EVALUATION OF SELECTED CHARACTERISTICS OF PARTICIPANTS IN THE ADVANCED MANAGEMENT PROGRAM

By

Ramon John Aldag

A THESIS

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in partial fulfillment of the requirements
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CHAPTER I

MANAGEMENT DEVELOPMENT

Introduction

Management development appears to be a topic of much discussion and interest but little systematic study. While its importance has been widely accepted, the basis of that acceptance has often been simple faith rather than rigorous evaluation. The present study focuses on a management development program administered by the Graduate School of Business Administration at Michigan State University. Along with assessment of the overall impact of the program and of changes in impact over time, situational and personal correlates of selected criteria are considered.

Growth of Management Development

House (1967) has defined management development as "any planned effort to improve current or future manager performance by imparting information, conditioning attitudes, or increasing skill." He further has noted that "the essential difference between management development and other methods of inducing change is that development requires primarily a change of attitude and understanding; whereas these elements are usually not fundamental to other

types of change." (House, 1967)

The number of programs aimed at management development has grown tremendously in the past decade, more than doubling, for instance, in the period from 1961 to 1966. Filley and House (1969) view this growth as a function of depression and World War II induced managerial shortages. They state that, "because few executives were hired during the depression and because managers were unavailable during the war, by 1947 most experienced managers were approaching retirement (Reigel, 1952). Indeed, it was not unusual for 80% of a management team to retire within a five-year period. All this brought about considerable enthusiasm for the systematic development of managerial talent." (Filley & House, 1969, p. 421)

Andrews (1966) has traced the growth of management development from its roots in Harvard Business School sessions for executives in 1928. His 1958 survey of 136 schools yielded 124 responses, revealing six categories of programs ranging from workshops and seminars to lengthy residential programs.

The Need For Systematic Study

Despite this growth in emphasis upon and use of management development, there has been relatively little systematic study of the impact of such programs. Tosi & Dunnock (1967, p. 30) have argued that "very few organizations

making substantial investments in development programs subject these expenditures to the planning, analysis and consideration that would be given a comparable expenditure for equipment." Levy has said of the lack of systematic evaluation that, "to the extent this continues, management development will continue to be an art rather than a science or an applied technology."

Steel (1972) in trying to explain this dearth of relevant research cites four alternative explanations.

1. acceptance of the program based on face validity,
2. failure to realize the value of deeper evaluation,
3. lack of understanding of methods of evaluation,
4. fear of the results of evaluation

If the face validity of such programs were so great as to be unquestioned, evaluation might be deemed an unnecessary expense. In fact, however, those programs which have been evaluated have often been shown to be somewhat disappointing.

Studies Reporting Negative Consequences of Management Development

Sykes (1962) found that after foremen participated in a supervisory training program, their expectations were altered in such a way that current corporate practices and communications clashed with revised role expectations. Subsequent high turnover of participating foremen was attributed largely to the program.

Similarly, Form and Form (1953) found heightened job aspirations of trainees to result in dissatisfaction with company placement and with supervisors. Considerable antagonism on the part of non-participants was also apparent.

Hariton (1951), using experimental and control groups of foremen to examine how human relations training would affect perceptions of subordinates of those foremen, found attitudes and practices of higher levels of supervision to be a key determinant of changes in employee satisfaction with supervision. He saw expectations of subordinates as crucial, concluding that, "Even if the foremen handle their men in the same way as before, their men may become less satisfied with supervision because their expectations of better treatment from the foremen were not realized."

Fleishman (1953) found changes in leader attitudes and behaviors subsequent to a leadership training course to be temporary. In fact, while short run increases in consideration and decreases in initiating structure were evident, long run shifts were in the opposite directions. Fleishman attributed this inversion to back home "leadership climate."

The lesson of these studies appears to be that program success is a function of such factors as means of implementation, "back home" climate and realism of expectations fostered in participants, and hence cannot be automatically assumed.

Partially because of such findings, critics of

management development are becoming increasingly vocal. Livingston (1971, p. 79) argued, for instance, that "Managers are not taught in formal educational programs what they most need to know to build successful careers in management." He adds, referring to cutbacks by some firms on expenditures for management training, that "what is taking place is not an irrational exercise in cost reduction; rather, it is belated recognition by top management that formal training is not paying off in improved performance." He goes on to argue that such programs often prescribe a given set of practices regardless of individual participant differences with the result that, "The effectiveness of managers whose personalities do not fit these styles often is impaired and their development arrested."

There is also reason to expect situational moderators of development effectiveness. Certain of the previously cited studies (Sykes (1962), Form and Form (1953), Hariton (1951), Fleishman (1953)) support this contention. Sims (1970, p. 26) notes that the lessons of contingency theory would suggest that training "should be evaluated in relation to its potential to direct an organization toward (or away from) a specific mode of organizational style." Consequently, it appears that development efforts ignoring climate and environment of the organization to which the manager will return will be less than totally successful, except in the case of a fortuitous match. Similarly,

developmental efforts aimed at individuals differing significantly on situational criteria might have differentially successful impact as a function of those criteria.

This need to consider not just program success but also the correlates of that success is stressed by Carroll and Nash (1970, p. 188). They reason that,

> "Management development programs may fail because of conflicts between what is taught in the program and situational and personal characteristics of the participant. As House points out, the participant may lack the ability, flexibility, or motivation to learn, accept, and put into practice the material presented in the training program. In addition particular situational characteristics may hinder the participant in applying the content of the training course to his job....It would be useful to know in advance how various types of individuals are likely to react to a management training program. Such information would enable training personnel to designate for training only those individuals who are likely to react positively to it and benefit from it. Only a very few studies, however, have correlated differences in participant characteristics and situations to differences in reactions to management development."

As noted by Sims (1970), the need to consider correlates of effectiveness or of other criteria is a general lesson of the work of the "contingency" theorists, researchers engaging in what Thompson (1967) has called a search for patterned variations.

Studies Relating to Correlates of Attitudes Toward Management Development

Shetty (1971) studied 40 firms in India belonging to a wide variety of industries and found sophistication of

training programs to increase as a function of complexity and turbulence of the market and technological environments facing the firms. Such a finding suggests that a given program may have differential applicability to managers from varying industrial backgrounds. Of course, alternate explanations of Shetty's findings are feasible. For example, until the past few years, at least in the U.S., those firms in volatile industries have been generally viewed as 'glamorous' and have been blessed with easy, inexpensive access to capital markets. Consequently, turbulence of environment may be related to availability of financial resources, allowing the use of costly, sophisticated programs.

Among the few studies relating personal and/or situational characteristics of management training program participants to their reactions to the program was that by House and Tosi (1963). House and Tosi examined a training program in which "climate conditioning" was utilized. That is, top levels of management were trained prior to training of subordinate groups. Their study of 253 engineering managers at five levels of management employed a before-after design with a control group. No significant difference in the measures used were found between trained and untrained groups, leading to the conclusion that a compatible climate is perhaps a necessary but non-sufficient condition for program success.

It was, however, found that those in the trained group who showed the greatest increase in satisfaction with various aspects of the job after training were those who before training were more satisfied with their positions, felt more secure in their jobs, perceived themselves as having higher degrees of authority, and had longer time on the job and in the company.

Carroll and Nash (1970) conducted a training program for 45 first-line supervisors in a manufacturing plant. An instrument was developed to measure participant reactions to the program and to obtain information about participant characteristics as well as their perceptions of aspects of their jobs, subordinates, bosses, organization, training and development climate, and reward-pumishment system. Reaction to training was gauged by a satisfaction item and by measures of perceived instrumentality of training for successful task performance. Carroll and Nash concluded that satisfaction with the job is an important determinant of reaction to training, that liking and training effectiveness may not necessarily be related, and that the perception that training is helpful and applicable is not enough to stimulate many individuals to actually use the training.

Hariton (1951), in a study discussed previously, examined changes in satisfaction levels of subordinates whose foremen had undergone training. He found in contrasting those foremen whose subordinates showed an increase in

satisfaction with those whose subordinates showed a decrease that the former group were more satisfied with their jobs and superiors, felt more secure in their positions, perceived the course content to be beneficial, and received more support from their superiors.

Kohn (1968) found satisfaction with a training program to be correlated with perception that the course content had practical value, opportunity to participate in the program, and sufficient similarity among program participants so that good communications could take place.

Andrews (1966) argued that management development impact is likely to depend upon basis of selection of participants. In particular, individuals volunteering for such a program, as opposed to those selected by their firms to participate, would be more receptive to program offerings, more secure, more able and willing to leave their families and jobs, better informed of program content and consequences, and less concerned that the program would be of a remedial nature. His own data revealed little difference in satisfaction as a function of basis of selection, with those individuals requesting their own entry only slightly more favorably disposed toward the program after its completion (8.0 on his scale) than others (7.7).

Some Questions Left Unanswered in the Literature

Correlates Isolated

Review of the management development literature reveals some consistent findings but also suggests areas of research need.

Among correlates of attitudes toward management development isolated in the reviewed studies are:

Satisfaction with work (Hariton (1951), House and Tosi (1963), Carroll and Nash (1970))
Time on the job and in the company (House and Tosi (1963), Carroll and Nash (1970))
Perceived degree of authority (House and Tosi (1963))
Perceived job security (Hariton (1951), House and Tosi (1963))
Basis for selection (Andrews (1966))
Instrumentality of training for successful task performance (Hariton (1951), Kohn (1968), Carroll and Nash (1970))
Top management support and climate (Hariton (1951), Fleishman (1953), Carroll and Nash (1970))
Homogeneity of program participants (Kohn (1968))

The Need to Further Examine Underlying Mechanisms

Mechanisms hypothesized as explanatory of certain of the above relationships require further examination. For instance, the consistent job satisfaction - satisfaction with program finding has been regularly explained in terms of the rationale that feelings of the manager concerning his firm are likely to carry over to actions initiated by the firm, such as entry of the manager into the program. While this hypothesis appears reasonable, it is feasible that supplementary factors are at work. This issue could be

examined in various ways. For one, if such an explanation is valid, basis for selection might be expected to moderate the job satisfaction - satisfaction with program relationship. Another approach would be to consider correlates of both satisfaction with work and of attitudes toward the program. The finding of similar patterns of correlates of these variables would suggest the possibility of a different causal mechanism than would the finding of job satisfaction - satisfaction with program relationships in the absence of such a pattern. In particular, such a pattern might lend support to the parsimonious explanation that individuals possessing certain personality characteristics and/or in certain situations are simply generally satisfied.

The Need to Consider Further Personal Factors

It is further apparent that while various situational factors have been examined in the management development literature, personal characteristics have received less attention. While age, educational level and time on the job have been considered, measures directly focusing on individual need structure deserve exploration.

The Need to Consider Further Situational Factors

Attempted replication of certain of the findings relating to situational correlates should be useful. Further, several situational factors having received little

emphasis could be considered. These would include hierarchical level, income level, and firm size. It might be expected that the impact of these variables would be somewhat program specific. That is, the nature and focus of program content would be likely to result in differential applicability as a function both of managers' level in the firm and of firm size. The finding of significant relationships would thus be useful both in providing clues concerning determinants of development impact and in considering the apparent focus of the program under consideration.

One situational factor which has been suggested as a moderator of program impact but has not been specifically examined is environmental uncertainty. While not extensively reviewed here, numerous recent "contingency" studies have considered the degree to which efficacy of alternate organization structures and/or administrative practices is moderated by such environmental characteristics as uncertainty or volatility. Relatively little consideration has been given, however, to either the direct impact of environmental volatility or uncertainty on managerial attitudes and activities or to the extent to which such characteristics moderate personality - attitude or personality - behavior relationships. Research issues amenable to analysis would include:

1. To what extent is there evidence of self-selection of certain personality types into "compatible" environments?

2. How is environmental volatility related to managerial career activity?

3. How is environmental volatility related to managerial attitudes toward work and toward management development?

4. How is the relationship between personality characteristics and the above criteria moderated by volatility?

While these questions are generally interesting, the reviewed writings of Shetty and Sims suggest that they are directly relevant to the issue of management development. For instance, findings of volatility - attitude toward management development relationships would imply, consistent with the arguments of Sims, that development content may have differential applicability as a function of environment.

The Need to Consider Additional Criteria

The discussion to this point has focused on potential correlates of attitudes toward management development which could be profitably examined. It is further apparent that criteria of program impact could be usefully expanded. The studies reviewed have used as their criteria either attitudes toward the program or measures immediately dependent upon those attitudes, such as short-term turnover.

Though certainly relevant, these measures could be supplemented. Carroll and Nash have argued on the basis of their perceptual measures that effectiveness and satisfaction with program need not be strongly related. Livingston

has warned that continued corporate participation in such programs may hinge on the evidencing of concrete results. Consequently, other useful impact criteria might include:

1. Changes in degree of participation of sponsoring firms.
2. Reasons for termination of participation of sponsoring firms.
3. Suggestions of graduates for program improvement.
4. Career activity of graduates.
5. Correlates of career activity of graduates.

While the relevance of consideration of the first three of these criteria is self-evident, reasons for examination of career activity and of correlates of career activity should perhaps be noted.

Certainly, simple examination of absolute level of career progress of graduates should be of interest to actual or potential entering managers and sponsoring firms. Comparison of that activity with that of nonentrants would be especially revealing, though the danger that program completion may be used as an independent promotion criterion cannot be discounted.

Further, it is widely recognized that attainment of rewards may lead to enhanced satisfaction. Thus, it seems reasonable to assume that favorable career progress may, to the extent that it is to some degree viewed as the result of program completion, lead to satisfaction with program. Consequently, it would be useful to examine the relationships

of career activity indices to attitudes toward program.

The finding of such relationships would only, of course, demonstrate association between the variables considered. It would be of further interest to attempt some understanding of causal mechanisms through examination of similarity of correlates of attitudes toward program and of career activity indices. The finding of patterns of similar independent correlates may provide clues to the degree to which the career activity - attitude toward program relationships are spurious.

The Need to Consider Impact of Success in the Program

Yet another issue given little consideration in the literature is that of the impact of managerial mastery of program material. Grade-point average in the program serves as a relatively objective gauge of that mastery. A relationship between success in the program and response to the program might be expected for any of several reasons, including:

1. Different types of people, in terms of personality characteristics and/or situations, may perform differently in the program and also respond differently to the program. For instance, as valence to a manager of success in the program increases, motivation to perform well in the program should increase. Consequently, ceteris paribus, performance in program should be related to valence of success in the program. Various mechanisms could be hypothesized by which valence of success in the program could be expected to relate to attitudes toward program. Consequently, GPO - attitudes toward program relationships could be revealing, as could comparison of correlates of those variables.

Since valence of success in the program would be expected to vary as a function of personality characteristics, examination of GPA - trait relationships should also be useful.

2. Managers disliking program content or format may lose interest in the program, subsequently performing poorly in the program, and would be likely to rate the program harshly.

3. Managers receiving low GPA's may feel that they were evaluated negatively and respond in kind.

4. To the extent that GPA is an adequate gauge of knowledge gained in the program, and to the extent that such knowledge is career-relevant, GPA - career activity relationships might be expected. If the manager recognizes such relationships, GPA - attitude toward program relationships seem likely.

The Current Study

The current study will focus on attitudes and career progress of graduates of the M.S.U. Advanced Management Program (AMP). Along with assessment of overall impact of the program, correlates of impact will be considered as will potential moderators of that impact.

Specifically, the study will consider four general sets of issues:

1. What has been the nature of overall impact of the Michigan State University Advanced Management Program? In particular:
   (a) What are the attitudes of graduates concerning program value, rigor and fairness?
   (b) How satisfied are graduates with specific courses and instructors? How does that satisfaction vary

between graduating classes? What are the sources of that variation?

(c) How has participation of sponsoring firms changed over time? What have been the causes of those changes?

(d) What have been the overall levels of salary increase and of promotions of subjects subsequent to program entry? How does salary increase of AMP graduates compare with national norms?

(e) What types of suggestions for program improvement are offered by graduates?

2. What are some personal and situational correlates of favorable attitudes toward the program? Of feelings that the program was difficult? Of feelings that administration and grading were fair? How are these attitudes related to grade-point average? How are they related to career activity (salary increase, promotions, and interorganizational mobility) subsequent to program entry?

3. What is the relationship between success in the program, as measured by grade-point average, and subsequent career activity? How do personal and situational correlates of success in the program relate to correlates of career activity?

4. To what extent is the environmental volatility facing firms and industries of respondents related to attitudes

toward the program? How is it related to attitudes toward the program? How is it related to subsequent career activity and to satisfaction with work? Are personality traits of respondents related to environmental volatility facing their respective firms and industries? Is there a "fit" between personality traits of respondents and environmental volatility as evidenced by different trait-career activity and trait-attitude toward program relationships in stable and dynamic environments?

It is the feeling of the writer that presentation of specific hypotheses in relation to the first three sets of issues would add little to the analysis and is essentially precluded by the sheer number of relationships to be examined. The issue of personality-environment interaction does, however, require further explication.

It seems feasible that such interaction may be an important determinant of the efficacy of management development techniques, of satisfaction with work, and of career activity. For example, Porter and Lawler (1965) have suggested that differences in personal characteristics of individuals being surveyed may account for certain apparent relationships between organization structure and job attitudes or behavior. Morse (1970) has hypothesized a three-way personality-structure-environment "fit" as a determinant of "sense of competence motivation." Lawrence and Lorsch

(1967) note that while consideration of individual attributes is a potentially important facet of their "contingency approach," they were able to treat it only as a minor theme. The current study, gauging individual, structural, and environmental characteristics and focusing on such criteria as attitudes toward a management development program, attitudes toward work, and career activity, can consider the issue of personality-environment fit in two ways.

First, if given personality traits are more suitable to given environments than are the opposites of those traits, individuals with a particular constellation of traits might be expected to gravitate toward nurturing environments. Ghiselli (1971) has developed an instrument, discussed subsequently, to gauge the 13 traits presented in Table 1-1. It seems likely that those traits generally associated with drive, risk assumption, and self-confidence would be most widely evidenced in volatile settings, while those associated with stability, desire for security, and generally greater emphasis on "lower order" needs would be most prevalent in stable settings. Traits such as working class affinity, supervisory ability and intelligence appear to defy intuitively comfortable classification as best fitting stable or dynamic settings.

Based on these arguments, the signs indicated in Table 1-1 are hypothesized for the correlations between each of 13 traits and volatility. Trait measures and volatility

indices will be operationalized in Chapter II.

TABLE 1-1

HYPOTHESIZED RELATIONSHIPS BETWEEN PERSONALITY TRAITS AND ENVIRONMENTAL VOLATILITY

Trait	Hypothesized Sign of Correlation With Volatility		
	Positive	Negative	Not Hypothesized
Supervisory Ability			X
Intelligence			X
Initiative	X		
Self-Assurance	X		
Decisiveness	X		
Masculinity-Femininity		X	
Maturity		X	
Working Class Affinity			X
Achievement Motivation	X		
Need for Self Actualization	X		
Need for Power		X	
Need for High Financial Rewards		X	
Need for Security		X	

Examination of a second set of relationships should also be useful. That is, if the sort of hypothesized "fit" of traits to environment does exist, the impact of traits on

criterion variables might be expected to vary as a function of environmental volatility. Satisfaction with work and with program would thus be expected to correlate differently with given traits in stable and dynamic environments, as would career activity indices. Those traits which are predicted in Table 1-1 to correlate positively with volatility would, in particular, be expected to be more important determinants of success in dynamic than in stable environments. Those traits, such as need for security, which would seem to be most suitable to stable environments, and which would seem to be generally detrimental to career success, should have a lesser negative impact in stable than in dynamic settings.

Since certain of the research questions focus in part on correlates of GPA or of career activity indices, a brief review of the literature relating to these variables follows.

Studies Relating to G.P.A. and to Criteria of Career Activity

Grade-Point Average (GPA)

Various researchers have considered graduate school grade-point average as either a dependent or independent variable. The following findings are relevant to the current study.

Predictors of GPA. Ward (1958) obtained a multiple correlation of .60 with first year grades in graduate school from a combination of test scores and undergraduate grades,

adjusted for standards of the schools. Vatter (1958b) found that low scores on Verbal or Quantitative segments of the ATGSB were associated with low grades at the Harvard Business School. A multiple correlation of .47 was found between verbal ATGSB score, quantitative ATGSB score, and college grades on the one hand and first year graduate school grades on the other. Pietrowski (1958) found somewhat similar relationships at Stanford.

Yoder (1959) found scores on the Miller's Analogies test to correlate .63 with grades of 40 students in the master's program in industrial relations at the University of Minnesota.

GPA as a predictor of success in career. Husband (1957) found a strong positive relationship between grades of members of the Dartmouth class of 1926 and subsequent earnings. As an example, those with grades of 3.3 and above had median earnings at the time of the study in excess of $20000 while those with grades of 1.50 to 1.69 had median incomes of $10625.

Harrell (1961) concludes on the basis of his studies that career success subsequent to attainment of an undergraduate degree appears to be significantly related to scholastic achievement. However, a much weaker relationship is evident for MBA's. He attributes this finding largely to the possibility that MBA's had been sufficiently selected so that scholastic aptitude of the selected group was no longer

a key factor.

Interorganizational Mobility

March and Simon (1958) in discussing the inducements-contributions balance associated with the decision to participate argue that it is a function of two key components, the perceived desirability of leaving the firm and the perceived ease of movement from the organization. They propose that perceived desirability of movement is a function of satisfaction with job and of perceived possibility of intra-organizational transfer. Satisfaction with job is in turn viewed as a function of conformity of job to self image, predictability of job relationships and compatibility of job and other roles, while possibility of intraorganizational transfer is seen as dependent upon firm size. Perceived ease of movement is seen as a function of number of extra-organizational alternatives perceived, in turn a function of level of business activity, number of organizations visible, and such personal characteristics of participants as age, sex and social status. Number of organizations visible is seen as a function of visibility of the individual and of his propensity to search.

Studies which directly relate interorganizational mobility to firm size are lacking. A study by Grusky (1961) examined how a surrogate for interorganizational mobility, turnover in given positions, was related to firm size. Grusky selected from Fortune's 500 two groups of

organizations differing in total size. More rapid turnover in uppermost management positions was evidenced in larger companies. While a study by Kriesberg (1962) seems to confirm these findings, a reanalysis of Grusky's data by Gordon and Becker (1964) showed little relationship between size and rate of succession. Further, it should be stressed that turnover in given positions need not coincide with movement out of the firm. March and Simon (1958) in fact, imply that larger firms will experience lower turnover since individuals moving from a given position will have a greater number of options available within the firm.

