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An analysis of the relationships between philosophical attitudes and personality characteristics

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by

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CHAPTER I. INTRODUCTION

Background

This research is an exploratory study directed at examining the relationships between a person's philosophical attitudes, as measured by a 44-item Likert scaled educational philosophical inventory, and an individual's personality characteristics, as measured by Cattell's 1969 edition of the Sixteen Personality Factor Questionnaire (16PF).

The reasons for undertaking an exploratory investigation, as opposed to designing a study primarily directed at testing hypothesized relationships between philosophical attitudes and personality characteristics are twofold: 1) Extant literature reveals a sparsity of studies, in the educational realm, specifically designed to investigate such proposed relationships, although there are substantial theoretical reasons for doing so. More commonly, one discovers studies investigating personality characteristics as related to teacher effectiveness (Medley and Mitzel, 1959; Start, 1966; Lamke, 1951; McClain, 1968; Guba and Getzels, 1955; Levin, et al., 1957; Oldroyd, et al., 1973); attitudes in relation to teaching success or ability (Rocchio and Kearney, 1955; Scates, 1956; Wandt, 1952, Merritt, 1971; Kerlinger, 1967; Kerlinger and Pedhazur, 1968; Brown, 1974; Ringness, 1952; Oliver, 1953); attitudes and/or personality characteristics as related to various and sundry teacher variables, e.g., age, sex, teaching areas, grade level, experience, etc. (Getzels and Jackson, 1963; Ryans, 1960; Erickson, 1954; Ward, 1969; Kidd, 1972) 2) Those few studies designed to "test" hypothesized

relationships have resulted in inconclusive findings, directly attributable to inappropriate methodology and/or instruments employed to measure the desired characteristics.

Reason two, as stated above, can be considered in light of the cliche, "a chain is only as strong as its weakest link," in this case the weakest link referring principally to the "ad hoc" philosophical instruments designed and employed to measure the appropriate attitudes. In this instance, the currently employed inventory, designed to measure an individual's philosophical learning, is believed to strengthen that link, as the information on validity and realiability documented in Chapter III, will indicate.

The Problem

What are, if any, the relationshps existing between an individual's philosophical attitudes and personality characteristics? Does a reserved, detached, critical, aloof, stiff personality type show a different philosophical preference than does an outgoing, warmhearted, easygoing, participating type of person? Would the former perhaps lean toward Idealism (or Classical Realism) and the latter toward Pragmatism or Existentialism? More specifically, how do the scoring patterns of subscales on a philosophical attitudinal inventory interact with the categorization of individuals at three levels (low, average, high) of each of the sixteen source traits measured by the Sixteen Personality Factor Questionnaire (16PF).

From a philosophical standpoint, Van Cleve Morris lends theoretical relevance and justification to the questions posed by

asserting "that philosophy eventually controls the quality of our conduct, and that it is the quality of our conduct which in the long run adds to the quality of human living" (Morris, 1961, p. 408). Morris further maintains that "No matter how much teachers and administrators may affect innocence about things philosophical their behavior patterns in the shcool are outgrowths of the philosophical and policy positions they individually hold whether they realize it or not" (Morris, 1961, p. viii). In addition, Carlton H. Bowyer concurs and shares what has been a widely held opinion among educational philosophers that "one's individual philosophical attitudes largely determine his educational aims and choices" (Bowyer, 1970, p. 9).

Thus for Morris, Bowyer, and others, an individual's philosophical leaning plays a crucial role in determining behavior relevant to teaching and administering, opinions and beliefs about subject matter, learning, discipline, and the overall function of schools. (see Morris, 1961, Chapter 14 and 15). But attitudes, in particular philosophical attitudes, reflect only a subset of variables hypothesized as characterizing or in part explaining behavior. Attitudes are subsumed under a larger categorization generally referred to as personality, and in turn an individual's personality "traits" are postulated to effect, explain, and predict behavior (see N. L. Gage, 1963, Chapter 3 and 11). It is within this context that research directed as exploring relationships between and interactions among personality characteristics and philosophical attitudes is justified.

However, an even more impelling theoretical justification is established by educational philosophers, such as Colvin Ross