Literature reviews by Brayfield and Crockett (1955), Herzberg, Mausner, Peterson, and Capwell (1957), Schuh (1967) and Vroom (1964) have consistently concluded that turnover is inversely related to satisfaction with job. Weitz and Nuckols (1950) found a negative correlation between direct satisfaction measures and turnover among a sample of insurance agents. Giese and Ruter (1949) found a similar negative correlation between morale and turnover rates of 25 departments in a small mail-order company. Other negative relationships between morale and turnover were reported by Fleishman, Harris, and Burtt (1955) and by Kerr, Kopplemeir, and Sullivan (1951).

There is little empirical research relating turnover to hierarchical level. On the basis of indirect evidence, however, a negative correlation might be expected. For

instance, Fetyko (1972) found highest turnover in public accounting firms to occur in the first three years of service. Since years with firm and hierarchical level are generally related, an inverse relationship between turnover and hierarchical level appears probable. Further, job satisfaction has been shown to be inversely related to turnover, as discussed above, and directly related to hierarchical level (Herzberg et al. (1957), Porter and Lawler (1965), Vroom (1964)). Consequently, a negative relationship of turnover to hierarchical level would again seem likely.

March and Simon (1958) view propensity to search as largely a function of degree of satisfaction with job, discussed above, and of habituation to a particular job or organization. As habituation increases, the choice of organization is increasingly treated as a constant rather than as a variable. As length of service, and presumably habituation, increases, March and Simon further argue that specialization increases and the range of extraorganizational alternatives is narrowed.

March and Simon argue that perceived ease of interorganizational movement is negatively related to age. That is, higher age is an undesirable attribute of a job seeker, ceteris paribus. Further, job satisfaction and consequently perceived desirability of movement appear to be related to age. Studies show that morale decreases during initial

years of work, reaches a nadir when workers are in their twenties, and then rises steadily with age (Herzberg, Mausner, Peterson, and Capwell, 1957). The same trend is evident when length of service in present job is compared with satisfaction (Harrell, 1960, p. 261). Taken together, these evidences of decreased perceived ease of movement and desirability of movement as a function of age would suggest that interorganizational mobility would decrease as a function of age. In fact, studies show that turnover is higher among younger persons than among older persons, with skill and other attributes held constant (Myers and MacLaurin, 1943; Reynolds, 1951; Bakke et al., 1954).

Career Success

DePasquale and Lange (1971) collected data from over 5,000 MBA alumni representing 12 graduate programs. Among their results was the finding that, while many MBA's believe job hopping will lead to high financial rewards, "This belief has no basis in fact. While a temporary advantage may be gained through a job change, our findings point out that, after a period of up to five years in business, the earnings of those who had frequently changed jobs were equal to the earnings of those who remained with their first employers." (1971, p. 12)

Gutteridge (1973), using salary level as his upward mobility criterion, found that for a sample of 465 alumni from the 1957-1968 graduating classes of the Krannert

Graduate School of Industrial Administration at Purdue University:

1. Individuals in consulting and general management received higher salaries than others, with those in the engineering-production functional area receiving the lowest salaries.

2. Salary of line individuals was higher across all graduating classes than was salary of staff individuals.

3. A negative relationship existed between company size and salary. A positive relationship existed between company earnings-per-share growth rate and salary.

4. Geographic wage differentials existed, with salaries in the Northeast being highest and those in the North Central and Southern states being lowest.

5. Alumni who changed employers were earning significantly higher salaries than were those who remained with their original employers.

Gutteridge notes that the latter finding, while contrary to findings of DePasquale and Lange (1971) and McKersie and Ullman (1966), is consistent with the logic of Jennings (1961) who claims there is a strong positive relationship between mobility and competency.

Hilton and Dill (1962), using percentage salary growth as a success criterion, examined a sample of 143 engineering graduates employed in industry. Among their results was the finding of significantly different salary growth rates as a function of undergraduate major (with electrical engineering highest and civil engineering lowest), an insignificant correlation between salary growth rate and grade-point average, and a significantly negative correlation between

first-year salary and salary growth rate.

Success in the Bell Telephone System was found to be related to college GPA (College Achievement and Progress in Management, 1962). A study of 17,000 graduates of accredited colleges found a distinct relationship between rank in one's graduating class and salary. The criterion was annual salary in comparison to salaries of those who had the same length of service in the company. The same study also found the salary criterion to be correlated with ranking of the quality of the college from which the individual graduated as well as with leadership in college extracurricular activities.

In terms of the relationship of traits to managerial career success, Huttner et al. (1959) found more effective executives, in terms of salary increase over a fixed period, to be higher in intelligence, drive, enthusiasm and optimism and lower in anxiety than less effective executives.

In a similar vein, Ghiselli (1971) argues that certain personality traits are important determinants of managerial success. His rating of importance of the various traits, based on his studies, is presented in Table 1-2. Thus, Ghiselli sees traits such as supervisory ability and need for achievement to be quite important for managerial success, others such as need for security and need for high financial rewards to be negatively related to success, and still others as essentially unimportant. He says, for

instance, that, "...on the basis of the evidence it must therefore be concluded that the trait of masculinity-femininity plays no part whatsoever in managerial talent." (1971, p. 67). Discussing the relationship of need for power over others to managerial success, he states that, "At best, it would have to be concluded that the relationship is very, very slight, and probably is nonexistent." (1971, p. 87).

TABLE 1-2

TRAIT IMPORTANCE FOR MANAGERIAL SUCCESS

Trait	Rating
Supervisory Ability	100
Need for Occ. Achievement	76
Intelligence	64
Need for Self-Actualization	63
Self Assurance	62
Decisiveness	61
Lack of Need for Security	54
Working Class Affinity	47
Initiative	34
Lack of Need for High Financial Reward	20
Need for Power Over Others	10
Maturity	5
Masculinity-Femininity	0

Some evidence exists, however, to indicate that the importance of certain personality traits may be moderated by environmental characteristics. Morse (1970), for one, has argued for the importance of such 'fit' of personality and environment.

Summary

This chapter has presented a review of literature relating to management development and has introduced the current study.

Management development was defined, the growth in numbers of development programs was traced, and reasons for that growth were considered. The lack of adequate evaluation of such programs was noted and reasons for that lack were outlined and evaluated. Following a review of studies citing dysfunctional consequences of management development programs and noting critics of developmental efforts, arguments were presented for the need to consider not just overall impact of management development programs but also the personal and situational correlates of that impact.

The current study was outlined. Research questions, including criteria to be considered and expected correlates of those criteria, were presented. Studies focusing on those criteria and correlates were reviewed.

CHAPTER II

METHODOLOGY

This chapter will outline characteristics of the Advanced Management Program and of the research design. Statistical methods used in the current study will be noted, measuring instruments explained and subjects profiled.

The Advanced Management Program

The current study examines reactions of graduates of the M.S.U. Advanced Management Program. Founded in 1964, the AMP is a two year program given two evenings a week at Mercy College in Detroit and leading to the MBA degree. Courses are taught by the faculty of the College of Business of Michigan State. Class members are enrolled as on-campus students.

Students in the program include middle and upper level managers in a wide variety of firms and industries in Southeastern Michigan. Dubbed the "Million Dollar Classroom" because the collective salary of the annual entering class regularly exceeds that figure, classes typically include a sprinkling of company presidents and vice presidents.

To be considered for admission to the program, an individual must be nominated by his respective company, though

the individual may personally request such nomination. After nomination, each application is reviewed by three faculty members. Significant emphasis is placed on grade-point averages and A.T.G.S.B. scores. Program literature reports that standards of selection are the same as for admission of a student on campus. In addition, it is desired that a program entrant have ten years business experience. As a consequence, average student age is 36, with few under 30 years of age being considered for admission. While a wide variety of undergraduate majors are represented, 60% of students are reported to come from engineering backgrounds.

Among managers who had graduated from the AMP by 1972, 228 possessed the bachelor's degree, 24 had earned a previous master's, one held the doctorate, and 66 had no previous college degree. Of the latter 66, 10 had graduated from technical schools, 50 had earned some college credit, and 6 had no previous college or technical training.

A manager entering the program proceeds to take twelve courses in fixed order. No choice in course selection or sequencing is allowed. Courses in the program, in the order in which they are taken, are:

FIRST YEAR:

FALL TERM

Managerial Accounting

Personnel and Human Relations in Industry

WINTER TERM

Management Organization and Theory

Financial Management

SPRING TERM

Marketing Management

Decision Making Models (formerly Management Planning and Control)

SECOND YEAR:

FALL TERM

Industrial Relations

The American Economy (formerly Managerial Economics)

WINTER TERM

Managerial Economics and Public Policy (formerly Business and Society)

International Business

SPRING TERM

Administrative Policy

Problem Analysis

Material in the program is generally presented in a lecture format, though certain courses utilize role playing and sensitivity training. Further, the "Problem Analysis" course requires that students complete a thesis project. For this project, the student selects what he feels to be a significant problem which he is currently facing and, with faculty assistance, writes a paper presenting his solution.

Cost of the program is generally paid by the student's company. That cost covers instruction expenses, books, two evening meals per week, and administrative and personnel costs.

Approximately 65% of program graduates pay dues to the Advanced Management Club, a club which publishes an alumni newsletter and sponsors speeches and other events for program members and graduates.

Unique Aspects of the AMP

Unlike many management development programs, the AMP is not administered by the individual's firm. While corporate sponsorship of the individual is required, this extraorganizational training would be expected to differ in emphasis and atmosphere from company-administered efforts. For example, the kind of knowledge stressed would not necessarily be specifically related to company needs and may be more transferrable.

The AMP differs in significant ways from most other university-administered management development programs. First, duration of the AMP far exceeds that of most university programs. Of those examined in detail by Andrews (1966), for instance, none extended beyond 13 weeks, while the AMP requires two years of continuous study. While other programs of extended duration do exist, they are much rarer than shorter programs.

Second, and perhaps most important, the AMP is unusual

inasmuch as it leads to the MBA degree. Consequently, career impact of the program may be a function of consequences of the MBA. For one thing, holding of the MBA may be an independent criterion for promotion. Further, the MBA is a uniquely portable and prestigious certificate of program completion and may influence interorganizational mobility.

Finally, the program brings together individuals from firms in scattered industries and selected on the basis of several criteria. It seems reasonable that program consequences should differ among these participants. Isolation of situational determinants of impact may therefore be feasible.

A recent study by Nemec (1973) considered general advantages and disadvantages of the night school MBA, as well as feelings of employers about such a degree. However, little summary data is presented by Nemec. Further, it would probably be tenuous to automatically equate "night school" with "management development." Certainly, the managers typically enrolled in the M.S.U. Advanced Management Program would be likely to differ in significant ways, such as hierarchical level, salary, and business experience, from the majority of night school M.B.A. students.

The Research Design

Evaluation of the program will be somewhat restricted by the types of data that could be feasibly gathered. For

example, a fully adequate design for purposes of evaluation of management development efforts would have the following characteristics:

1. Use of a control group similar in relevant aspects to the experimental group.
2. Measures taken before and after training.
3. Precautions so that the control group does not incur resentment and antagonism due to the fact that they are not being trained.

In a study such as that being discussed here, the meeting of all such criteria is unfortunately impossible. Selection of individuals to enter the program was clearly outside the hands of the researcher. Since individuals were in general selected for the program on non-random bases, including promotion potential, isolation of an adequate control group was infeasible. Means of resentment prevention are similarly lacking. For instance, while McGehee and Gardner (1955) suggest that the control group be informed that they will participate later, such a design is impossible here.

Similarly, criteria selection was constrained by the inability to meet the above criteria. For instance, among possible criteria of program effectiveness, as given by Rizzo (1967) are:

1. Changes in knowledge
2. Changes in attitude
3. Changes in ability
4. Changes in job performance of the participant

5. Changes in job performance of subordinates of the participant

6. Changes in end-operational results

Derivation of these change scores by consideration of before and after measures was clearly precluded by restrictions on the design.

In some cases in the current study, as proxies for true before measures, respondents were asked their recollection either of the level of a variable at the time of their entry into the AMP or of the percent change in the level of a variable since that time.

Desirable characteristics of selected criteria would include, according to Rizzo (1967):

1. Relevance to goals and intentions of development
2. Absence of bias
3. Reliability
4. Practicality
5. Acceptability to top management and participants
6. Objectivity

The limits placed upon the current study by demands of practicality have already been alluded to. Acceptability of criteria was quite important since several parties were to review and hold possible veto power over the questionnaire. What remained, then, was the decision of how to choose relevant criteria, subject to the constraints discussed.

Variables chosen as criteria of program impact include:

1. Grade-point average. To the extent that grade-point average is an adequate measure of knowledge and abilities acquired in the program, it provides a rough proxy for those variables. While not an absolute measure of knowledge and ability enhancement, it should serve as a useful relative measure.

Consequently, the relationship of GPA to other criteria should provide some clues to the relevance of program content to job success.

2. Attitudes toward the program. Program impact and perceived program impact should be reflected in attitudes of graduates concerning the program. Since the measures are taken at a point in time which is increasingly close to graduation date for successive classes, it is recognized that determinants of satisfaction with program may vary in emphasis between classes. Thus, while recent graduates may have program characteristics fresh in their minds and judge the program on that basis, earlier graduates may place greater emphasis on happenings subsequent to graduation that may be attributable to the program.

3. Satisfaction with specific courses and instructors. It would be useful to learn reactions to specific segments of the program and to specific teachers. Since the program allows no flexibility in course selection or sequence, knowledge of graduation date of a student completely specifies all courses and instructors encountered during the program.

4. Number of promotions subsequent to program entry. One goal of the AMP which is evident in program literature is upward mobility enhancement. The program is designed to "speed the advance" of talented managers. To allow comparison of upward mobility of managers graduating at different times, reported number of promotions will be converted to an annual basis. Differing perceptions of what constitutes a promotion may cause some distortion of this measure.

5. Annual percent salary increase subsequent to program entry. This measure will also be converted to an annual basis. Salary increase should provide a secondary measure of upward mobility, and one which may be less subject to perceptual distortion than is number of promotions.

6. Annual interorganizational mobility subsequent to program entry. The number of changes in employing firm, converted to an annual basis, is used as the measure of interorganizational mobility. Since high turnover has been reported for some development programs, knowledge of the level of interorganizational mobility for AMP graduates and of correlates of that mobility should be useful.

The question of objectivity and lack of bias should perhaps be explored in relation to the criteria selected. Bellows (1941) notes three sources for contamination of criteria. They are:

1. Contamination by illicit use of predictor information.
2. Contamination by artificial limitation of productivity.
3. Contamination by differential influence of experience.

These problems of contamination are largely inapplicable to criteria such as the satisfaction gauges, GPA, and inter-organizational mobility. Their impact on promotions and salary increase should, though, be considered.

It is possible that receipt of the MBA may cause some distortion. That is, if some firms make "illicit use of predictor information," perhaps using the MBA as an independent criterion for advancement, while others do not, comparisons between firms could be distorted. Similarly, if MBA's are given especially desirable subordinates or jobs in one firm while those in another are not, the "artificial limitation of productivity" caveat might hinder such comparisons. Later studies should attempt to examine the degree to which such potential contaminants exist.

Criteria such as salary increase and promotions are of course plagued by many other difficulties, reflecting any weaknesses that may be inherent in the organization's performance appraisal techniques and reward system in

general. Further, since such criteria are gauges of an individual's success in an organization, respondent bias might lead to over reporting of level attained.

Most of the perceptual measures used in the current study are potentially subject not only to conscious or subconscious bias but also to simple problems of recall. In general, though, it seems likely that such concrete measures as GPA, salary level, and number of firms since original will be accurately reported. Keating et al. (1950) found correlations of from +.90 to +.98 between reported and actual scores for such details of work history, reported by unemployed workers in a guidance setting, as wages, duration of jobs, and job duties. Dunnette (1952) in a study of 203 seniors in the Institute of Technology at the University of Minnesota found a correlation of .94 between reported and actual grade point averages, though those with averages below C tended to suppress the fact.

On the other hand, where rewards are seen as contingent in some way upon responses, evidences of bias in reporting are in some cases evident. Krueger (1947), for instance, found that 10% of students whose papers were graded too high reported the discrepancy, whereas 99% of students graded too low reported the errors. Hopefully, anonymity of responses in the current study, coupled with the personally non-evaluative tone of the questionnaire and cover letter, will reduce the danger of such distortion.

Correlations between the selected criteria are presented in Table 2-1.

It is recognized that these criteria gauge in fact only one aspect of program impact; that is, impact on program graduates. Clearly, other parties are influenced by the AMP. One relevant participant in the program is the participating MSU faculty. Yet another group impacted by the program is composed of program dropouts. The dropout rate from the program is about 16%. Thus, about 50 individuals have had what might have been an unsuccessful relationship with the AMP. Examination of attitudes of these individuals toward the AMP, of their perceptions concerning the career impact of failure to complete the program, and of the circumstances surrounding their withdrawal could be revealing.

Statistical Methods

Statistical methods used in the current study include simple correlation analysis, partial correlation analysis, multiple regression analysis, estimation of internal reliability, and factor analysis (see Nunnally, 1967).

Pearson product moment correlation coefficients, "r," were computed between each pair of variables under consideration as a measure of their degree of relationship. Where a spurious correlation between a pair of variables may have resulted from the correlations of each of those variables to

TABLE 2-1

CORRELATIONS BETWEEN CRITERION MEASURES

	ANP	ASI	AIM	GPA	GPO	PPR	POS
Annual Number of Promotions (ANP)	-	.444+	.181°	-.012	.113	.081	.077
Annual Percent Salary Increase (ASI)	163	-	.072	.100	-.057	.010	.076
Annual Interorganizational Mobility (AIM)	162	167	-	-.220+	.059	.074	.134
Grade Point Average (GPA)	152	157	156	-	.046	-.003	.141
General Positive Orientation to AMP (GPO)	158	163	162	156	-	.381+	.525+
Perceived Program Rigor (PPR)	158	163	162	156	165	-	.541+
Perceived Program Objective Structure (POS)	159	164	162	157	166	166	-

Note: Upper-Right Triangle Contains Correlations
Lower-Left Triangle Contains Adjusted n

° Significant at .05 level, two-tailed
+ Significant at .01 level, two-tailed

a third variable, partial correlations were computed to control for the impact of that variable.

Multiple regression analysis was used to consider the joint effect of sets of independent variables on those dependent variables being examined.

Estimated internal reliability was used to determine how closely items in scales were related to one another. Nunnally argues that internal reliabilities of .50 or .60 are sufficient in early stages of research (1967, p. 226).

Factor analysis, a method to aid in determination of the number and nature of the underlying constructs (factors) among manifest variables, was employed to aid in subscale formation. Quartimax rotation was used, with Guttman communalities inserted in the diagonal.

Measuring Instruments

Volatility Indices

As a gauge of uncertainty faced by the respondent's firm and industry, volatility indices were developed. Data used to compute measures of volatility were taken from the Standard and Poor's Compustat tapes. These tapes contain balance sheet, income statement, and other data for New York Stock Exchange firms for the past 20 years.

These volatility measures were calculated for each industry and firm represented for which data was available. The coefficient of variation of sales over the past ten

years was used as a measure of firm market volatility. Use of the coefficient of variation allows comparison of firms of different sizes. The industry coefficient was then determined as the average of the coefficients of variation of the individual firms comprising the industry, weighted by firm sales to account for variations in firm size.

As a measure of technological change, the average ratio of the sum of R and D expenditures and capital expenditures to total assets over the past ten years was used. To determine industry technological volatility, firm volatilities were again weighted by their respective sales revenues. This measure, while perhaps a crude approximation and hampered by nonuniformity of accounting practices, is nevertheless a sufficiently adequate gauge for current research purposes.

Mueller (1966) has shown that, if a proper time lag is allowed, a strong relationship is evident between level of R and D expenditures in an industry and patents granted to an industry. Since the current measure averages over ten years, consideration of such a lag is probably unnecessary.

Finally, to obtain a composite measure of market, technological and other volatility sources, the coefficient of variation of earnings before interest and taxes over the past ten years was used, again weighted by corporate sales. This measure, rather than net earnings or reported earnings per share, was chosen to minimize the effects of differences

in depreciation practices between firms and changes in financial leverage between firms and over time.

These measures have previously been shown to have very high split-half reliabilities (Tosi, Aldag, and Storey, 1973).

Scores on these indices for each firm and industry represented in the sample and on the Compustat tapes are given in Appendix B.

While the question of operationalization of uncertainty is controversial, it seems that variance and uncertainty should be positively correlated. That is, where outcomes are more variable they are correspondingly more difficult to predict.

Volatility has been widely used as a measure of risk in other disciplines, such as finance. For example, Smith (1971, p. 72) notes of portfolio risk measures that, "Although Markowitz and other writers have considered several candidate measures, by far the most frequently used measure is the variance of the random variable, portfolio return." Similarly, Francis and Archer (1971, p. 17) note that, "...the variability of the expected returns is a measure of risk grounded in fundamental analysis of the firm, its industry, and the economic outlook." Inasmuch as volatility of future returns is difficult to forecast, variance of past returns is typically used.

Some criticisms have been leveled against the use of

volatility as a gauge of uncertainty. A key argument relates to the possibility that certain variance may be predictable and consequently cannot be viewed as a source of true uncertainty. The existence and impact of such predictable fluctuations is, however, debatable. While seasonal fluctuations may fit such a category, the use of annual data ignores their impact. General economic movements and their impact may be deemed somewhat predictable, but the degree of that predictability is highly suspect. Further, such movements are relevant to ordering of industry volatility indices only to the extent that the magnitude of their impact is negatively correlated with that of "unpredictable" volatility. Also, it would seem that if, for instance, sales fluctuations were predictable, some anticipatory actions might be taken by management to buffer their impact. The correlation between the income volatility and sales volatility indices was, however, .791 in the Tosi et al. study, revealing apparently little buffering (Tosi, Aldag, and Storey, 1973).

It should be noted that since the auto industry is heavily represented, correlations of volatility indices with impact criteria will suffer from restriction of range.

Attitudes Toward Program

Items were selected to reflect favorability of attitudes of respondents toward the program, as well as perceived difficulty and perceived fairness of the program and

of grading.

A semantic differential (Osgood, 1953) was used to gauge attitudes toward the program. The items used were, on a scale from 1 to 7:

Relating to the Program in General

valuable : worthless
boring : interesting
organized : disorganized
satisfactory : unsatisfactory
easy : difficult
frustrating : stimulating
enjoyable : unenjoyable
theoretical : practical

Relating to Grading in the Program

fair : unfair
hard : easy
precise : imprecise

Factor analysis of the eleven item scale yielded three factors, the loadings on which are presented in Appendix C. On the basis of those variables loading above .4 on each factor, the factors were named, respectively, "general positive orientation toward program," "rigorousness," and "objective structure." The "general positive orientation" dimension apparently captures the perceived degree to which the program is valuable, interesting, satisfactory, stimulating, enjoyable, practical, and fairly graded. The

"rigorousness" dimension is a measure of the extent to which the program is seen to be difficult and grading is deemed to be both hard and precise. Finally, "objective structure" is a gauge of the degree to which the program is seen to be organized and fairly and precisely graded.

Cosmopolitanism

The cosmopolitanism scale used in the current study, developed by House (unpublished), consisted of the following four items:

> To what extent is your social life connected with your job? (reversed)
>
> How applicable is your knowledge and ability on your present job to other firms?
>
> To what extent is it likely that you can leave your present job and obtain an equivalent one elsewhere?
>
> How useful is the knowledge you obtain on this job to you if you were to seek employment elsewhere?

Average inter-item correlation for this scale was .155 in the current study. Internal scale reliability was .377. Excluding the 'extent to which social life is connected to job (reversed)' item, average inter-item correlation rises to .418 and internal scale reliability is increased to .683.

Consequently, only the last three items were summed to achieve the cosmopolitanism score.

Ghiselli Self-Description Inventory

As the primary measure of individual traits in this study, the Ghiselli Self-Description Inventory was chosen for its combination of adequate validity and brevity. Consisting of 64 pairs of personality descriptive adjectives, the inventory requires about 15 minutes to complete and gauges 13 traits. They are, as defined by Ghiselli (1971):

I. Abilities

1. Supervisory Ability: capacity to direct the work of others, and to organize and integrate their activities so that the goal of the work group can be attained.
2. Intelligence: cognitive capacity of the mind involving such capacities as judgement and reasoning; and the capacity to deal with ideas, abstractions and concepts.
3. Initiative: has two aspects: (a) the ability to act independently and ability to initiate actions without stimulation and support from others; (b) capacity to see courses of action and implementations that are not readily apparent to others.

II. Personality Traits

4. Self-Assurance: extent to which the individual perceives himself to be effective in dealing with problems that confront him.

5. Decisiveness: extent to which an individual sees that a decision must be made and goes ahead and makes it.
6. Masculinity-Femininity: extent to which an individual of one sex manifests the traits, perceptions, or other qualities associated with the other sex.
7. Maturity: that state where the processes of development are complete so that there is no further natural growth or improvement.
8. Working Class Affinity: extent to which the individual is to be accepted or rejected by those of the working class as a suitable person to associate with.

III. Motivations

9. Need for Occupational Achievement: desire to achieve the responsibility and the prestige which is associated with high position. (This trait is sometimes referred to as achievement motivation.)
10. Need for Self-Actualization: desire to utilize one's talents to the fullest extent.
11. Need for Power: desire to direct and control the activities of others.
12. Need for High Financial Reward: desire for monetary gain from one's work.

13. Need for Job Security: extent to which an individual is fearful of his circumstances and wants protection from adverse forces.

Ghiselli argues that a trait must satisfy three conditions if it is to be considered a managerial trait. Those conditions are:

1. On the average, managers should stand highest on the trait, line workers lowest, and line supervisors in between.
2. There should be a substantial relationship for managers between the trait and their success.
3. The relationship between the trait and job success should be highest for managers, lowest for workers, and at an intermediate degree for supervisors.

Ghiselli used 306 managers, 111 line supervisors, and 238 line workers drawn from a wide assortment of geographically dispersed firms to examine the relationships between scores and job success. Individuals were administered the SDI and were rated by their superiors. Correlation coefficients are given in Table 2-2.

Norms developed by Ghiselli on each trait and the average score of AMP managers on each trait are given in Table 2-3. Of these norms, Ghiselli states that,

> "In order to make these percentile ranks, the norms, as meaningful as possible, the test was administered to 300 employed persons, 150 men and 150 women, who were chosen so as to form reasonably good approximations to representative

cross-sections of the adult male and female employed populations in the United States." (1971, p. 34)

TABLE 2-2

COEFFICIENTS OF CORRELATION BETWEEN THE SCORES OF MANAGERS, SUPERVISORS, AND WORKERS ON THE VARIOUS SDI SCALES AND THEIR JOB SUCCESS

	Managers	Supervisors	Workers
Supervisory ability	.46	.34	.10
Intelligence	.27	.06	.03
Initiative	.15	-.07	.02
Self-assurance	.19	.18	-.03
Decisiveness	.22	.15	.05
Masculinity-femininity	-.05	-.07	-.09
Maturity	-.03	.13	.02
Working class affinity	-.17	.07	-.03
Need for occupational achievement	.34	.08	.01
Need for self-actualization	.26	-.03	.05
Need for power over others	.03	.12	-.16
Need for high financial reward	-.18	-.05	-.10
Need for job security	-.30	-.05	-.11

Source: Edwin E. Ghiselli, Explorations in Managerial Talent (Pacific Palisades, California: Goodyear Publishing, 1971), p. 150.

TABLE 2-3

COMPARISON OF SCORES OF AMP RESPONDENTS WITH GHISELLI NORMS ON SDI TRAITS

Item	AMP Average	Norm*
Supervisory Ability	29.141	31.286
Intelligence	42.882	42.250
Initiative	34.957	34.000
Self-Assurance	28.901	29.500
Decisiveness	20.890	23.000
Masculinity-Femininity	15.075	15.765
Maturity	31.478	32.166
Working Class Affinity	14.369	15.125
Achievement Motivation	42.099	42.800
Need for Self-Actualization	11.327	10.800
Need for Power	11.577	11.333
Need for High Financial Reward	3.736	4.348
Need for Security	9.605	10.750

* Since percentiles associated with integer scores were given, linear interpolation was used to determine the fiftieth percentile.

Basis for Selection

Respondents were asked to identify the criteria used by their respective sponsors in choosing them for entry into the AMP. Criteria included were:

Random Selection
Promotion Potential
Need for Improvement of Deficiencies
Personal Request
Other (Please Specify)

Those respondents indicating that their respective sponsors still participated in the AMP were also asked to indicate whether there had been a change in this basis of selection used by the firm and, if so, to indicate the current basis of selection.

Satisfaction With Work

Satisfaction with work was gauged by a three item scale developed by Vroom (1960). The items are:

How well do you like your work?
How much of a chance does your job give you to do the things you are best at?
How good is your immediate superior in dealing with people?

Vroom reports an adjusted test-retest reliability coefficient of .75 for this instrument.

In the current study, the average inter-item correlation

was .598, with an internal scale reliability of .817.

Other Measures

In addition to those gauges previously discussed, the following measures were taken:

Personal Measures:

- Age
- Graduation Date from AMP
- Years in Firm
- Years in Position
- Major Field of Study for Bachelor's Degree

Situational Measures:

- Firm
- Industry
- Present Income
- Hierarchical Level at Time of Program Entry
- Current Hierarchical Level
- Area of Present Work Assignment
- Size of Current Firm Relative to Size of Sponsoring Firm

Criteria:

- Grade-Point Average in the AMP
- Number of Promotions Since Time of Program Entry
- Percent Salary Increase Since Time of Program Entry
- Perceived Value of the Advanced Management Club
- Perceived Activity of the Advanced Management Club
- Number of Firms Since Original

Degree of Change in Participation of Sponsor, and Causes for Change

Satisfaction With Specific Courses and Instructors

Other:

Perceived Changes in Bases of Selection Used by Sponsoring Firm

The Subjects

Questionnaires were sent to each of the 322 AMP graduates for whom addresses were available. Of these questionnaires, 8 were returned because of inadequate address. Of the 314 remaining, 176 were returned in time to be analyzed, yielding an overall response rate of 56.05%. Response rates are seen in Table 2-4 to vary by year of graduation from a low of 42.5% for 1967 to a high of 62.5% for 1969 graduates. While recent years may be slightly overrepresented, no consistent pattern of response rate over time is evident.

Respondents are shown in Table 2-5 to be predominantly at middle or upper current hierarchical levels. 85.8% report themselves to currently be at least in middle management, while 63.1% report that they were at least at the middle management level at the time of their entry into the AMP. Table 2-6 shows that 90.4% are currently earning in excess of $20000 annually. The average age at time of program entry is 36 years, with a current average age of 42 years.

TABLE 2-4

RESPONSE RATE BY YEAR OF GRADUATION

Year of Graduation	Number of Graduates With Addresses Reported	Number of Responses	Percent Response
1966	35	17	48.7
1967	33	14	42.5
1968	40	21	52.5
1969	48	30	62.5
1970	58	27	46.6
1971	52	32	61.5
1972	56	31	55.3
Not Reported		4	
Total	322	176	
Returned For Inadequate Address	8		
Revised Total	314	176	56.05

TABLE 2-5

HIERARCHICAL LEVEL OF RESPONDENTS

Hierarchical Level	At Time of Entry Into the Program		Current	
	Number	Percent	Number	Percent
President/Executive Officer	4	2.3	17	9.7
Vice President	14	7.9	25	14.2
Upper Management	25	14.2	43	24.4
Middle Management	68	38.7	66	37.5
Lower Management	44	25.0	15	8.5
First Line Management	16	9.1	4	2.3
Workers	2	1.1	1	0.6
No Response	3	1.7	5	2.8
Total	176	100.0	176	100.0

TABLE 2-6

CURRENT SALARY OF RESPONDENTS

Current Salary	Number	Percent
10000-15000	2	1.1
15001-20000	13	7.4
20001-25000	41	23.3
25001-30000	42	23.9
Over 30000	76	43.2
Not Reported	2	1.1
Total	176	100.0

Respondents have been in their respective firms an average of 13.3 years and in their current positions an average of 3.0 years. As shown in Table 2-7, 23.3% have experienced interorganizational mobility since they entered the program. Table 2-8 reveals that 73.3% have been promoted since the date of their entry into the program, with 41.5% having had two or more promotions.

TABLE 2-7

INTERORGANIZATIONAL MOBILITY OF RESPONDENTS

Number of Firms Since Original	Number of Respondents Reporting	Percent of Respondents Reporting
0	135	76.7
1	28	15.9
2	10	5.7
3	2	1.1
4	1	0.6
Total	176	100.0

TABLE 2-8

UPWARD MOBILITY OF RESPONDENTS

Number of Promotions	Number of Respondents Reporting	Percent of Respondents Reporting
0	47	26.7
1	56	31.8
2	49	27.8
3	11	6.3
4	2	1.1
5	1	0.6
6	2	1.1
Not Reported	8	4.6
Total	176	100.0

Table 2-9 shows that 15.9% of respondents report that they received no bachelor's degree. 22.2% have bachelor's degrees in business or economics, while a total of 50.5% earned bachelor's degrees in engineering, math, or the physical or biological sciences.

TABLE 2-9

ACADEMIC BACKGROUND OF RESPONDENTS

Area of Bachelor's Degree	Number	Percent
No Bachelor's	28	15.9
Business or Economics	39	22.2
Liberal Arts	12	6.8
Social Science	1	0.6
Engineering	82	46.5
Physical or Biological Science	4	2.3
Education	1	0.6
Mathematics	3	1.7
Other	5	2.8
No Response	1	0.6
Total	176	100.0

A total of 42.6% of the sample are shown in Table 2-10 to have identified themselves as being in such engineering-related work assignments as production, research and development, engineering, and data processing. Another 26.5% specified management, general management, administration, or a similar term in describing their current work assignment.

56% of respondents could be viewed as having an engineering background in terms of area of bachelor's degree and/or current work assignment.

Average program grade-point average reported is 3.524.

TABLE 2-10

PRESENT WORK ASSIGNMENT OF RESPONDENTS

Present Work Assignment	Number	Percent
Personnel	10	5.7
Production	22	12.5
Advertising	1	0.6
Marketing Research	1	0.6
Research & Development	27	15.3
Purchasing	6	3.4
Sales	20	11.3
Accounting & Finance	18	10.2
Data Processing	4	2.3
Engineering	22	12.5
Management	29	26.5
Other	14	8.0
No Response	2	1.1
Total	176	100.0

Respondents are seen in Table 2-11 to closely approximate scores of the population of AMP graduates in terms of grade-point average in the program, age at time of graduation, and percent from engineering background. Scores of the AMP population on these variables were taken from scattered program literature and are perhaps rough.

It seems clear that the auto industry is overrepresented in the sample. While the response rate among those in all industries other than auto was 47.21%, 81.48% of managers in the auto industry responded to the questionnaire.

TABLE 2-11

COMPARISON OF RESPONDENTS WITH ALL AMP GRADUATES

Variable	Respondents	All Graduates
Average GPA	3.524	3.50
Age at time of graduation	38	38
Percent from 'engineering background'	56	60
Percent from auto industry	37	26
Percent with no bachelor's degree	15.9	20.7

CHAPTER III

OVERALL PROGRAM IMPACT

In this chapter, various gauges of overall program impact are examined and respondents' suggestions for program improvement are summarized. In particular, the following measures are considered:

1. Attitudes toward the program in general for each graduating class.
2. Satisfaction with specific courses and instructors for each graduating class.
3. Changes in levels of satisfaction with specific courses and instructors between graduating classes and possible sources of those changes. Changes in basis of selection over time will be examined as one potential source.
4. Respondents' perceptions of changes in degree of participation of their sponsoring firms.
5. Respondents' suggestions for program improvement.
6. Annual percentage salary increase of respondents compared to national norms.

Attitudes Toward Program

Average scores on the satisfaction with program indices are presented, for each graduating class, in Table 3-1. Average levels of satisfaction with specific first-year courses, second-year courses, first-year instructors, and second-year instructors for each graduating class are reported in Tables 3-2, 3-3, 3-4, and 3-5, respectively. Satisfaction with specific courses is plotted, as a function of year of graduation, in Figures 3-1, 3-2, and 3-3.

On the seven items comprising the "General Positive Orientation Toward the AMP" scale, average scores on a scale of 1 (lowest) to 7 (highest) ranged from a high of 6.134 for the 1968 graduating class to a low of 5.322 for the 1972 graduating class. Thus, overall favorability of response to the program could be termed high for all classes.

Response to specific courses and instructors could also be deemed generally favorable. Examination of average level of satisfaction of each graduating class with each of the 12 courses (a total of 84 averages) shows 36 average satisfaction levels of 4.0 (satisfied) to 5.0 (extremely satisfied), 46 average levels between 3.0 (neither satisfied nor dissatisfied) and 4.0 (satisfied) and only two average levels below 3.0.

Variation in Satisfaction With Courses Between Graduating Classes

It is evident that in the case of almost all courses, substantial variation in satisfaction is reported between graduating classes. There are numerous potential sources of that variation. One possibility may be that bases of selection of participants could have changed over time, thereby altering the nature of human inputs to the program. Another likely cause would lie in changes in instructors. These possibilities will be considered in turn.

TABLE 3-1

SCORES ON SATISFACTION WITH PROGRAM INDICES FOR EACH GRADUATING CLASS

Year of Graduation	Index		
	General Positive Orientation Toward the AMP (Max. Score = 49)	Perceived Rigor (Max. Score = 21)	Perceived Objective Structure (Max. Score = 21)
1966	42.549	15.530	15.647
1967	42.314	15.229	17.083
1968	42.939	14.271	16.343
1969	40.430	14.370	16.580
1970	40.200	14.480	16.240
1971	39.581	13.787	15.387
1972	37.257	14.193	15.548

TABLE 3-2

SATISFACTION WITH SPECIFIC FIRST YEAR
COURSES FOR EACH GRADUATING CLASS
(MAX. SCORE = 5)

Year of Graduation	Managerial Accounting	Personnel & Human Relations	Mgt. Org. & Theory	Fin. Mgt.	Mktg. Mgt.	Decision Making Models
1966	3.765	3.647	3.647	4.412	4.176	3.294
1967	4.286	3.643	4.357	4.077	4.214	3.500
1968	4.211	4.263	3.611	4.053	3.842	3.105
1969	4.185	3.889	3.852	3.741	3.731	3.500
1970	4.318	3.364	3.864	3.591	4.273	3.143
1971	4.107	3.643	3.536	4.214	4.393	3.429
1972	4.172	4.000	3.483	4.172	3.172	2.786

TABLE 3-3

SATISFACTION WITH SPECIFIC SECOND YEAR COURSES FOR EACH GRADUATING CLASS (MAX. SCORE = 5)

Year of Graduation	Industrial Relations	The Amer. Economy	Mgrl. Econ.	Internat. Business	Admin. Policy	Problem Analysis
1966	3.294	4.235	4.188	4.000	4.067	3.933
1967	3.929	3.714	3.786	3.571	4.143	3.500
1968	3.842	4.368	4.263	4.526	4.368	3.895
1969	3.556	4.231	3.962	4.259	3.846	3.880
1970	3.143	4.318	3.818	4.182	4.050	3.455
1971	3.357	4.037	3.643	4.148	3.923	3.769
1972	3.724	4.345	3.966	2.759	4.143	3.714

TABLE 3-4

SATISFACTION WITH SPECIFIC FIRST YEAR INSTRUCTORS FOR EACH GRADUATING CLASS (MAX. SCORE = 5)

Year of Graduation	Managerial Accounting	Personnel & Human Relations	Mgt. Org. & Theory	Fin. Mgt.	Mktg. Mgt.	Decision Making Models
1966	3.824	3.529	3.412	4.647	4.235	3.294
1967	4.643	3.786	4.143	3.929	4.071	3.643
1968	3.737	4.579	3.632	3.895	3.526	2.947
1969	3.556	4.074	3.808	2.385	3.500	2.962
1970	3.818	3.318	3.952	2.364	3.714	3.136
1971	3.250	3.786	3.143	3.571	4.407	2.250
1972	4.133	3.833	3.500	3.433	2.600	3.069

TABLE 3-5

SATISFACTION WITH SPECIFIC SECOND YEAR INSTRUCTORS FOR EACH GRADUATING CLASS (MAX. SCORE = 5)

Year of Graduation	Industrial Relations	The Amer. Economy	Mgrl. Econ.	Internat. Business	Admin. Policy	Problem Analysis
1966	3.059	4.294	4.188	3.800	4.333	4.333
1967	4.000	3.643	3.786	3.857	3.929	3.615
1968	3.632	4.263	4.211	4.526	4.053	3.947
1969	3.148	4.423	4.038	4.481	3.769	3.720
1970	2.810	4.429	3.909	4.045	3.650	3.429
1971	2.741	3.778	3.571	4.429	3.615	3.577
1972	3.700	4.233	3.600	1.933	4.034	4.179

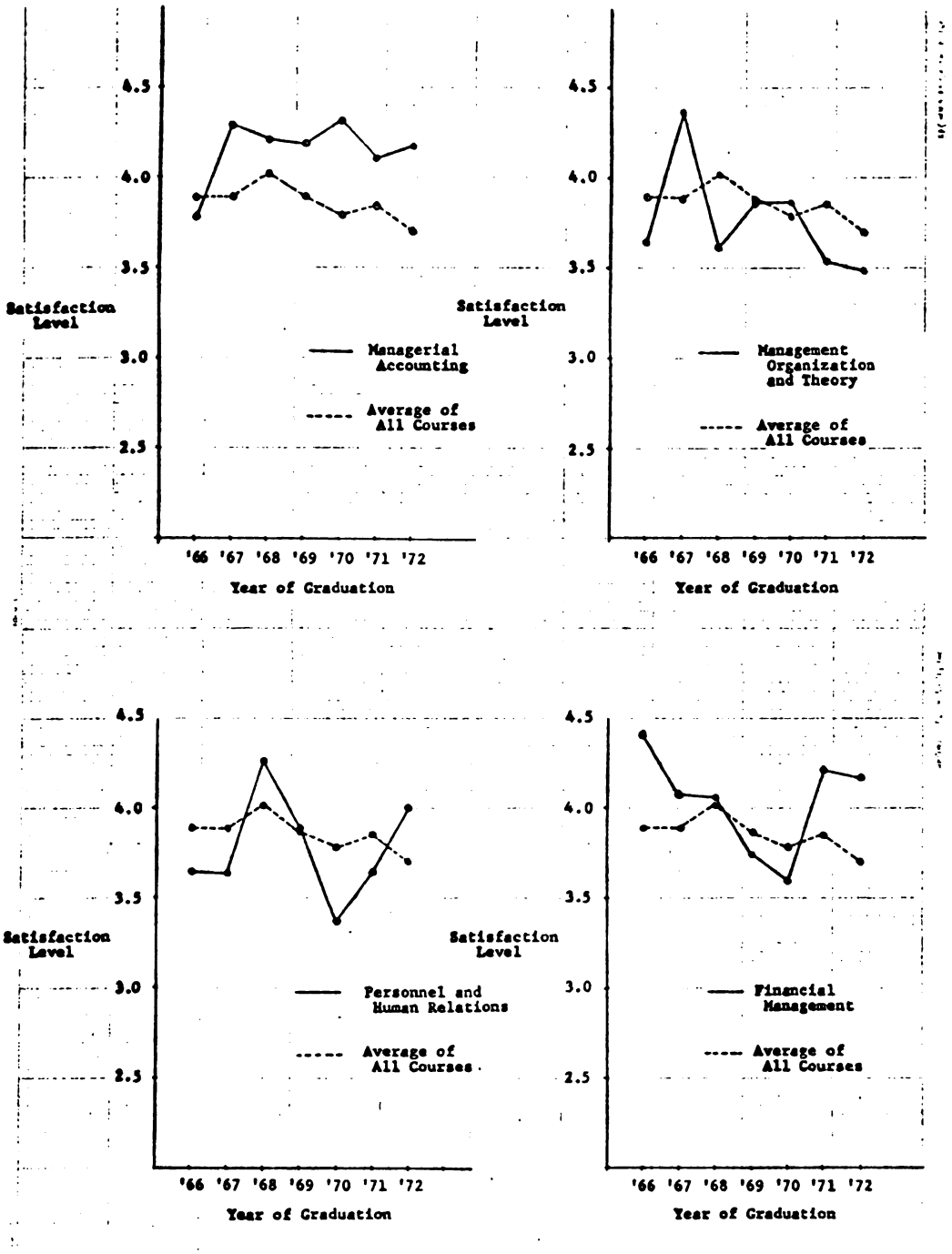

FIGURE 3-1

SATISFACTION WITH SPECIFIC COURSES
FOR EACH GRADUATING CLASS

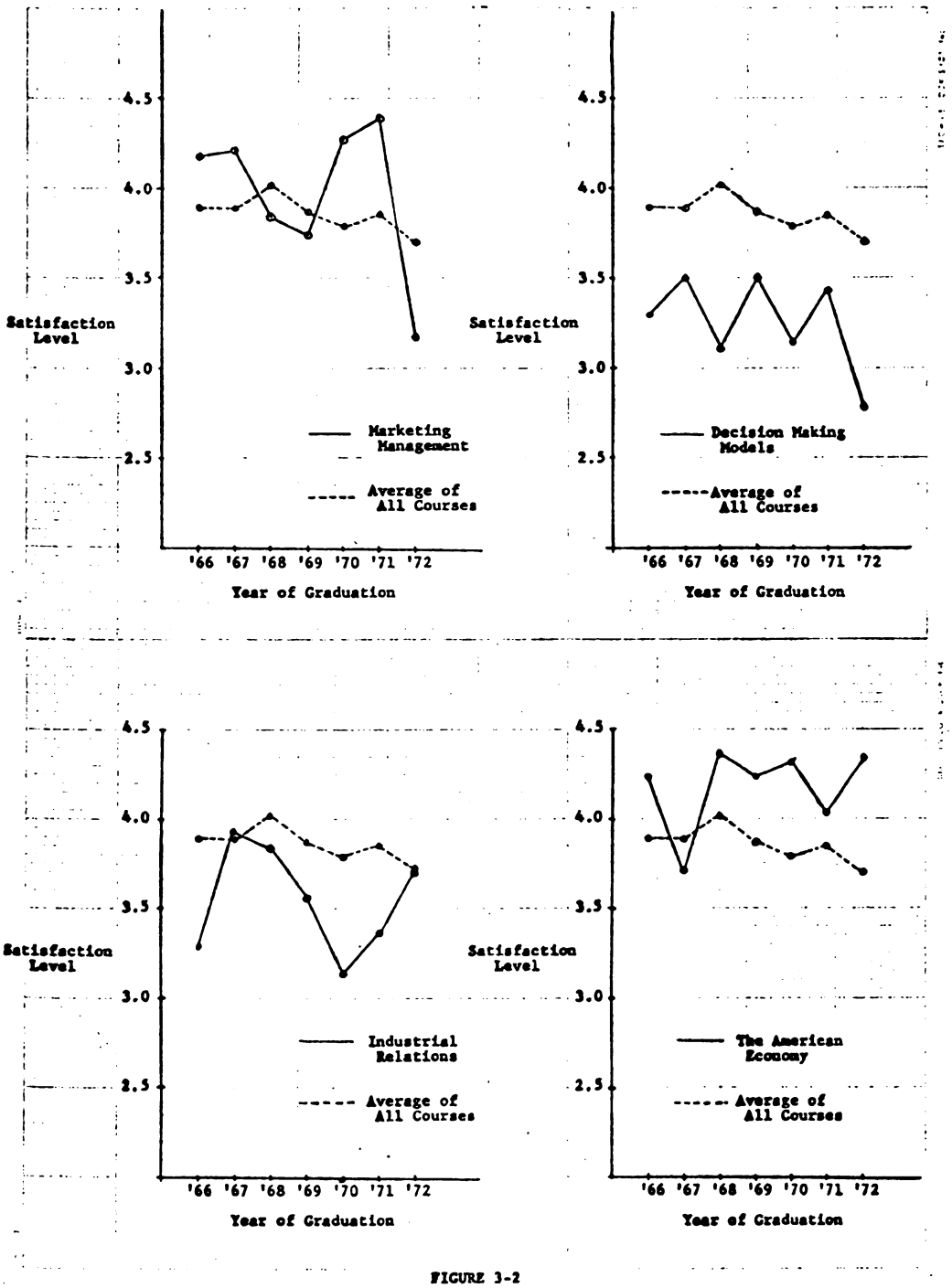

FIGURE 3-2

SATISFACTION WITH SPECIFIC COURSES
FOR EACH GRADUATING CLASS (CONT.)

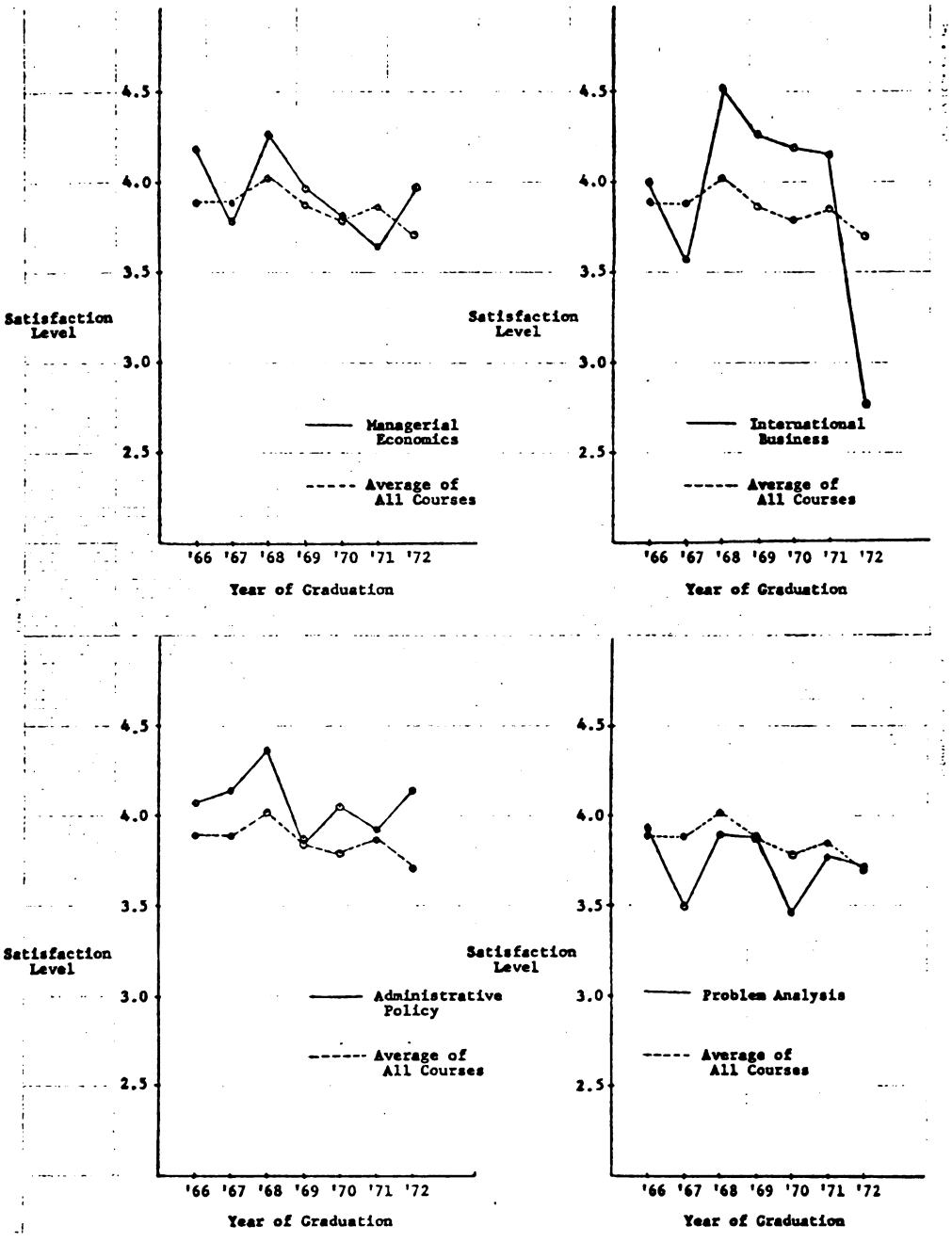

FIGURE 3-3

SATISFACTION WITH SPECIFIC CLASSES
FOR EACH GRADUATING CLASS (CONT.)

Changes in Basis for Selection

Two measures of changes in bases of selection were considered. First, an attempt was made to determine whether specific firms participating in the AMP were making systematic changes in their selection bases. Second, the data were examined to determine whether bases of selection actually reported by program entrants changed over time. Such a result would be possible, because of changes in the composition of participating firms, even though particular firms had continued prior selection policies.

Of 102 respondents reporting continued participation by their organizational sponsors, only 16 cited changes in bases for selection. Most of those 16 changes were in degree of emphasis on alternate criteria rather than complete substitution of criteria. Changes in bases of selection can be classified as shown in Table 3-6.

Of these 16 respondents, three were from a single firm. Two of these three noted more emphasis on promotion potential while the third cited the supplemental compensation roll requirement. Thus, nine firms were perceived to upgrade their criteria while five made perceived changes which could be termed downgrading. Little systematic difference in perceived bases for selection by particular firms is thus evident.

TABLE 3-6

RESPONDENTS' PERCEPTIONS OF CHANGES IN BASES OF SELECTION OF THEIR SPONSORING FIRMS

Nature of Change	Number
Upgrading	
More emphasis on promotion potential	7
Tighter control, more consideration of organizational needs	3
Upgrading total	10
Downgrading	
More emphasis on personal request	2
Moving down the organization	2
More emphasis on need for improvement	1
Downgrading total	5
Other	
All have to be on supplemental compensation roll	1
Total	16

Examination of the pattern of changes in reported basis of selection of program entrants over time, shown in Table 3-7 presents a somewhat different picture. In particular, it appears that following tight corporate control over selection of program entrants in the year of inception of the program, an increasingly greater percentage of entrants over the next few years had requested entry, peaking at 60% in 1969. Since that time, the trend appears to have reversed, with each year showing reductions in entry by personal request and corresponding increases in entry based on promotion potential.

Changes in Instructors

To examine the impact of instructors on course satisfaction, several relationships were examined. They include:

1. The correlation of average satisfaction with course to number of instructors for the course.
2. The correlation of range of satisfaction with course to number of instructors for the course.
3. The correlation of satisfaction with course instructor to satisfaction with course.
4. The correlation of change in satisfaction with the course from one year to the next with whether or not a change in instructor occurred over that period.
5. The correlation of absolute value of change in satisfaction with the course from one year to the next with whether or not a change in instructor occurred over that period.

TABLE 3-7

REPORTED BASIS FOR SELECTION

Basis For Selection	Year of Graduation															
	1966		1967		1968		1969		1970		1971		1972		Not Reported	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Promotion Potential	13	68.4	9	60.0	10	45.5	12	34.3	12	40.0	16	45.7	20	57.2	2	50.0
Personal Request	4	21.0	6	40.0	11	50.0	21	60.0	17	56.7	17	48.6	12	34.3	1	25.0
Other	2	10.6	0	0.0	1	4.5	2	5.7	1	3.3	2	5.7	2	5.7	0	0.0
Not Reported	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	2.8	1	25.0
Total*	19	100.0	15	100.0	22	100.0	35	100.0	30	100.0	35	100.0	35	100.0	4	100.0

* Total may exceed number of respondents due to multiple responses.

The correlation of average level of satisfaction with course to number of instructors for the course is -.265 (ns). This relationship is plotted in Figure 3-4. It should be noted that the consistently low satisfaction with one course, "Decision-Making Models," having four instructors over the period, accounts for this negative correlation. With that course deleted, the sign of the correlation is reversed (r = .178, ns).

Range of satisfaction with course was computed by subtracting the lowest annual level of satisfaction with course from the highest level. The correlation of range of satisfaction with course to number of instructors for the course is -.172. This relationship is plotted in Figure 3-5.

While no common instructor exists for the "Problem Analysis" course, the average correlation between satisfaction with course instructor and satisfaction with course for the other eleven courses is .650. This correlation is significant at the .05 level. Thus, 42.25% of variance in satisfaction with course is associated with variance in satisfaction with course instructor. Of course, no inference concerning direction of causality can be safely drawn on the basis of this correlation.

The correlation of change in average satisfaction with course to whether a change in instructor occurred is -.318. However, when the absolute value of change in satisfaction with course is correlated with change in instructor, a

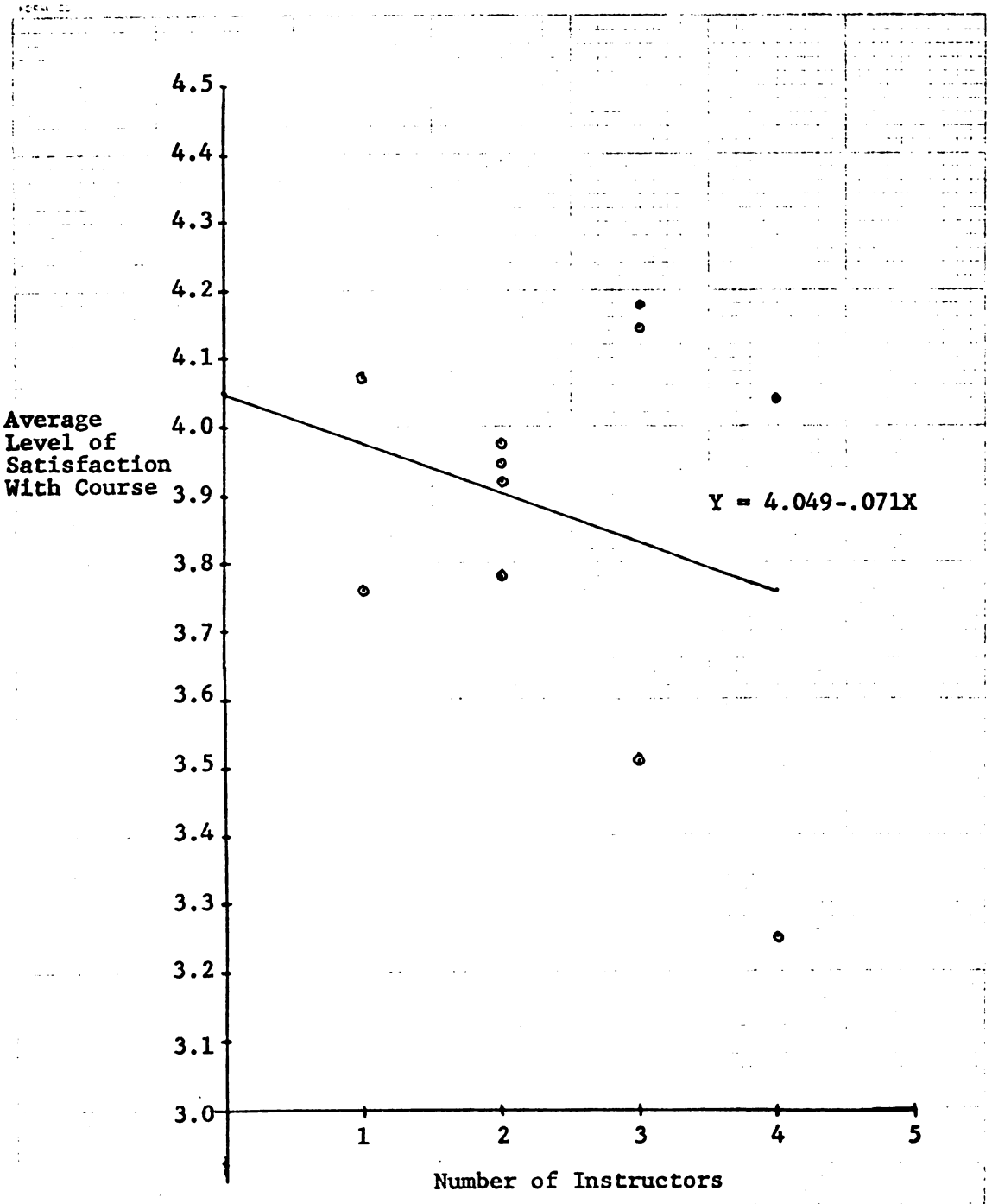

FIGURE 3-4

RELATIONSHIP OF AVERAGE LEVEL OF SATISFACTION WITH COURSE TO NUMBER OF INSTRUCTORS FOR COURSE

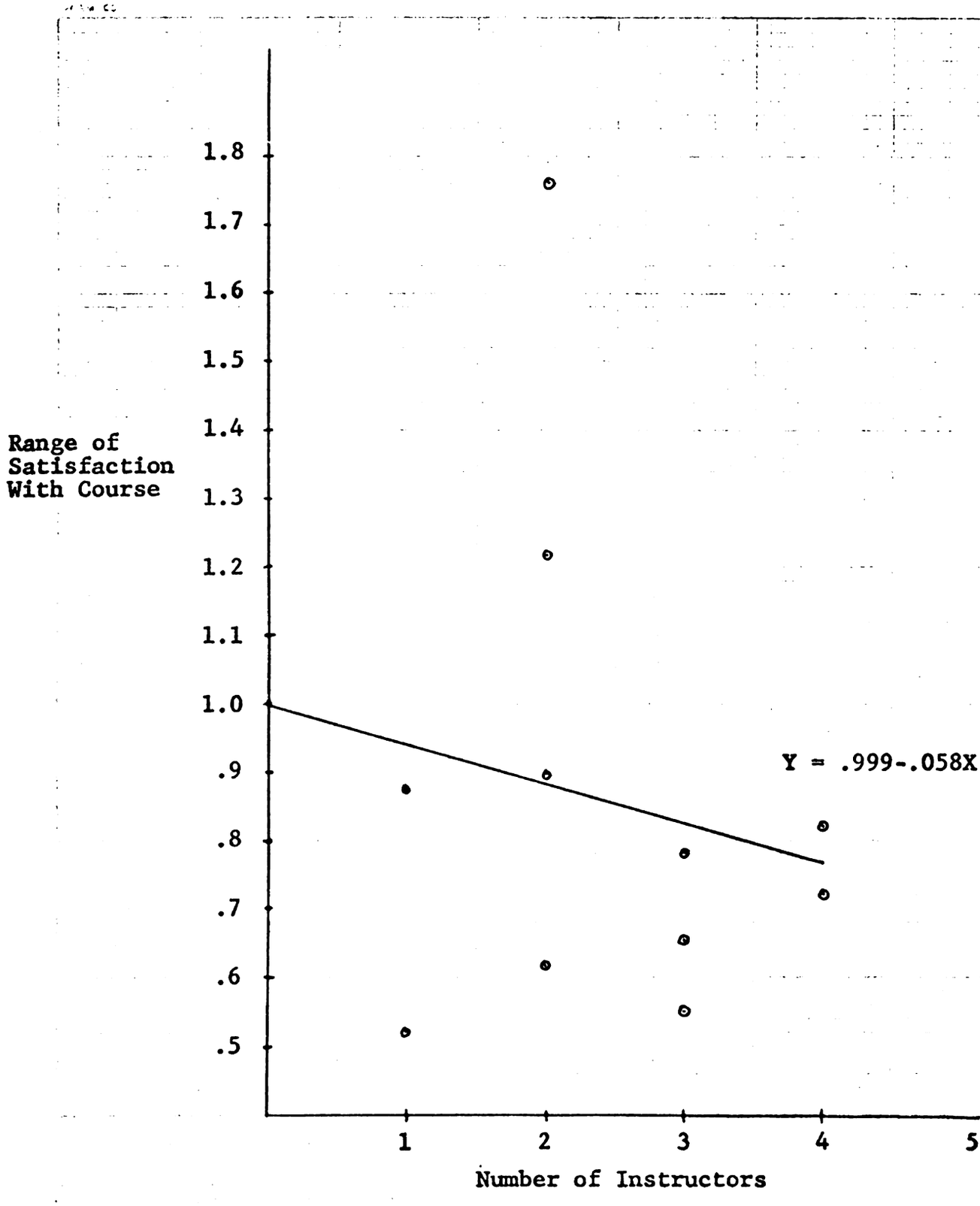

FIGURE 3-5

RELATIONSHIP OF RANGE OF SATISFACTION WITH COURSE TO NUMBER OF INSTRUCTORS FOR COURSE

correlation of .314 is attained. Thus, a change in instructor is accompanied by substantial variation in satisfaction with course, usually in the downward direction.

Examination of the raw data seems to indicate that repeated teaching of a course by the same instructor leads, in general, to enhanced satisfaction with course. A change in instructors then returns satisfaction to a lower level. Consequently, a rachet effect is evident. It should be noted, however, that a large portion of the observed variation in satisfaction with course can be attributed to large drops in satisfaction with two specific courses, both of which experienced a change of instructors, in the last year under examination. The cause of those drops would have to be more thoroughly explored before conclusions concerning the change of instructor - change in course satisfaction relationship could be firmly stated.

Perceived Changes in Participation of Sponsoring Firms

Table 3-8 presents respondents' perceptions of changes in degree of participation of their sponsoring firms.

Reasons for perceived termination of participation are presented in Table 3-9.

The great majority of terminations in participation appear to be by small firms in which suitable candidates are unavailable. Of 54 respondents reporting no current participation in the AMP by their sponsors, 32 (59.26%) gave as

TABLE 3-8

RESPONDENTS' PERCEPTIONS OF CHANGES OF PARTICIPATION OF SPONSORING FIRMS

Change in Participation	Number	Percentage
Decreased	13	7.39
Unchanged	78	44.32
Increased	13	7.39
Terminated	54	30.68
Not Reported	18	10.22
Total	176	100.00

TABLE 3-9

REASONS FOR TERMINATION OF PARTICIPATION

Cause of Termination	Number of Times Cited	Percentage of Citations (n = 54)
Lack of qualified, interested candidates	32	59.26
Turnover of past graduates	3	5.56
Dissatisfaction	11	20.37
Geographic distance	5	9.26
More specialized knowledge desired	2	3.70
In-house program started	1	1.85
Total	54	100.00

the reason small size of firm or lack of qualified or interested candidates, or indicated that their entry was on a one-time-only, personal request basis.

Five (9.26%) cited inconvenient geographic location as the reason for termination of participation. In eleven instances (20.3%), dissatisfaction with program value on the part of relevant decision makers in the firm were cited as the cause of termination. In four of these eleven cases, the respondent noted that he disagreed with the termination decision. Three of the eleven instances of dissatisfaction are by individuals in a single firm.

Of the remaining reasons for termination, two related to the fact that knowledge of a type not presented in the AMP was required in the industry (in both instances, banking). Finally, it was reported that one sponsor has started an in-house program.

Of thirteen graduates reporting participation increases, five are from a single firm.

While the majority of respondents of another firm perceive no change in participation and one perceives an increase, four perceived decreases. One respondent of that firm, further, reports that his firm no longer participates, stating that, "Work load is excessive - I recommend they send lower level employees who have more time."

It should perhaps again be stressed that evidences of displeasure appear to be concentrated in respondents of just

a few firms. For example, in another single firm four respondents reported decreased participation and three reported that participation has been terminated. Reasons given for termination of participation included, "Return on investment of $3000 tuition did not justify this expenditure," "insufficient candidates in Detroit area: new president questions payoff of such a course" and "poor reports by some participants."

Salary Increase of AMP Graduates Relative to that of Other Managers

To allow a rough check on salary increases of AMP graduates relative to those of other managers, data on national averages of annual salary increases of managers over time was sought.

While data aggregated over a number of years was available for the "Managers, Officials, and Proprietors, except Farm" category, comparable data on a year-by-year basis could not be isolated. It was therefore necessary to utilize for purposes of this comparison annual data on "White Collar Occupations - Professional, Administrative, and Technical Support" (Keller, 1972). Unfortunately, this data includes nonmanagerial personnel and therefore must be considered a rather crude yardstick.

To permit comparison of reported salary increases of AMP graduates with these "white collar" norms, annual percent salary increases of the "white collar" group were

compounded to the present. For each annual interval, Table 3-10 presents reported annual percent salary increases of the "white collar" group, the percent salary increase for that group compounded from the given year to the present, and average percent salary increase reported by the AMP group entering at the beginning of the given period.

TABLE 3-10

COMPARISON OF REPORTED SALARY INCREASES OF AMP GRADUATES WITH "WHITE COLLAR" NORMS

Period	Percent Salary Increase of "White Collar" Group for the Specified Period	Percent Salary Increase of "White Collar" Group Compounded to March '73	Average Percent Salary Increase Reported by AMP Class Entering at Beginning of Period
1964-65	3.4	54.75	37.35
1965-66	3.4	49.66	44.29
1966-67	4.2	44.74	37.38
1967-68	5.5	38.91	38.70
1968-69	5.8	31.67	38.08
1969-70	6.2	24.45	34.68
1970-71	6.7	17.18	29.19
1971-72	5.5	10.98	***
1972-Mar. 73	4.1	4.10	***

*** Group has not graduated and was not included in study

Further, the percent salary increase reported by each AMP respondent was compared with the compounded growth in salary of the "white collar" group over the period since the time of program entry of the given manager. The magnitude and direction of difference was determined. Since the scale of salary increases which was used had "over 50%" as its top level, and since compounded growth in average earnings of the "white collar" group from 1964 to the present exceeds 50%, comparison was not feasible for those individuals graduating in 1966 and reporting salary increases exceeding 50%. Results of the salary comparison are given in Table 3-11.

TABLE 3-11

COMPARISON OF REPORTED SALARY INCREASES OF AMP GRADUATES WITH "WHITE COLLAR" NORMS - 2

Excess of Reported Salary Increases of AMP Graduates Over "White Collar" Norm	Number
45.00%	0
30.00 to 45.00%	14
15.00 to 29.99%	38
0.00 to 14.99%	42
-15.00 to - 0.01%	36
-30.00 to -15.01%	16
-45.00 to -30.01%	9
-45.00%	4
No Comparison Possible	8
Total Responding to Items*	167

* To allow comparison, it was necessary that the respondent report both his salary increase and his graduation date

Of the 167 individuals for whom both salary increase and graduation date were reported, 94 reported salary increases exceeding the compounded average increase for the "white collar" group, while 65 reported increases below the corresponding average. The average salary increase for responding AMP graduates exceeded the average for the specified group by 1.28% annually. For eight individuals, graduating in 1964 and reporting salary increases in excess of 50%, comparison was not possible.

This comparison would seem to suggest that AMP managers have received above average salary increases subsequent to graduation. A more thorough analysis would, however, require the comparison of salary increases of each respondent with the average of those of managers at similar levels in similar industries. Further, the possibility of upward bias in reported salary increase of AMP graduates cannot be entirely discounted.

Suggestions for Program Improvement

Thirty-nine managers, or about 22% of respondents, made suggestions for program improvement. Suggestions could be classified into five categories: content revision, continuing education, entrance requirements, instructor efficiency, and instructor attitudes. The number of suggestions by category are shown in Table 3-12.

TABLE 3-12

SUGGESTIONS FOR PROGRAM IMPROVEMENT

Category	Number of Comments
Content Revision	23
Continuing Education	4
Entrance Requirements	6
Instructor Efficiency	3
Instructor Attitude	9
Total*	45

* Suggestions do not total 39 due to multiple responses

Those suggestions relating to content revision could be further subclassified as shown in Table 3-13.

TABLE 3-13

SUGGESTIONS FOR REVISION OF PROGRAM CONTENT

Suggestion	Number
More practical orientation	6
More intensive & practical statistical and computer emphasis	7
More case analysis	5
More opportunity for group discussion	1
More emphasis on small business problems	1
More material relevant to lower hierarchical levels	1
Elimination of busy work (Thesis, long readings)	4
Total*	25

* Suggestions do not total 23 due to comments containing multiple suggestions

Of those respondents desiring continuation of the program beyond the MBA, two suggested that Saturday seminars or other activities be conducted on the East Lansing campus, one suggested an annual dinner with a major speaker, and one simply suggested that a continued program for advanced studies be instituted.

Some concern was evident relating to possible decline in quality of incoming students. Comments included, "Level of student qualifications could be higher," "keep new students on the basis of the original concept - 10 years or more in business or industry after the undergraduate," "continuing concentration on entry requirements to maintain quality of 'student input.'"

Three individuals suggested that instructors should make better use of visual aids and better organize course material.

Much dissatisfaction appeared to stem from perceptions of respondents that instructors tended to "treat the students like they were 18 year olds on campus" and to generally ignore their qualifications and experience. In several instances, respondents appeared to feel that ego needs of professors caused the professors to become defensive and to discourage student feedback, thereby engendering student resentment.

A complete listing of suggestions for program improvement, by categories, is presented in Appendix D.

Summary

Overall attitudinal response both to specific courses and to the program in general was seen to be high for all graduating classes.

Variation in satisfaction with specific courses between graduating classes was examined and was related both to changes in bases of selection and to changes in instructors. Little change in bases of selection over time was evident. Changes in instructors were usually associated with declines in satisfaction with course.

Few terminations of firm participation for reasons other than firm size and resultant lack of qualified candidates were evident.

Salary increases of AMP graduates were found to compare favorably with those of "white collar" employees in general.

Suggestions for program improvement were examined and classified. Only 22% of respondents made suggestions for program improvement. The majority of suggestions for improvement focused on revision of content, though entrance requirements, instructor efficiency, instructor attitude, and continuing education were also mentioned. While several types of content revision were suggested, those cited most frequently were desire for more practical orientation, more case analyses, and more computer and statistical emphasis.

CHAPTER IV

CORRELATES OF ATTITUDES TOWARD THE ADVANCED MANAGEMENT PROGRAM

This chapter considers correlates of attitudes toward the Advanced Management Program. Correlations with other dependent variables, situational correlates, and personal correlates of general positive orientation toward the AMP, of perceived program rigor, and of perceived objective structure are examined.

Correlates of Attitudes Toward Program

General Positive Orientation Toward Program

Personal Correlates. Personal correlates of positive orientation toward the program are presented in Table 4-1. Positive orientation is significantly correlated with the measure of satisfaction with company ($r = .249$, $p < .01$) as well as with each of the components of that scale, liking of work ($r = .276$, $p < .01$), opportunity to use valued skills ($r = .211$, $p < .01$) and leader's ability to deal with people ($r = .164$, $p < .05$). These figures are thus consistent with the bulk of previous research.

TABLE 4-1

PERSONAL CORRELATES OF GENERAL POSITIVE ORIENTATION TOWARD AMP

Variable	n	Correlation
Year of Graduation	163	-.333**
Cosmopolitanism	165	.205**
Supervisory Ability	159	.206**
Initiative	158	.148
Achievement Motivation	157	.185*
Need for Security	158	-.186*
Satisfaction with Work	164	.249**

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

General positive orientation toward the AMP is related positively to supervisory ability ($r = .206$, $p < .01$) and achievement motivation ($r = .185$, $p < .05$) and is negatively related to need for security ($r = -.186$, $p < .05$).

General positive orientation toward the program and cosmopolitanism are positively related ($r = .205$, $p < .05$).

Situational Correlates. Table 4-2 gives situational correlates of positive orientation toward program. Current hierarchical level of respondents is positively related to general positive orientation toward the program ($r = .181$, $p < .05$).

TABLE 4-2

SITUATIONAL CORRELATES OF GENERAL POSITIVE ORIENTATION TOWARD AMP

Variable	n	Correlation
Current Hierarchical Level	162	.181*
Present Income	164	.115
Firm Income Volatility	99	.220*
Firm Technological Volatility	99	-.091

* Significant at .05 level, two tailed

The only other significant situational correlate of general positive orientation toward the program is firm income volatility ($r = .220$, $p < .05$).

Correlations with other dependent variables. These correlations are shown in Table 4-3.

TABLE 4-3

CORRELATIONS OF GENERAL POSITIVE ORIENTATION TOWARD AMP WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Perceived Increase in Participation by Sponsoring Firm	97	.240*
Annual Interorganization Mobility	162	.059
Annual Promotions	158	.113
Annual Percent Salary Increase	163	-.057

* Significant at .05 level, two-tailed

Both percent salary increase ($r = .193$, $p < .05$) and raw number of promotions ($r = .232$, $p < .01$) are positively related to positive orientation. However, positive orientation toward program is negatively related to year of graduation ($r = -.333$, $p < .01$). With the influence of graduating date removed, the partial correlations of positive orientation to annual percent salary increase ($r = .181$, $p < .05$) and to annual number of promotions ($r = .178$, $p < .05$) remain significant.

While there is no relationship between positive orientation and annual interorganizational mobility ($r = .059$, ns), the data nevertheless do suggest that satisfaction with the program is related to feelings of ability to successfully change jobs. This is evidenced by the significant correlations of positive orientation with the two cosmopolitanism items dealing directly with the issue of ability to seek or obtain employment elsewhere ($r = .231$, $p < .01$ and $r = .205$, $p < .05$).

Positive orientation is positively related to the respondent's perception that the firm in which he was employed at the time of his entry into the AMP has increased participation in the program ($r = .240$, $p < .05$).

Perceived Program Rigor

Personal Correlates. Table 4-4 shows personal correlates of perceived rigor. Perceived rigor is negatively related to the intelligence measure ($r = -.195$, $p < .05$).

TABLE 4-4

PERSONAL CORRELATES OF PERCEIVED PROGRAM RIGOR

Variable	n	Correlation
Satisfaction With Work	164	.090
Year of Graduation	163	-.152
Intelligence	157	-.195*
Need for Self Actualization	158	-.146

* Significant at .05 level, two-tailed

Situational Correlates. Situational correlates of perceived program rigor are presented in Table 4-5.

TABLE 4-5

SITUATIONAL CORRELATES OF PERCEIVED PROGRAM RIGOR

Variable	n	Correlation
Present Income	164	.179*
Firm Income Volatility	100	.180
Firm Technological Volatility	100	-.133

* Significant at .05 level, two-tailed

Perceived rigor is significantly related to present income level ($r = .179$, $p < .05$). Since date of graduation is related to present income level ($r = -.227$, $p < .01$) and is negatively correlated with perceived rigor ($r = -.152$, ns),

a partial correlation of perceived rigor to present income was run with effects of graduation date partialled out and revealed an insignificant relationship (r = .150, ns).

The highest correlation, that with firm income volatility, was not significant (r = .180, ns).

Correlations with other dependent variables. These correlations are presented in Table 4-6.

TABLE 4-6

CORRELATIONS OF PERCEIVED PROGRAM RIGOR WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Annual Interorganizational Mobility	162	.074
Annual Number of Promotions	158	.081
Annual Percent Salary Increase	163	.010
Increase in Participation by Sponsor	98	.108

No relationships are evident between perceived rigor and any of the other dependent variables.

Perceived Objective Structure

Personal Correlates. Table 4-7 gives personal correlates of perceived objective structure.

TABLE 4-7

PERSONAL CORRELATES OF PERCEIVED OBJECTIVE STRUCTURE

Variable	n	Correlation
Satisfaction with Work	165	.195*
Year of Graduation	164	-.128
Cosmopolitanism	166	.164*
Supervisory Ability	160	.239**
Decisiveness	160	.141
Masculinity-Femininity	158	-.150
Maturity	158	-.174*
Achievement Motivation	158	.155

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Perceived objective structure is positively related to cosmopolitanism ($r = .164$, $p < .05$), supervisory ability ($r = .239$, $p < .01$) and satisfaction with work ($r = .195$, $p < .05$) and negatively related to maturity ($r = -.174$, $p < .05$).

Situational Correlates. Situational correlates of perceived objective structure are shown in Table 4-8.

TABLE 4-8

SITUATIONAL CORRELATES OF PERCEIVED OBJECTIVE STRUCTURE

Variable	n	Correlation
Current Hierarchical Level	163	.141
Present Income	165	.138
Firm Income Volatility	100	.113
Firm Technological Volatility	100	-.226*

* Significant at .05 level, two-tailed

Firm technological volatility is the only significant situational correlate of perceived objective structure ($r = -.226$, $p < .05$).

Correlations with other dependent variables. These correlations are presented in Table 4-9.

TABLE 4-9

CORRELATIONS OF PERCEIVED OBJECTIVE STRUCTURE WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Annual Interorganizational Mobility	163	.134
Annual Number of Promotions	159	.077
Annual Percent Salary Increase	164	.076
Increase in Participation by Sponsor	98	.243*

* Significant at .05 level, two-tailed

Perceived objective structure is positively related to perceived increase in participation in the AMP on the part of the respondent's sponsoring firm ($r = .243$, $p < .05$).

Summary

Correlates of "General Positive Orientation Toward Program" (GPO), "Perceived Program Rigor," and "Perceived Objective Structure" were considered.

Significant positive correlates of GPO included cosmopolitanism, supervisory ability, achievement motivation, and satisfaction with work, while the relationship of GPO to need for security was significantly negative. GPO was also found to be positively related to current hierarchical level, firm income volatility and perceived increase in participation of sponsoring firm.

Perceived program rigor was found to be significantly negatively related to intelligence and positively related to present income level.

Significant positive correlates of perceived objective structure were found to include satisfaction with work, cosmopolitanism, supervisory ability, and perceived increase in participation of sponsoring firm. Negative correlates were maturity and firm technological volatility.

CHAPTER V

CORRELATES OF SUCCESS IN AMP AND OF CAREER ACTIVITY

This chapter considers correlates of success in the program, as measured by grade-point average, and of career activity subsequent to program entry, as measured by annual percentage salary increase, annual number of promotions, and annual interorganizational mobility.

These correlates should be interesting in themselves and will be useful in subsequent considerations of two other issues:

1. How do correlates of success in the program compare with those of the gauges of career activity?
2. How do correlates of success in the program and of the career activity measures compare with those of positive orientation toward the Advanced Management Program?

The size of the correlation matrix precludes presentation of all correlations. Consequently, only those which are statistically significant or are of particular interest will be discussed.

A caveat is in order in examining any of the following correlation matrices. Since a total of about 30 variables

(including the 13 Ghiselli traits and six volatility indices) were considered as potential correlates, a finding of 1.5 correlations significant at the .05 level would be expected by simple chance occurrence. Consequently, it will be necessary to temper enthusiasm in response to the regular finding of significant correlates with such a realization.

Grade-Point Average

Personal Correlates

Personal correlates of GPA are presented in Table 5-1.

TABLE 5-1

PERSONAL CORRELATES OF GRADE-POINT AVERAGE

Variable	n	Correlation
Self Assurance	152	.134
Decisiveness	154	-.147
Initiative	153	-.087
Need for High Financial Reward	154	.157
Satisfaction With Work	157	-.028
Entry Into Program by Personal Request	159	-.143

No significant personal correlates were found. Highest correlations are with decisiveness (r = -.147, ns) and need for high financial reward (r = .157, ns).

Situational Correlates

Table 5-2 presents situational correlates of GPA.

TABLE 5-2

SITUATIONAL CORRELATES OF GRADE-POINT AVERAGE

Variable	n	Correlation
Income Level	159	.156*
Year of Graduation	157	.110
Firm Size	158	.150
Original Hierarchical Level	158	-.063
Current Hierarchical Level	156	-.136
Industry Income Volatility	124	-.059
Industry Market Volatility	124	-.145
Industry Technological Volatility	124	-.156
Firm Income Volatility	97	-.160
Firm Market Volatility	97	-.197
Firm Technological Volatility	97	-.128

* Significant at .05 level, two-tailed

Current income level is the only significant situational correlate of GPA ($r = .156$, $p < .05$). The correlation of grade-point to firm size is positive but insignificant ($r = .150$, ns). Current hierarchical level, hierarchical level at time of entry into the AMP, and all volatility indices show negative but insignificant correlations with GPA.

Correlations with Other Dependent Variables

Correlations of GPA with other dependent variables are shown in Table 5-3.

TABLE 5-3

CORRELATIONS OF GRADE-POINT AVERAGE WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Continuance of Entry by Sponsor	156	-.254*
Annual Interorganizational Mobility	156	-.220*
Annual Number of Promotions	152	-.012
Annual Percent Salary Increase	157	.100
General Positive Orientation Toward Advanced Management Program	156	.046
Perceived Objective Structure of AMP	156	.141
Perceived Fairness of Grading of AMP	158	.212*

* Significant at .05 level, two-tailed

Grade-point is not related to salary increase ($r = .100$, ns), annual promotions ($r = -.012$, ns), or general positive orientation toward the AMP ($r = .046$, ns). Interorganizational mobility and grade-point average are negatively related ($r = -.220$, $p < .05$), as are GPA and perceived continuation of participation in the AMP of the sponsoring firm of the respondent ($r = -.254$, $p < .05$). While the overall "objective structure" scale is not related to GPA ($r = .141$,

ns), the "perceived fairness in grading" item is positively related to grade-point average ($r = .212$, $p < .05$).

This relative dearth of significant relationships of GPA to other variables could be due to any of several factors. One possibility which cannot be ignored is restriction of range. None of the managers successfully completing the program achieved grade-points below 3.0. The mean reported GPA was 3.52 with a standard deviation of .29.

To examine the degree and nature of the relationship between GPA and selected variables, multiple regression was used. GPA was treated as the dependent variable, with age, initiative, supervisory ability, self-assurance, and firm size as independent variables. Results of the analysis are presented in Table E-1. An insignificant multiple correlation coefficient of .235 was attained, indicating that only 5.5% of the variance in reported GPA is associated with variance in the independent variables considered. Findings relating to individual variables are similar to those revealed by the single correlations.

Annual Percent Salary Increase

It may be recalled that percent salary increase was converted to an annual basis since earlier graduates would be expected to experience greater cumulative salary increase. Such a relationship between graduation date and cumulative percent salary increase is in fact evident in the data

($r = -.183$, $p < .05$). To consider correlates of raw salary increases would consequently have the effect of introducing potentially spurious correlations. Conversion of percent salary increase to an annual basis does not appear, however, to adequately resolve this difficulty. That is, annual percent salary increase is positively related to year of graduation ($r = .578$, $p < .01$). Consequently, major discrepancies between correlations of annual percent salary increase and of overall percent salary increase with variables under consideration will be noted and correlations of those variables with graduation date will be partialled out.

Personal Correlates

Personal correlates of annual percent salary increase are presented in Table 5-4.

Annual percent salary increase is negatively related to age of respondent ($r = -.396$, $p < .01$), years with firm ($r = -.203$, $p < .05$) and years in position ($r = -.172$, $p < .05$). Similarly, though on average deflated, correlations are evidenced between total percent salary increase and each of these variables.

Consistent with expectations, annual percent salary increase is positively related to self-assurance ($r = .172$, $p < .05$) and to need for power ($r = .198$, $p < .05$). Correlations with supervisory ability ($r = .081$, ns), decisiveness ($r = .100$, ns), and achievement motivation ($r = .133$, ns) were positive but not significant. When total, rather than

annual, percent salary increase is considered, the relationships with each of these variables--except need for power--are significant. With graduation date partialled out, annual percent salary increase is positively related to self-assurance ($r = .170$, $p < .05$), decisiveness ($r = .159$, $p < .05$), and achievement motivation ($r = .223$, $p < .01$), while correlations with need for power ($r = .156$, ns) and supervisory ability ($r = .153$, ns) are not significant. As expected, satisfaction with work and annual percent salary increase are positively related ($r = .226$, $p < .01$).

TABLE 5-4

PERSONAL CORRELATES OF ANNUAL PERCENT SALARY INCREASE

Variable	n	Correlation
Year of Graduation	168	.578**
Age	161	-.396**
Years in Firm	161	-.203*
Years in Position	161	-.172*
Supervisory Ability	160	.081
Self Assurance	158	.172*
Decisiveness	160	.100
Achievement Motivation	158	.133
Need for Power	160	.198*
Satisfaction with Work	166	.226**

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Situational Correlates

Table 5-5 presents situational correlates of annual percent salary increase.

TABLE 5-5

SITUATIONAL CORRELATES OF ANNUAL PERCENT SALARY INCREASE

Variable	n	Correlation
Income Level	167	.024
Original Hierarchical Level	167	-.144
Current Hierarchical Level	165	.106
Industry Income Volatility	131	.135
Firm Income Volatility	100	.191

Annual percent salary increase is not significantly related to any of the situational correlates considered. The highest correlation is to firm income volatility ($r = .191$, ns).

Correlations With Other Dependent Variables

Correlations of annual percent salary increase with other dependent variables are shown in Table 5-6.

TABLE 5-6

CORRELATIONS OF ANNUAL PERCENT SALARY INCREASE WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Perceived Value of AMP Club	160	-.171*
Annual Promotions	167	.444**
Annual Interorganizational Mobility	163	.072
General Positive Orientation Toward Advanced Management Program	163	-.057
Perceived Program Rigor	163	.010
Perceived Program Objective Structure	164	.076

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Not surprisingly, annual number of promotions and annual percent salary increase are positively related ($r = .226$, $p < .01$).

It would seem reasonable that those individuals experiencing high salary increases subsequent to entry into the AMP would harbor favorable attitudes toward the program, perhaps attributing a portion of their economic success to the AMP. Correlations of annual percent salary increase to general positive orientation toward the AMP ($r = -.057$, ns), perceived program rigor ($r = -.010$, ns), and perceived program objective structure ($r = .076$, ns) are, however, all insignificant. It appears, though, that the decrease in satisfaction with program between successive graduating

classes and the overweighting of recent classes due to the coversion of percent salary increase to an annual basis may be deflating the above correlations. Correlations of total salary increase to positive orientation ($r = .193$, $p < .05$), perceived rigor ($r = .146$, ns), and perceived objective structure ($r = .233$, $p < .01$) are all higher. Partialling out the effects of date of graduation results in significant relationships between annual percent salary increase and both positive orientation toward the program ($r = .181$, $p < .05$), and perceived objective structure ($r = .188$, $p < .05$), but not with perceived rigor ($r = .098$, ns).

Annual percent salary increase is negatively related to satisfaction with the Advanced Management Club ($r = -.171$, $p < .05$). This relationship is not evident when total percent salary increase is considered ($r = -.061$, ns).

Annual percent salary increase is not related to annual interorganizational mobility ($r = .072$, ns).

Multiple regression analysis was used to examine the relationship between annual percent salary increase as the dependent variable and achievement motivation, need for power, grade-point average, firm size and original hierarchical level as independent variables. Results of that analysis are presented in Table E-2. A multiple correlation of .305 ($p < .05$) was attained, indicating that 9.30% of variance in annual percent salary increase is associated with variance in the independent variables. Coefficients of

independent variables are consistent with those revealed by the simple correlations.

Annual Number of Promotions

Since, as noted previously, annual percent salary increase and annual number of promotions are highly correlated and yield a similar pattern of relationships with almost all variables under consideration, extended discussion of those relationships would be essentially redundant. As with percent salary increase, it is apparent that conversion of number of promotions to an annual basis leads to a positive correlation between this annual figure and year of graduation, though in this case it is insignificant ($r = .148$, ns).

Personal correlates of annual number of promotions, situational correlates of annual number of promotions, and correlations of annual number of promotions with other dependent variables are presented in Tables 5-7, 5-8, and 5-9, respectively.

While considerable invitation to perceptual bias may exist in the decision of whether a job change was in fact a promotion, the markedly similar relationships of annual percent salary increase and of annual number of promotions to other measures suggest that such perceptual distortion, if it exists, is not overwhelming.

TABLE 5-7

PERSONAL CORRELATES OF ANNUAL NUMBER OF PROMOTIONS

Variable	n	Correlation
Year of Graduation	163	.148
Age	156	-.284**
Years in Firm	156	-.206**
Years in Position	156	-.308**
Initiative	154	.172*
Self Assurance	153	.200*
Decisiveness	155	.259**
Achievement Motivation	153	.134
Need for Self Actualization	154	.191*
Need for Security	154	-.181*
Satisfaction With Work	161	.262**

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

TABLE 5-8

SITUATIONAL CORRELATES OF ANNUAL NUMBER OF PROMOTIONS

Variable	n	Correlation
Original Hierarchical Level	162	-.260**
Current Hierarchical Level	160	.129
Firm Market Volatility	100	.168

** Significant at .01 level, two-tailed

TABLE 5-9

CORRELATIONS OF ANNUAL NUMBER OF PROMOTIONS WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Annual Interorganizational Mobility	162	.181*
Annual Salary Increase	163	.444**

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Multiple regression analysis was used to treat annual number of promotions as the dependent variable and need for self-actualization, supervisory ability, GPA, firm size, and original hierarchical level as independent variables. Results are presented in Table E-3. A multiple correlation coefficient of .340 ($p < .01$) was attained, indicating that 11.56% of variance in annual number of promotions is associated with variance in the independent variables. Individual coefficients were similar to those of the simple correlations.

Interorganizational Job Mobility

Personal Correlates

Personal correlates of interorganizational mobility are presented in Table 5-10.

TABLE 5-10

PERSONAL CORRELATES OF ANNUAL INTERORGANIZATIONAL MOBILITY

Variable	n	Correlation
Cosmopolitanism	169	.192**
Supervisory Ability	161	.154*
Decisiveness	161	.188*
Masculinity-Femininity	159	-.244**
Need for Security	160	-.057
Selection by Personal Request	169	.252**

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Annual interorganizational mobility is positively related to cosmopolitanism ($r = .192$, $p < .01$). The mobility index is not related to satisfaction with work ($r = .141$, ns). It is positively related to supervisory ability ($r = .134$, $p < .05$) and decisiveness ($r = .188$, $p < .05$) and negatively related both to masculinity ($r = -.244$, $p < .01$) and to program entry by personal request ($r = -.245$, $p < .01$).

Situational Correlates

Situational correlates of interorganizational mobility are shown in Table 5-11.

TABLE 5-11

SITUATIONAL CORRELATES OF ANNUAL INTERORGANIZATIONAL MOBILITY

Variable	n	Correlation
Present Income	166	-.336**
Firm Size	166	-.324**
Current Hierarchical Level	165	.161*
Industry Income Volatility	131	.364**
Industry Market Volatility	131	.495**
Industry Technological Volatility	131	-.033
Firm Income Volatility	100	.195
Firm Market Volatility	100	.346**
Firm Technological Volatility	100	.022

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Annual interorganizational mobility is negatively related to firm size ($r = -.324$, $p < .01$) and positively related to industry income volatility ($r = .365$, $p < .01$), firm market volatility ($r = .346$, $p < .01$), and industry market volatility ($r = .495$, $p < .01$). Each of these correlations between interorganizational mobility and the specified volatility indices remains significant at the .01 level after the effects of firm size are partialled out. Correlations with other volatility indices were not significant.

Interorganizational mobility is negatively related to

current income ($r = -.336$, $p < .01$) and positively related to current hierarchical level ($r = .161$, $p < .05$).

Correlations With Other Dependent Variables

Table 5-12 presents correlations of interorganizational mobility with other dependent variables.

TABLE 5-12

CORRELATIONS OF INTERORGANIZATIONAL MOBILITY WITH OTHER DEPENDENT VARIABLES

Variable	n	Correlation
Continuation of Entry by Sponsor	162	.412**
Annual Number of Promotions	162	.181**
Annual Salary Increase	167	.072
Grade-Point Average	156	-.220**
General Positive Orientation Toward Advanced Management Program	162	.059

** Significant at .01 level, two-tailed

While the mobility index is positively related to reported annual number of promotions ($r = .181$, $p < .05$), it is not related to annual percent salary increase ($r = .072$, ns). Surprisingly, the mobility index is strongly positively related to perceived continuation of participation in the program by the firm which sponsored the respondent ($r = .412$, $p < .01$). The relationship of GPA to interorganizational mobility is negative ($r = -.220$, $p < .01$).

By use of multiple regression, interorganizational mobility was treated as the dependent variable with need for security, initiative, achievement motivation, GPA, cosmopolitanism, hierarchical level at time of program entry, and satisfaction with work as independent variables. Results of the analysis are presented in Table E-4. A multiple correlation coefficient of .316 ($p < .05$) was found, accounting for 9.99% of the variance in interorganizational mobility. Coefficients are consistent with those revealed by the simple correlations.

Summary

Correlates of success in the AMP, as measured by grade-point average, and of career activity were examined.

Grade-point average was found to be significantly positively related to current income level and to perceived fairness of grading in the AMP and negatively related both to perceived continuation of participation in the program by the sponsoring firm and to annual interorganizational mobility.

Significant correlates of the indices of upward mobility, annual percent salary increase and annual number of promotions were generally as would be predicted. Annual number of promotions was significantly positively related to initiative, decisiveness and need for self-actualization and negatively related to need for security, original

hierarchical level, age, and years in firm. Two variables which might be expected to vary as a function of career success, self-assurance and satisfaction with work, were significantly positively related to both annual percent salary increase and annual number of promotions. While annual number of promotions was significantly positively related to annual interorganizational mobility, annual percent salary increase was not.

Annual interorganizational mobility was positively related to cosmopolitanism, supervisory ability, decisiveness, selection by personal request, industry market volatility, and firm income volatility, and negatively related to masculinity-femininity, present income, firm size, and grade-point average.

CHAPTER VI

ENVIRONMENTAL IMPACT

This chapter considers the role of the environmental volatility facing the firms and industries of respondents. Two issues are specifically considered:

1. How are personality traits of respondents associated with the environmental volatility facing their respective firms and industries? It was previously hypothesized that those traits associated with drive, risk assumption, and self-confidence would be most widely evidenced in volatile settings while those associated with stability, desire for security, and generally greater emphasis on "lower order" needs would be most prevalent in stable settings.
2. How are the relationships between traits and attitudes toward the program and between traits and career activity moderated by environmental volatility?

Personality-Volatility Fit

Actual correlations of the volatility indices with scores on Ghiselli traits are presented in Table 6-1.

TABLE 6-1

RELATIONSHIPS OF VOLATILITY INDICES TO GHISELLI TRAITS

Trait	Volatility Index											
	Industry						Firm					
	Income		Market		Tech.		Income		Market		Tech.	
	r	n	r	n	r	n	r	n	r	n	r	n
Supervisory Ability	.151	126	.176*	126	-.117	126	.072	98	.161	98	-.118	98
Intelligence	.007	125	-.079	125	-.113	125	-.110	97	-.023	97	.019	97
Initiative	.095	125	.096	125	-.032	125	.082	97	.027	97	-.038	97
Self Assurance	.114	125	.024	125	.075	125	.035	97	.134	97	.088	97
Decisiveness	.062	126	.131	126	.050	126	.018	98	.143	98	.053	98
Masculinity-Femininity	-.079	124	-.131	124	.130	124	.020	96	-.062	96	.073	96
Maturity	-.110	125	-.156	125	-.017	125	-.020	97	-.219*	97	.027	97
Working Class Affinity	.064	124	-.009	124	.089	124	.057	97	.117	97	.018	97
Achievement Motivation	-.002	124	.014	124	.034	124	.125	96	.052	96	.024	96
Need for Self Actualization	.060	125	.040	125	-.004	125	-.061	97	-.085	97	.022	97
Need for Power	-.167	126	-.160	126	-.062	126	.075	98	-.022	98	-.110	98
Need for High Financial Rewards	-.136	126	-.078	126	-.121	126	-.153	98	-.051	98	-.034	98
Need for Security	-.047	125	-.110	125	.047	125	-.176	97	-.110	97	.079	97

* Significant at .05 level, two-tailed

While few correlations are seen to be significant, the great preponderance are in the predicted direction. Of the 60 correlations between the 10 traits for which correlations were predicted and the six volatility indices, 47 are in the predicted direction. As an extreme example, of the ten correlations of traits with industry market volatility, all are in the predicted direction. The number of correlations agreeing and disagreeing in sign with those predicted for each volatility index are given in Table 6-2 as is the probability according to the binomial test that such a pattern of signs could occur by chance.

TABLE 6-2

PRECISION OF PREDICTION OF SIGNS OF TRAIT-VOLATILITY CORRELATIONS

	Volatility Index					
	Industry			Firm		
	Income	Market	Tech.	Income	Market	Tech.
Number of Signs in Predicted Direction	9	10	6	7	9	6
Number of Signs Opposite Predicted Direction	1	0	4	3	1	4
Probability of Chance Occurrence	.011	.001	.377	.172	.011	.377

According to the binomial test, the probability of a chance occurrence of a finding of 47 correlations out of 60 in the predicted direction is $p < .00003$. Some evidence of self selection is thus apparent. It must be noted, however, that for proper use of this test in the case under consideration, personality traits would have to be independent, as would volatility indices. In fact, such is not the case. Consequently, the level of significance is probably overstated.

To examine the extent to which the impact of Ghiselli traits on selected criteria was moderated by volatility, the data were split into two groups on the basis of whether the industry market volatility corresponding to the industry of the respondent was high or low. Industry market volatility was split at the median industry value. Since the preponderance of respondents were in industries with market volatility indices falling below that median, the number of managers falling into the high volatility group was far fewer than the number falling into the low volatility group (29 versus 104). Splitting at the median respondent level was deemed infeasible since the large number of representatives of the auto industry would severely distort that median.

Correlations between traits and selected criteria are presented for high and low volatility groups in Tables 6-3 and 6-4 respectively.

TABLE 6-3

CORRELATIONS BETWEEN GHISELLI TRAITS AND SELECTED CRITERIA FOR RESPONDENTS IN VOLATILE ENVIRONMENTS

Trait	Satisfaction With Work		General Positive Orientation Toward AMP		Interorganizational Mobility		Upward Mobility		Salary Increase	
	r	n	r	n	r	n	r	n	r	n
Supervisory Ability	.204	27	.231	27	.268	26	-.209	24	.069	26
Intelligence	.152	27	.109	27	-.036	26	.359	24	.257	26
Initiative	-.130	27	.125	27	-.182	26	-.058	24	.027	26
Self Assurance	.086	27	.012	27	-.115	26	.374	24	.243	26
Decisiveness	.053	27	-.275	27	.353	26	.176	24	.253	26
Masculinity-Femininity	.243	26	.162	26	-.687**	25	.013	23	.060	25
Maturity	.111	27	.011	27	-.136	26	-.071	24	-.132	26
Working Class Affinity	-.031	26	-.167	26	.042	25	-.023	23	-.135	25
Achievement Motivation	.138	26	.196	26	-.148	25	.203	23	.411*	25
Need for Self Actualization	.183	27	-.036	27	.306	26	.170	24	.083	26
Need for Power	-.143	27	.147	27	-.181	26	.047	24	.016	26
Need for High Financial Reward	-.008	27	-.291	27	.156	26	.381	24	.332	26
Need for Security	.115	27	-.069	27	-.123	26	.155	24	-.039	26

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

TABLE 6-4

CORRELATIONS BETWEEN GHISELLI TRAITS AND SELECTED CRITERIA FOR RESPONDENTS IN STABLE ENVIRONMENTS

Trait	Satisfaction With Work		General Positive Orientation Toward AMP		Interorganizational Mobility		Upward Mobility		Salary Increase	
	r	n	r	n	r	n	r	n	r	n
Supervisory Ability	.355**	97	.234*	97	.258*	98	.042	98	.103	98
Intelligence	-.041	96	.055	96	.001	97	-.149	97	-.050	97
Initiative	.211*	96	.156	96	.073	97	.169	97	-.042	97
Self Assurance	.207*	96	.109	96	.182	97	.203*	97	.109	97
Decisiveness	.353**	97	.072	97	.187	98	.268**	98	.146	98
Masculinity-Femininity	.085	96	.003	96	-.071	97	.100	97	.081	97
Maturity	-.085	96	.022	96	.015	97	-.021	97	-.127	97
Working Class Affinity	-.108	96	.015	96	-.043	97	-.086	97	.051	97
Achievement Motivation	.221*	96	.193	96	.060	97	.162	97	.114	97
Need for Self Actualization	.127	96	.135	96	.162	97	.141	97	-.105	97
Need for Power	-.049	97	-.041	97	.023	98	.099	98	.200*	98
Need for High Financial Reward	-.186	97	-.070	97	.010	98	-.053	98	.028	98
Need for Security	-.279**	96	-.187	96	-.041	97	-.215*	97	.075	97

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

While numerous major differences in correlations are evident between the groups, the small sample size of the high volatility group precludes the finding of many significant differences (a difference between correlations of about .4 would be required for the difference to be significant at the .05 level). In fact, only the correlation of masculinity to interorganizational mobility is significantly different between the groups.

Contrary to expectations, need for security appears to be a greater deterrent to career success in stable than in dynamic settings. In fact, while in stable environments need for security is negatively related to both satisfaction with work ($r = -.279$, $p < .01$) and upward mobility ($r = -.215$, $p < .05$), no such relationships are evident in volatile environments. Further, in stable environments positive relationships of satisfaction with work to initiative ($r = .211$, $p < .05$), self-assurance ($r = .207$, $p < .05$), decisiveness ($r = .353$, $p < .01$), and achievement motivation ($r = .221$, $p < .05$) are evident while no such relationships are found in volatile settings.

Masculinity is negatively related to interorganizational mobility in volatile environments ($r = -.687$, $p < .01$) but not in stable environments ($r = -.071$, ns).

As noted previously, a number of significant correlations would be predicted by chance in a matrix of this size. Consequently, the finding of only two significant

correlations between Ghiselli traits and the selected criteria among respondents in volatile environments is disappointing. The findings in stable environments are, however, more encouraging. While about three correlations significant at the .05 level would be expected by chance in a matrix the size of Table 6-4, twelve are found to be significant.

Summary

To examine evidence of self selection into industries, correlations of volatility indices to Ghiselli trait scores were considered. While few correlations were significant, the great majority were in the predicted direction.

Moderating effects of volatility on trait-criterion relationships were generally contrary to those hypothesized. Dynamic, achievement-oriented traits seemed to be more highly correlated with career success in stable than in dynamic environments.

While highly tentative, what these correlations and those of volatility indices to the Ghiselli traits together appear to suggest is that, while individuals possessing certain traits may tend to gravitate toward nurturing environments, those possessing a somewhat opposite constellation of traits seem to have a differential advantage. Thus, traits associated with caution may be useful buffers of environmental effects in dynamic industries while initiative and drive may provide a competitive edge in less volatile settings.

CHAPTER VII

SUMMARY, IMPLICATIONS, AND CONCLUSIONS

Summary and Discussion

This research was concerned with determination of the impact of the MSU Advanced Management Program, of correlates of that impact, and of potential means of program improvement.

Questionnaires were mailed to all past graduates of the AMP for whom addresses were available. Questionnaires gauged personality traits of respondents, cosmopolitanism, age, years in firm and position, basis for selection, date of graduation, salary level, hierarchical level, academic background, present work assignment, firm, industry, satisfaction with work, and criteria which might aid in measurement of program impact. Those criteria included attitudes toward the program, satisfaction with specific courses and instructors, gradepoint average, upward mobility and percent salary increase since time of program entry, inter-organizational mobility since time of program entry, and perceived changes both in degree of participation of sponsoring firms and bases of selection. Firm and industry volatility indices were computed.

A total of 176 questionnaires were returned in time to be analyzed, for an overall response rate of 56%. The sample seemed generally representative, though the auto industry was overrepresented. Of course, doubts can always be raised about correlates of nonresponse. In particular, it might be argued that individuals harboring favorable attitudes toward the program would be likely to take the time to aid in the data collection process. On the other hand, it also seems reasonable that the attitude favorability-response rate relationship might be curvilinear, with those individuals viewing the program very unfavorably taking this opportunity to vent their hostilities. McKay (1961), working with Andrews (1966) on his review of executive development programs, provides some data which sheds light on this question. On the basis of his interviews with a sample of the 5000 nonrespondents in the Harvard study, a favorability rating of 78% was obtained for those individuals, compared with an 85% favorability rating for respondents. Thus, Andrews concludes that attitudes of nonrespondents are noticeably but not overwhelmingly less favorable than those of respondents.

Respondents were generally at middle and upper management levels, with only about 11% at lower levels. Over 90% of respondents reported salaries in excess of $20,000.

Overall Program Impact

Respondents were found to indicate generally high satisfaction with the program. Firms decreasing or terminating

participation were found to do so largely for reasons other than dissatisfaction, such as lack of qualified candidates. Reported salary increases of AMP graduates were found to exceed the white-collar average. Over 70% of respondents had received promotions since the time of their entry into the program. Almost 24% of respondents had left their sponsoring firms.

Little evidence of change in basis of selection over time was evident. A slight upward drift of gradepoint average over time was apparent.

Significant Correlates of Criteria

Significant personal and/or situational correlates of all dependent variables were found.

Interorganizational mobility. Respondents high on interorganizational mobility were found to be more cosmopolitan, to be in more volatile industries and in smaller firms than were those low on interorganizational mobility. Further, they were higher on supervisory ability and decisiveness and possessed less masculine traits. Perhaps those individuals scoring high on supervisory ability would have a greater number of extraorganizational job choices available than would those scoring lower, thereby partially explaining the positive relationship isolated (March and Simon, 1958). Full explanation of that relationship would, though, require further data relating to accuracy of respondent perceptions, nature of the reward system of the

sponsoring firm, and so on. The significant correlation of decisiveness with the mobility index is interesting inasmuch as it appears to tap a third dimension of likelihood to change firms which is not highlighted by the March and Simon (1958) model. That is, tendencies toward mobility would seem to be a function of perceived desirability of movement, perceived ease of movement, and action tendencies. There may be, then, desirability, feasibility, and activity dimensions to the question of interorganizational movement.

The strong negative relationship of masculinity to the mobility index is confusing inasmuch as Ghiselli argues that this trait should have little impact on managerial behavior. Ghiselli describes the trait of masculinity in terms such as activity, logical orientation, forcefulness, aggressiveness, and dominance. It seems strange that such characteristics should be associated with low mobility. Consideration of individual Ghiselli items, though, shows femininity being defined by items such as energetic, independent, reckless, headstrong, and irresponsible. Masculinity is defined by terms including deliberate, shy, unambitious, and modest. Such definitions appear to be somewhat consistent with the findings relating to interorganizational mobility.

Interorganizational mobility was found to be positively related to entry into the program by personal request and negatively related to gradepoint average in the program.

The relationship of interorganizational mobility to entry into the program by personal request could be spurious. That is, firm size is significantly negatively related both to entry into the program by personal request and to interorganizational mobility. On the other hand, it also seems reasonable that an individual for whom future mobility seems most valent would be most likely to request entry into a program which appears to be instrumental for the attainment of upward and interorganizational mobility.

Interorganizational mobility was found to be significantly positively related to perceived continuation of participation in the program by the firm which sponsored the respondent. However, since this item was worded, "To the best of your knowledge, does the firm in which you were employed at the time of your entry into the program still enter managers in the program?" it seems reasonable that individuals leaving their sponsoring firms would be simply unaware of curtailment of participation.

While interorganizational mobility was seen to be significantly positively correlated with reported annual number of promotions, it is conceivable that certain interorganizational moves may have been promotions only in the perceptions of the respondent. Such a possibility is given some credence by the finding that the correlation of the interorganizational mobility index with annual percent salary increase was insignificant. On the other hand, it is

feasible that an individual may have been willing to change firms for a real promotion even though a salary increase did not accompany that promotion.

Indices of upward mobility. Annual percent salary increase was positively related to self-assurance and need for power. Generally similar relationships were found for annual number of promotions, with that measure being positively related to initiative, self-assurance, decisiveness, and need for self-actualization, and negatively related to need for security.

Gradepoint average. No significant personal correlates of gradepoint average were isolated. GPA was positively related to income level and negatively related to inter-organizational mobility. All correlations of GPA to the volatility indices were negative but nonsignificant. The correlations seemed to indicate that high GPA is associated with individuals in large, stable firms. Possible explanations for such a finding include:

1. Individuals in stable firms may be under less time pressure than those in volatile firms, thereby having more time to deal with course work.

2. The skills taught in the AMP may be of a sort already possessed to a considerable degree by those in large, stable firms.

3. Large, stable firms may be perceived by students coming from those firms to place significant emphasis on GPA as well as on program completion. This would seem to be a reasonable hypothesis since firms falling into the large, stable category typically enter students into the program on a regular basis and would thus be able to make

comparisons between GPA's of the various individuals they have sponsored.

4. Larger, more stable firms may have selection criteria favoring individuals high on intelligence or on other traits which might be important for success in the program. As noted, though, there were no significant correlations of GPA with any of the Ghiselli measures. In particular, the correlations of GPA to both need for self actualization and achievement motivation were insignificantly negative. Further, the correlation of GPA to intelligence was insignificant. While the role of intelligence in a program such as the AMP might be hypothesized to be less than that in a typical graduate level program, a simple correlation of .049 seems remarkable.

The findings relating to the correlation of intelligence to GPA should perhaps be further explored. Various explanations for the low relationship seem feasible. One possibility could be that intelligence effects are simply swamped by other considerations. A second explanation would be that while intelligence is important for success in the program, the sample is restricted in range. That is, the great majority of managers entering the program may be of sufficiently high intelligence to fully master program material. A third explanation could simply lie in inadequacy of the intelligence measure. Further consideration of this possibility seems in order.

At least two questions are encompassed in that of determination of adequacy of the Ghiselli intelligence measure. They are:

1. Is the scale properly tapping perceived intelligence?

2. Is perceived intelligence an adequate measure of true intelligence?

One test of whether the Ghiselli scale adequately taps perceived intelligence would be to consider perceived program difficulty. Both perceived program difficulty and perceived grading difficulty are found to relate significantly negatively to the Ghiselli intelligence measure.

Thus, while intelligence was not found to relate significantly to the GPA measure, it does relate to perceived program ease. Further, no significant correlations were found to exist between intelligence and salary increase, interorganizational mobility, or promotions. Consequently, the absence of a significant correlation of intelligence to GPA was not unique.

While these findings alone might suggest that the GSDI is tapping perceived but not true intelligence, studies such as those by Ghiselli (1971) and Vogels (1973) would seem to indicate that such a conclusion is premature.

General positive orientation toward program. Those showing high general positive orientation toward the program were higher on supervisory ability and achievement motivation and lower on need for security than were those showing a less positive orientation. Those high on need for security would be expected to demand a high return for the acceptance of risk and consequently to be less satisfied with any given risk bonus than would those lower on need for security. On the other hand, those high on achievement

motivation would likely see greater returns as being associated with program completion than would those low on that measure. That is, since certain of the presumed outcomes of the program would appear to be instrumental for the attainment of achievement, those for whom achievement is most valent would see the program as yielding greatest returns. What the set of observed correlations seems to indicate, then, is that the AMP is viewed as a risky option having a greater expected value than does continuation of the status quo.

Satisfaction with work was found to be positively related to general positive orientation toward the program. This finding is consistent with the bulk of previous research. Carroll and Nash (1970) attribute such a finding to the possibility that,

> "...if there is satisfaction with the organization there is a tendency to endorse and be satisfied with whatever the organization does. It now seems quite clear from this and from past studies that organizational members who have low job satisfaction will probably not benefit as much from training as members who have higher levels of satisfaction."

The Carroll and Nash explanation appears, however, to be inadequate to fully explain the relationship of positive orientation toward program to satisfaction with work in the current study. The AMP was not conducted by the respondent's firm. While it might be argued that selection of the individual for entry into the program by his firm would be a sign of company endorsement of the program, those

personally requesting entry into the AMP show about the same level of positive orientation toward the program as do those selected for entry.

Thus, while the Carroll-Nash explanation is still feasible, alternative possibilities seem equally plausible. For example, it seems reasonable that the job satisfaction - positive orientation toward program relationship may simply be a function of the individual's general satisfaction with life. Schuler (1973), for one, has hypothesized the confounding role of general satisfaction, in his case to explain job satisfaction - geographic movement findings. It should be noted, however, that such a general satisfaction hypothesis is apparently inadequate to explain findings, such as those of House and Tosi (1963), where changes in satisfaction are related to pretraining satisfaction.

Current hierarchical level and firm income volatility were both found to be positively related to general positive orientation toward the program. In relation to the finding concerning volatility, it is possible that material presented in the program is seen as more useful by individuals in firms facing volatile environments than by others. This could in turn be due either to greater perceived applicability of the material to firms in volatile environments or to greater prior familiarity with the material on the part of those individuals in stable environments. The relationship could also be due to differences in relevant personality

characteristics between managers in volatile and stable environments. Or, the observed relationship could be indirectly due to the positive correlation of firm income volatility to percent annual salary increase.

It was further found that those respondents reporting high satisfaction with the program perceived their sponsoring firms to have increased participation in the program. This could be attributed to the possibility that feedback from satisfied graduates led to increased participation by the firms in which they were employed. Or, it is feasible that firms which were disillusioned with results of the program would both cut back on participation and communicate that disillusionment to the individuals whom they sponsored. Finally, the finding could also be attributed to simple perceptual distortion.

Other Relationships Considered

Changes in attitudes toward the program and in satisfaction with specific courses and instructors over time were examined. Changes in satisfaction with courses were found to be insignificantly negatively related to changes in instructors, though satisfaction tended to be higher for those courses experiencing few changes in instructors.

Suggestions for program improvement made by respondents were categorized and discussed. The majority of suggestions related to content revision and instructor attitude. Most suggestions for content revision indicated a desire for more

practical orientation, more case analyses, more statistical and computer emphasis, and less 'busy work.' Several respondents felt that instructors were not fully appreciative of the level of expertise of students and suggested that this sometimes led to ego clashes.

Implications for Management

For those firms entering managers into the AMP, the evidence presented should be generally reassuring. High satisfaction with the program coupled with apparently rapid salary increase and upward mobility of managers subsequent to program entry yield a pattern of favorable program consequences. No evidence of downgrading of the program over time is apparent.

It has been shown that those managers reacting most favorably to the program generally appear to be competent, highly achievement motivated, and low on need for security. That is, they seem to have the competence to willingly accept a high risk-high return option. It appears that firms sponsoring entry of managers into the AMP are also faced with what could be termed a high risk-high return tradeoff. That is, while a mass of positive program consequences seem clear, evidence has been presented suggesting that interorganizational mobility of graduates is substantial. Further, such mobility is greatest among those managers who are most decisive and highest on supervisory ability.

What remains, then, is for firms to use information concerning correlates of reactions to the program and of interorganizational mobility in order to manipulate the risk-return balance and to then decide whether such a balance is acceptable. The data and analyses presented in this study will hopefully aid in this manipulation and decision making. In particular, they should provide clues to aid in selection of managers for the program, in considering how characteristics of the firm and of its environment may have impact on program consequences, and in setting realistic expectations concerning the nature and magnitude of those consequences.

While no attempt will be made here to restate the maze of relevant results which have been isolated, a few will be noted.

Carroll and Nash (1970, p. 188) have said that, "It would be useful to know in advance how various types of individuals are likely to react to a management training program. Such information would enable training personnel to designate for training only those individuals who are likely to react positively to it and benefit from it." While confounded by considerations of firm size, the data suggests that interorganizational mobility is much higher among those individuals requesting entry into the program than for those selected by the firm on the basis of formal criteria. Consequently, it appears that firms contemplating

sponsorship of individuals in the program may be wise to establish a set of criteria for selection and to thereby more adequately designate those likely to react positively.

In terms of criteria for selection, this research is consistent with previous studies in its finding that those individuals most satisfied with work also react most favorably to the program. Inasmuch as turnover is generally found to be negatively related to satisfaction, such a relationship is fortunate. That is, selection of managers satisfied with work will be likely to result in sponsorship of individuals who will both respond favorably to the program and to stay with the firm. The analyses further suggest that both satisfaction with work and with the AMP are significantly positively related to supervisory ability and achievement motivation and significantly negatively related to need for security. Thus, selection on the basis of satisfaction with work would have, at least for the current sample, yielded highly motivated, competent, risk accepting individuals.

Satisfaction with the program is seen to be significantly positively correlated with current hierarchical level. This might suggest that program content is more applicable at higher levels and that managers at such levels would thus benefit most from the program. Since no such significant correlation is evident with hierarchical level at time of program entry, however, it appears that what is

being picked up is another reflection of the satisfaction with work - satisfaction with program relationship.

An important question in light of the arguments of contingency theorists is whether there may in fact be some firms which, perhaps as a function of the environment in which they operate, would be unwise to sponsor entry of managers into a program such as the AMP. To adequately answer this question would, as noted previously, require more rigorous analyses including a matched control group and preferably a longitudinal design. It does not appear on the basis of the evidence presented in this study, however, that negative consequences are associated with the program for any identifiable set of firms, or for firms facing any particular environmental conditions. Relationships between criteria and the volatility indices are presented in Table 7-1. General positive orientation is uniformly high. While significant correlations of volatility indices to such criteria as interorganizational mobility and continuation of participation by sponsoring firms are evident, the extent to which such relationships are attributable to program-volatility interactions or solely to volatility effects is unclear.

Comments of respondents seem to suggest that it is probably unfair to program entrants and a wasted expenditure for sponsoring firms if corporate support of program entry is unenthusiastic. Respondents suggesting that their firms

did not seem to fully support the program also tended to indicate that program participation by their sponsor had subsequently decreased and that they had not been properly rewarded for their enhanced expertise. This pattern seems to suggest a self-fulfilling relationship, with those firms not supporting such a program taking actions which proved, or appeared to prove, that such a lack of support was justified.

TABLE 7-1

RELATIONSHIPS OF VOLATILITY INDICES TO SELECTED CRITERIA

Criterion	Volatility Measure					
	Industry			Firm		
	Income	Market	Tech.	Income	Market	Tech.
General Positive Orientation Toward Program	.076	.019	-.067	.220*	.039	-.091
Interorganizational Mobility	.364**	.495**	-.033	.195	.346**	.022
Annual Promotions	.033	.052	.064	.081	.168	.125
Gradepoint Average	-.059	-.145	-.156	-.160	-.197	-.128
Continuation of Program Participation by Sponsoring Firm	.335**	.448**	.055	.163	.381**	.087

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

Finally, the data suggests that firms should perhaps not place great weight on gradepoint average attained in the program, at least as a clue to subsequent career progress. GPA is not found to relate significantly to number of promotions or salary increase subsequent to program entry, to satisfaction with work, or even to general positive orientation toward the program. It is found, however, that those doing well in the program, as measured by GPA, are significantly less likely to leave the sponsoring firm than are others. The picture that emerges of a student achieving a high GPA is one quite different from that of the individual doing well subsequent to graduation. While the relationships are insignificant, for instance, it appears that those achieving high GPA's are lower on decisiveness and initiative and higher on need for high financial rewards than are those achieving low GPA's. These findings are essentially the opposite of those for criteria such as high satisfaction with work and high annual number of promotions.

Suggestions For Future Research

While the use of before measures was infeasible for the current study, such measures could be obtained for future entering classes and could then be related to subsequent attitudes, behaviors and career progress. Such a study, while long-term, could be easily accomplished and would allow accumulation of a valuable longitudinal data bank.

In particular, before measures of the Ghiselli traits, satisfaction with work and cosmopolitanism would be especially desirable because each of these variables is potentially a function of completion of a program such as the AMP. Thus, assessment of direction of causality in many important relationships is strictly infeasible without such before measures. Before measures such as salary and hierarchical level would reduce the dangers of faulty recall.

The current study was primarily concerned with relative impact of the program on individuals with differing personal and situational characteristics. While absolute measures of program success such as attitudes toward the program and courses and comparison of reported salary increases with national norms were used, more rigorous program evaluation would require a matched control group. The difficulty associated with attainment of a wholly adequate matched sample of sufficient size for statistical purposes has been outlined previously. It appears that to conduct such a study, access to records of at least a few firms would be necessary. Individuals would be matched on factors such as age, salary level, hierarchical level and functional area. Ideally, several matches might be selected for each program participant so that some degree of matching on Ghiselli traits might be attempted. In terms of educational level of the control group, it would be desirable to actually choose two groups, one consisting of individuals possessing bachelor's

degrees and the other consisting of holders of a master's degree other than the MBA. Thus, while comparison of scores of AMP graduates on criterion measures with those of the former group would allow conclusions concerning absolute value of the AMP MBA, comparison with those of the latter group would assess value of this MBA relative to that of the other master's degrees.

It would further be insightful to better gauge the degree of top management support for the program. This factor has consistently been cited as a key determinant of program success in prior studies but was only indirectly and inferentially considered in this study. As an example, the comments of certain respondents indicate both displeasure with the program and lack of top management support for such a program. This support-satisfaction relationship should be more systematically explored.

As suggested in the body of this study, a consistent and potentially important relationship found in this and previous studies is that between satisfaction with job and satisfaction with program. A commonly cited intuitively reasonable explanation for such a finding is that, since the firm approves of the program, the individual's feelings about the firm carry over to attitudes toward the program. This explanation is, though, arguable. For instance, general positive life orientation of the respondent could account for such a finding. As a test of this possibility,

gauges of satisfaction with life in general or with factors unrelated to job and program could be useful. The finding of a pattern of positive correlations between satisfactions with these unrelated factors would lend support to the "general positive life orientation" hypothesis.

Much of the information gathered in this study relies on perceptions of managerial respondents. In the case of certain data, such as basis for selection and perceived change in participation by sponsoring firms, considerable opportunity for bias or conjecture exists. To gauge the degree of this perceptual distortion, it would be useful to directly question selection decision makers in sponsoring firms. Such questioning would allow interesting determinations of the congruence of perceptions of selectors and of selected managers. It would further permit the gathering of data on satisfaction with the program in terms of organizationally, rather than personally, relevant criteria, would give greater insight into the selection process, and would provide clues to the degree to which "illicit use of predictor information" and "artificial limitation of productivity" may cause contamination. The interview items listed in Appendix F should be instrumental in shedding light on these questions.

The volatility measures used in the study are still in an early stage of refinement. Many of the relationships found in the current study, such as those between volatility

measures and Ghiselli items and between volatility and interorganizational mobility, provide tentative support for the validity of these volatility measures. Several refinements could, if desired, be incorporated in the current measures. Cyclical influences could, for instance, be removed. Further, the current measures of income and market volatility consider the coefficient of variation of income and sales, respectively. Such measures thus capture as volatility any increase or decrease in the level of income and sales. That is, very rapid growth in sales or income would result in a high coefficient of variation for that measure. The rationale for such an approach was that rapid growth, or rapid decline, would enhance uncertainty and should be considered. It may be useful, however, to consider as a supplementary set of measures the coefficients of variation of sales and income around the least squares trend lines fitted to sales and income data. Thus, simple growth or decline would be ignored.

The question of predictability of variance is important and appears amenable to empirical investigation. Further, alternative volatility indices could be examined. Stock price fluctuations or coefficient betas are two promising possibilities.

While a potentially sensitive research area, a survey of program dropouts could be valuable. Reasons for failure to complete the program, attitude toward the program, and

perceptions about career impact of failure to complete the program could be gauged.

A few specific changes in questionnaire content and administration might be desirable for future studies. For one thing, it is apparent that percent salary increase of graduates was underestimated in questionnaire formulation. In particular, higher percent salary increase categories should have been included or a statement such as "If above 50 percent, please indicate percentage" could have been added.

Difficulties arose in the current study because of imprecise specification of the sponsor of some respondents. In particular, since the questionnaire asked only for the name of the sponsoring firm, General Motors managers did not generally specify their respective divisions. Future questionnaires should attempt more precision in determining sponsor. For instance, "Place of Work (Firm and Division, if applicable)" may have provoked more suitable responses.

Further, the item used in this study in relation to firm size was, "Among the organizations in the same industry as yours, about how large would you say yours is?" While such an item is useful, it considers firm size as a relative, rather than absolute measure. That is, a response of "the largest" would not necessarily indicate great firm size, nor would (for instance in the auto industry) "one of the smallest" indicate a small firm. Consequently, future

studies should include an absolute measure of firm size.

Finally, while the genuine anonymity of responses in this study may have reduced bias and raised response rate, it is clear that some information is lost through such anonymity. If it is desired in subsequent studies to use a control group, it would seem to cause only minimal violation of anonymity if questionnaires sent to individuals in those firms from which control groups were selected were somehow coded. Such coding would, for instance, insure that valuable responses would not be lost because of failure of individuals to specify their employer.

Conclusions

This study has attempted to gauge 'success' of the AMP, to determine correlates of favorable attitudinal and behavioral consequences of the program, to examine changes in attitudes between graduating classes, and to consider suggestions for program improvement.

Attitudes of graduates toward the program seem highly favorable and significant correlates of those attitudes have been isolated and discussed. The apparently satisfactory career progress of graduates must, however, be more rigorously examined. Further, a more definitive analysis would consider attitudes of other relevant parties such as selection decision makers, program dropouts, and perhaps AMP faculty. And, while interesting and potentially important

correlates of career progress were found, the relationships noted should probably be treated primarily as suggestive of areas for future research. Correlates which were isolated included such measures as personality traits, intrafirm situational correlates, and firm and industry volatility indices. Hopefully, the study has also been useful in adding to the information base relating to the validity of these measures and consequently in leading to their refinement. For instance, certain findings relating to the Ghiselli intelligence and masculinity-femininity measures and to the volatility indices could not have been predicted on the basis of prior studies.

Data has also been provided relating to such issues as self-selection of individuals into industries, moderating effects of environmental characteristics on the impact of personality traits, and 'trainer' impact on satisfaction with courses.

It appears that several more studies could be conducted as offshoots of this research. The generally positive program consequences reported here may facilitate the conducting of those studies. That is, results of this study should reduce possible fears of some parties that more thorough analyses would shed unfavorable light on the program.

Greater computer and statistical emphasis, more reliance on case studies, and more 'practical' orientation seem to be perceived by graduates as desirable directions of program change.

APPENDICES

APPENDIX A

COVER LETTER
AND
QUESTIONNAIRE

COVER LETTER AND QUESTIONNAIRE

MICHIGAN STATE UNIVERSITY East Lansing, Michigan 48823

College of Business

Department of Management - Eppley Center

Dear Advanced Management Program Graduate,

The Michigan State University Advanced Management Program was initiated in 1964. Since graduation of the first class in 1966, 320 AMP managers have received the MBA, with another 126 currently enrolled.

We would now like to survey graduates both about their attitudes toward the program and about their career activity since graduation.

The Board of Directors of the Advanced Management Club have examined the enclosed questionnaire and approve the goals of the survey. The study is described in the March club newsletter. The analysis of this data will fulfill a partial requirement of my PhD in the Department of Management and will be carried out under the supervision of Dr. Henry Tosi.

We hope you will have the time to make your feelings known. It should take less than 25 minutes to fill out the questionnaire. Items are provided which deal with your feelings about the program as well as with your career development, satisfaction with current work, and so on. Items are also included to see how graduates describe themselves in terms of certain traits. The purpose of these items is to permit examination of the relationship of attitudes concerning the program to certain self-described traits of the respondent. We should stress that our only concern is with general relationships. Consequently, responses are completely anonymous - please do not sign the questionnaire.

We think this information should be quite interesting to those managers who have completed the Advanced Management Program. Therefore, a summary of findings of the study will be available to all graduates as soon as data is analyzed.

A stamped return envelope is enclosed. Your feedback about the program, positive or negative, and your suggestions for program improvement would be very much appreciated.

Sincerely,

Ramon J. Aldag

Ramon J. Aldag

ADVANCED MANAGEMENT PROGRAM QUESTIONNAIRE

1. Firm Name _____

2. Industry _____

3. Present Income:

   10,000-15,000 _____

   15,001-20,000 _____

   20,001-25,000 _____

   25,001-30,000 _____

   Over 30,000 _____

4. Major Field of study for bachelor's degree:

   Did not receive bachelor's _____

   Business or Economics _____

   Liberal Arts _____

   Social Science _____

   Engineering _____

   Physical or biological science __

   Education _____

   Mathematics _____

   Other (please specify) _____

5. Year of graduation from Advanced Management Program _____

6. Area of present work assignment:

   Personnel _____

   Production _____

   Advertising _____

   Market Research _____

   Research & Development _____

   Purchasing _____

   Sales _____

   Accounting/Finance _____

   Data Processing _____

   Other (Please specify) _____

7. Among the organizations in the same industry as yours, about how large would you say yours is?

   one of the smallest _____

   smaller than average _____

   medium sized _____

   one of the largest _____

   the largest _____

8. What was your approximate grade-point average in the AMP program?

   _____

9. Please indicate how your current salary compares with the salary you received at the time of your entry into the Advanced Management Program:

   over 50% higher _____

   40% - 50% higher _____

   30% - 39% higher _____

   20% - 29% higher _____

   10% - 19% higher _____

   0% - 9% higher _____

   lower _____

10. View the organization chart below as representative of your company. Please check your level at the time of your entry into the AMP program and the level at which you are presently working:

	At Time of Entry	Current
President/Exec. Officer	_____	_____
Vice President	_____	_____
Upper Management	_____	_____
Middle Management	_____	_____
Lower Management	_____	_____
First-line Mgt. workers	_____	_____

11. Are you currently with the same organization as when you entered the AMP program? _____

12. If not, how many companies have you served in since your departure from that organization? _____

13. If your answer to question 11 is no, how would you say the size of your current firm compares to that of the firm in which you were employed at the time of your entry into the program?

Much larger _____

Somewhat larger _____

About the same _____

Somewhat smaller _____

Much smaller _____

14. How many promotions have you had since the time of your entry into the AMP program? _____

15. Since the time of your entry into the AMP program, how many total job changes (including promotion, demotion, lateral moves, and moves between firms) have you had? _____

16. To the best of your knowledge, what criteria were used by your firm, at the time of your entry into the AMP program, for selection of managers to enter the program? Check one or more appropriate bases:

Random selection _____

Promotion potential _____

Need for improvement of deficiencies _____

Personal request of managers ___

Other (Please specify) _____

17. To the best of your knowledge, does the firm in which you were employed at the time of your entry into the program still enter managers in the program? _____

18. If your answer to (17) is no, what factors do you think led to the firm's discontinuance of participation?

_____

_____

_____

19. If your answer to (17) is yes, would you say participation has decreased, remained about the same, or increased? _____

20. If your answer to (17) is yes, do you feel individuals are now selected for the program on the same basis as when you entered? _____ If not, what is the basis? _____

_____

Please describe your feelings about the Advanced Management Program by checking the appropriate space on each line below:

21.	valuable	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	worthless
22.	boring	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	interesting
23.	organized	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	disorganized
24.	satisfactory	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	unsatisfactory
25.	easy	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	difficult
26.	frustrating	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	stimulating
27.	enjoyable	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	unenjoyable
28.	theoretical	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	practical

Please describe your feelings about grading in the Advanced Management Program by checking the appropriate space on each line below:

29.	fair	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	unfair
30.	hard	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	easy
31.	precise	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	imprecise

Please describe your feelings about the Advanced Management Club by checking the appropriate space on each line below:

32.	valuable	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	worthless
33.	active	: ___	: ___	: ___	: ___	: ___	: ___	: ___ :	inactive

Please answer each of the following questions as they relate to your current position (check one):

34. How well do you like your work?

Very much _____

Pretty well _____

Somewhat _____

Not very much _____

Not at all _____

35. How much of a chance does your job give you to do the things you are best at?

Very good chance _____
Fairly good chance _____
Some chance _____
Very little chance _____
No chance _____

36. How good is your immediate superior in dealing with people?

Extremely good _____
Very good _____
Fairly good _____
Fairly poor _____
Poor _____

37. How applicable is your knowledge and ability on your present job to other firms?

Not at all _____
Slightly _____
Somewhat _____
Very applicable _____
Completely applicable ___

38. To what extent is your social life connected with your job?

Very large _____
Large _____
Somewhat _____
Slightly _____
Not at all _____

39. To what extent is it likely that you can leave your present job and obtain an equivalent one elsewhere?

Not at all _____
Slight _____
Some _____
Likely _____
Very Likely _____

40. How useful is the knowledge you obtain on this job to you if you were to seek employment elsewhere?

Not at all _____
Little _____
Somewhat _____
Quite a bit _____
Very useful _____

SELF-DESCRIPTION INVENTORY

The purpose of this inventory is to obtain a picture of the traits you believe you possess and to see how you describe yourself. There are no right or wrong answers, so try to describe yourself as accurately and honestly as you can. You are to make a check beside one word in each of the following pairs.

In each of the pairs below, check the one which you think most describes you.

41. __ capable
    __ discreet

42. __ understanding
    __ thorough

43. __ cooperative
    __ inventive

44. __ friendly
    __ cheerful

45. __ energetic
    __ ambitious

46. __ persevering
    __ independent

47. __ loyal
    __ dependable

48. __ determined
    __ courageous

49. __ industrious
    __ practical

50. __ planful
    __ resourceful

51. __ unaffected
    __ alert

52. __ sharp-witted
    __ deliberate

53. __ kind
    __ jolly

54. __ efficient
    __ clear-thinking

55. __ realistic
    __ tactful

56. __ enterprising
    __ intelligent

57. __ affectionate
    __ frank

58. __ progressive
    __ thrifty

59. __ sincere
    __ calm

60. __ thoughtful
    __ fair-minded

61. __ poised
    __ ingenious

62. __ sociable
    __ steady

63. __ appreciative
    __ good-natured

64. __ pleasant
    __ modest

65. __ responsible
    __ reliable

66. __ dignified
    __ civilized

67. __ imaginative
    __ self-controlled

68. __ conscientious
    __ quick

69. __ logical
    __ adaptable

70. __ sympathetic
    __ patient

71. __ stable
    __ foresighted

72. __ honest
    __ generous

In each of the pairs of words below, check the one which you think least describes you.

73. __ shy __ lazy	81. __ conceited __ infantile	89. __ careless __ foolish	97. __ opinionated __ pessimistic
74. __ unambitious __ reckless	82. __ shallow __ stingy	90. __ apathetic __ egotistical	98. __ shiftless __ bitter
75. __ noisy __ arrogant	83. __ unstable __ frivolous	91. __ despondent __ evasive	99. __ hard-hearted __ self-pitying
76. __ emotional __ headstrong	84. __ defensive __ touchy	92. __ distractible __ complaining	100. __ cynical __ aggressive
77. __ immature __ quarrelsome	85. __ tense __ irritable	93. __ weak __ selfish	101. __ dissatisfied __ outspoken
78. __ unfriendly __ self-seeking	86. __ dreamy __ dependent	94. __ rude __ self-centered	102. __ undependable __ resentful
79. __ affected __ moody	87. __ changeable __ prudish	95. __ rattle-brained __ disorderly	103. __ sly __ excitable
80. __ stubborn __ cold	88. __ nervous __ intolerant	96. __ fussy __ submissive	104. __ irresponsible __ impatient

105. Please use the following space to write any suggestions you might have for improvement of the Advanced Management Program (if necessary, please continue comments on a separate sheet):

106. Age _____

107. Number of years with your present firm _____

108. Number of years in your present position _____

We are interested in learning your feelings about the specific courses you encountered in the Advanced Management Program. Courses are arranged below by the term in which they are currently offered. For each course, we would like you to rate both the course in general and the instructor (but do not name the instructor). Indicate your degree of satisfaction with the course in general by circling the appropriate number in the column titled "course rating". Indicate your degree of satisfaction with the professor by circling the appropriate number in the column titled "teacher evaluation". The code is:

1 = extremely dissatisfied
2 = dissatisfied
3 = neither satisfied nor dissatisfied
4 = satisfied
5 = extremely satisfied

FIRST YEAR:	COURSE RATING					TEACHER EVALUATION				
	extremely dissatisfied				extremely satisfied	extremely dissatisfied				extremely satisfied
FALL TERM										
Managerial Accounting	1	2	3	4	5	1	2	3	4	5
Personnel and Human Relations in Industry	1	2	3	4	5	1	2	3	4	5
WINTER TERM										
Management Organization and Theory	1	2	3	4	5	1	2	3	4	5
Financial Management	1	2	3	4	5	1	2	3	4	5
SPRING TERM										
Marketing Management	1	2	3	4	5	1	2	3	4	5
Decision Making Models (formerly Management Planning and Control)	1	2	3	4	5	1	2	3	4	5

SECOND YEAR:	COURSE RATING					TEACHER EVALUATION				
	extremely dissatisfied				extremely satisfied	extremely dissatisfied				extremely satisfied
FALL TERM										
Industrial Relations	1	2	3	4	5	1	2	3	4	5
The American Economy (formerly Managerial Economics)	1	2	3	4	5	1	2	3	4	5
WINTER TERM										
Managerial Economics and Public Policy (formerly Business and Society)	1	2	3	4	5	1	2	3	4	5
International Business	1	2	3	4	5	1	2	3	4	5
SPRING TERM										
Administrative Policy	1	2	3	4	5	1	2	3	4	5
Problem Analysis	1	2	3	4	5	1	2	3	4	5

APPENDIX B

VOLATILITY INDICES

TABLE B-1

FIRM VOLATILITY INDICES

Firm	Income Volatility	Market Volatility	Technological Volatility
Allied Chemical	.138	.190	.134
Altec	.979	1.110	.000
American Motors	1.994	.160	.095
AT&T	.213	.223	.121
Bendix	.354	.295	.049
Borg Warner	.236	.218	.108
Burroughs	.637	.264	.174
Budd Company	.450	.284	.058
Chrysler	.427	.371	.063
Control Data Corp.	.805	.924	.150
Cutler-Hammer	.200	.272	.041
Ford	.321	.259	.068
General Electric	.192	.244	.079
General Motors	.229	.235	.074
Gulf & Western	1.034	1.137	.050
IBM	.432	.430	.268
Kelsey-Hayes	.314	.280	.124
Lear Siegler	.738	.603	.036
Libbey-Owens-Ford	.102	.283	.065
Litton	.594	.638	.079
Martin Marietta Alum.	.438	.399	.070
Monroe	.649	.349	.041
P.P.G.	.168	.206	.127
S.S. Kresge	.593	.611	.036
Teleflex	.336	.401	.204
Uniroyal	.244	.186	.067
Viewlex	1.690	.880	.037
Winkleman's	.390	.260	.039
Xerox	.887	.906	.287

TABLE B-2

INDUSTRY VOLATILITY INDICES

Industry	Income Volatility	Market Volatility	Technological Volatility
Construction-Special	.5769	.4588	.0397
Bread & Cake Bakers	.4476	.2921	.0894
Beverage-Brewers	.4592	.3953	.0948
Vegetable Oil Mills	.4460	.1921	.0536
Publishing	.5423	.3678	.0556
Chemicals-Major	.2059	.2640	.1296
Drugs-Ethical	.4154	.4180	.1205
Drugs-Med. & Hos. Supply	.5124	.4263	.0909
Chem. & Chem. Prep.	.4829	.4672	.0758
Oil-Integ. Domestic	.3517	.3583	.1269
Tire & Rubber Goods	.2535	.2225	.0820
Plastic Products-Misc.	.9429	.6353	.0543
Flat Glass	.1674	.2063	.1272
Steel-Minor	.3664	.3101	.0732
Aluminum	.2786	.2700	.0734
Metal Work-Misc.	.6261	.4869	.0730
Machine Tools	.6098	.4869	.0623
Machinery-Specialty	.4790	.3193	.0645
Machinery-Gen. Ind.	.6301	.5773	.0623
Office & Bus. Equip.	.5080	.4752	.2218
Elec. & Elec. Leaders	.3148	.2547	.1043
Elec. Ind. Controls	.4211	.3462	.0457
Electronics	.6952	.4356	.1203
Electronic Components	.6765	.5531	.0627
Motor Vehicles	.3427	.2607	.0713
Auto Parts & Access.	.1675	.3354	.0708
Aerospace	.5991	.3122	.0737
Trailer Coaches	1.0381	.9206	.0829
Photographic	.6015	.4041	.1255
Telephone Companies	.2402	.2446	.1241
Retail-Dept. Stores	.4039	.3369	.0644
Retail-Variety Stores	.9249	.4044	.0404
Retail-Women's R.T.W.	.7007	.5000	.0500
Eating Places	.5749	.4766	.1159
Real Est. Land Devel.	.9713	.6519	.0139
Conglomerate 1	1.0340	1.1370	.0504
Conglomerate 2	.5941	.6384	.0787

APPENDIX C

RESULTS OF FACTOR ANALYSIS OF SATISFACTION WITH PROGRAM ITEMS

TABLE C-1

RESULTS OF FACTOR ANALYSIS OF SATISFACTION WITH PROGRAM ITEMS

Item	Factor 1: General Positive Orientation Toward Program	Factor 2: Rigorousness	Factor 3: Objective Structure
Program Valuable	.6381	.1451	.0258
Program Interesting	.6477	.1555	.0634
Program Satisfactory	.7316	-.0837	.1895
Program Stimulating	.7800	.1140	.0396
Program Enjoyable	.7290	-.0718	.0695
Program Practical	.4003	.3989	-.1145
Grading Fair	.4063	.1883	.4881
Program Organized	.3032	-.0948	.5947
Grading Precise	.2935	.4100	.5349
Program Difficult	.1004	.6889	-.0279
Grading Hard	.2608	.6484	.2101

APPENDIX D

SUGGESTIONS FOR PROGRAM IMPROVEMENT

SUGGESTIONS FOR PROGRAM IMPROVEMENT

Suggestions relating to course revision:

A course on computer technology should be added to the program.

Careful evaluation of the professors and content of the offered courses. The course by Professor Bryan in the last term is the best course I have taken. It was interesting, hard, but fun.

Eliminate the thesis as it is busy work with little learning for the amount of work.

Operations research portion of the curriculum should be expanded.

More detailed practice in problem analysis and use of decision-making tools. Excellent human relations orientation --this should be emphasized in all subjects; i.e., who and why. Foster continuing knowledge of contemporary society and some of its roots.

The management planning and control course was too theoretical and not practical enough (I received a 4.5 in the course so I'm not saying this because I am bitter about a grade). Also, in the international business course we spent too much time on the transportation aspect.

Minimize class (team) presentation of cases, no more than one per case, maximize instructors' discussion on cases. Have instructor distribute "classic" on each case, i.e. best student discussion of each case (there must be hundreds to choose from on each case) would permit student to examine all key factors which should be considered, as demonstrated by the "classic" discussion.

Recommend more case problems in all classes.

A more practical study of a growing company's growth and success or failure.

Do not get carried away with too much social content at the expense of basics of finance, marketing, human relations, business planning.

First-year program lacked good organization which I assume has been corrected. Courses should allow maximum discussion of participants to take advantage of business experience of group related to subject matter. "Decision Making Models" in '65-'66 program was not good--I hope it has been improved.

I would suggest a further review of some of the class offerings--most were of interest and held some practical value while a few were virtually a waste of time. Greater attention could be paid to the class (topic) selection--generally the program was extremely beneficial.

The instruction should be more towards a practical application of the real world.

Consider a course on statistics and EDP.

In general the course content seemed very applicable to requirements of today's business world. Perhaps 1/3 of courses and instructors (not necessarily related in comment) were too theoretical. By now I would imagine the course content and instructors in that 30% have improved.

Excellent program. Thorough, complete, challenging, innovative. Could improve course in computer-statistics--was too theoretical and impractical.

Suggest intensive periodic review of subjects in relation to the outside world "field" applications.

Many assignments were not given to provide a learning experience but were given to fulfill specific "busy work" or toward the goal that all MBA's should do a certain amount of written work or research even if it doesn't help the student. Problem analysis for example is "busy work".

Get rid of the busy work. The men in this program are too busy in their jobs for all the busy work. The same things could be taught with a lot less homework.

Less of the long test book readings and more practical problems, case studies, etc. So much time was spent on reading material that is not useful even if I could remember it all. This time should be spent on more useful problems. Need more time on financial analysis, etc.

The final course, which dealt with the investigation of the current and past organizations of existing corporations, was extremely eye opening to me. I would like to see more

current and relevant case studies interspersed during the full two years. These studies are much easier to apply and recall if they can be readily related to.

Suggest a little more emphasis on small business problems and more recruitment of small business executives.

For the majority of the students, the course is aimed too high. It prepares them for jobs which most hope to achieve in 15 years. More emphasis should be given to middle and lower management needs. I also think the operations research portion of the curriculum should be expanded.

Suggestions relating to continuing education or additional activities:

Occasionally schedule a once-a-year dinner with a major speaker (Cole-Ford) to give the program status.

I would like a continued program for advanced studies--not just to stop at the MBA--to audit a class is not enough--but to stimulate and increase our background, we should try for increased knowledge.

Possibly more activities could be conducted at the East Lansing campus.

I would encourage some all-day Saturday seminars on campus at MSU.

Suggestions relating to entrance requirements:

The advanced management program is great. Standards should be maintained or raised even if that results in some classes not being completely subscribed.

Keep new students on basis of original concept--10 years or more in business or industry after undergraduate degree. I have seen numbers of younger men accepted who do not meet this test. This dilutes the quality of class profile in my opinion.

Reduce class size.

Level of student qualifications could be higher.

Keep the standards up. The program must remain tough to remain worthwhile.

Continued concentration on entry requirements to maintain quality of "student input".

Suggestions relating to instructor efficiency:

Efficiency and effectiveness of class time could be improved immensely. Through better preparation and extensive use of pre-prepared transparencies the professors could have covered more material in a more effective manner. Industry could provide some pointers in more effective communication.

Better organization of material in courses.

Improve teaching effectiveness by better presentation of lectures, use of visual aids and better lecture preparation.

Suggestions relating to instructor attitudes and qualifications:

Many of the instructors were there to demonstrate how much they knew about the subject, not to see how much they could teach us. Questions were not encouraged in some classes. In one marketing class any question was considered a challenge to the instructor. Instructors should be selected for their maturity.

(1) Professors' attitude that they knew it all, in the face of experienced individuals in the class who probably knew more than they did on any particular facet of a subject, turned many students off. It quickly turned from a learning experience to a matter of being able to parrot back the "party line". Too bad about half the teachers can't realize that they too can learn from the experiences of others. This needs to be changed in order for _____ to participate actively again. (2) Also, some professors' reluctance to take a position on a "sticky wicket" subject where they might be outsmarted by students rapidly lost student respect.

The level of instruction should be upgraded.

Have instructors that know the students better; more is gained from fellow students in most classes. Some instructors treat the students like they were 18-year-olds on campus.

I feel the instructors should have less freedom in selection of materials they cover because they have a tendency to: (a) spend too much time on their own experience and (b) have you do research for their benefit even if it is unrelated to the course.

Attention to qualifications of course instructor to qualifications and experience of "students".

Retire Dr. _____.

A few class members were over-sensitive about grades and some professors had a tendency to "retaliate" and the word was, or at least appeared to have been, passed through the professor ranks that our class was grade conscious. All suffered to a certain extent for the immature actions of a few students and professors. If there was some way you could reduce the ego need of a few professors or eliminate them from the program you would automatically improve the whole situation 75%.

Get some instructors that can teach and have some practical experience.

APPENDIX E

TABLES OF MULTIPLE REGRESSION RESULTS

TABLE E-1

MULTIPLE REGRESSION WITH GRADE POINT AVERAGE
AS DEPENDENT VARIABLE

INDEPENDENT VARIABLE	MEAN	STANDARD DEVIATION	CORRELATION	REGRESSION COEFFICIENT	STD. ERROR OF REG. COEFF.	t
FIRM SIZE	3.75	1.05	.173	.050	.023	2.20*
AGE	41.92	6.94	-.034	-.001	.003	-.30
SUP. ABILITY	31.14	22.27	-.134	-.003	.004	-.68
INITIATIVE	45.54	29.45	-.136	-.002	.004	-.44
SELF ASSURANCE	30.77	21.15	-.122	.003	.006	.51

* Significant at .05 level, two-tailed

TABLE E-2

MULTIPLE REGRESSION WITH ANNUAL PERCENT SALARY INCREASE AS DEPENDENT VARIABLE

INDEPENDENT VARIABLE	MEAN	STANDARD DEVIATION	CORRELATION	REGRESSION COEFFICIENT	STD. ERROR OF REG. COEFF.	t
FIRM SIZE	3.76	1.05	.039	.003	.037	.08
GRADE POINT	3.53	.29	.128	.218	.134	1.63
ORIG. HIER. LEVEL	2.87	1.17	-.141	-.050	.033	-1.52
ACH. MOTIVATION	42.55	8.48	.111	.008	.005	1.78
N. FOR POWER	11.59	2.13	.203	.047	.018	2.61**

** Significant at .01 level, two-tailed

TABLE E-3

MULTIPLE REGRESSION WITH ANNUAL NUMBER OF PROMOTIONS AS DEPENDENT VARIABLE

INDEPENDENT VARIABLE	MEAN	STANDARD DEVIATION	CORRELATION	REGRESSION COEFFICIENT	STD. ERROR OF REG. COEFF.	t
FIRM SIZE	3.78	1.03	-.070	-.020	.018	-1.13
GRADE POINT	3.53	.29	-.025	-.020	.065	-.31
ORIG. HIER. LEVEL	2.86	1.15	-.278	-.054	.016	-3.29**
SUP. ABILITY	29.26	5.80	.013	-.001	.003	-.43
N. SELF ACTUAL.	11.46	2.86	.196	.014	.007	1.99*

* Significant at .05 level, two-tailed
** Significant at .01 level, two-tailed

TABLE E-4

MULTIPLE REGRESSION WITH ANNUAL INTERORGANIZATIONAL MOBILITY AS DEPENDENT VARIABLE

INDEPENDENT VARIABLE	MEAN	STANDARD DEVIATION	CORRELATION	REGRESSION COEFFICIENT	STD. ERROR OF REG. COEFF.	t
GRADE POINT	3.52	.29	-.190	-.079	.031	-2.51*
ORIG. HIER. LEVEL	2.87	1.16	-.025	-.007	.008	-.88
COSMOPOLITANISM	4.00	.49	.209	.044	.019	2.27*
SAT. WITH WORK	4.11	.73	.153	.014	.013	1.12
INITIATIVE	35.03	6.67	.109	.000	.002	.22
ACH. MOTIVATION	42.53	8.43	.104	.000	.001	.14
N. FOR SECURITY	9.48	3.91	-.099	.000	.003	.11

* Significant at .05 level, two-tailed

APPENDIX F

QUESTIONS FOR SELECTION DECISION MAKERS

QUESTIONS FOR SELECTION

DECISION MAKERS

1. Do you make the sole selection decision?

2. Does anyone have veto power over your decision?

3. Do individuals ever ask to be entered?

4. What selection criteria do you use?

5. Which of the following criteria are used?

   (a) Random selection.
   (b) Promotion potential.
   (c) Need for improvement of deficiencies.
   (d) Personal request of manager.

6. What sort of organizational or personal pressures affect your choices?

7. Are there limits on your participation? If so, who imposes those limits? How do you decide the number of individuals to be entered?

8. Have you, or are you planning to, increase or decrease participation?

9. In general, are the individuals chosen 'ready for promotion'? Have they just been promoted?

10. What percent of those individuals chosen for program entry subsequently enter the program?

11. Have you had any feedback on how managers did subsequent to program entry, in terms of performance, promotion, lateral moves, and salary increases?

12. In general, is it your impression that individuals who have completed the program are moving faster, as fast, or slower than those managers who were not chosen to enter? Than those who were chosen but did not enter?

13. Are you satisfied with the program? What problems have you seen? Do you get any complaints from participating managers? From nonparticipating managers? From others?

14. Do you have any suggestions for improvement of the program?

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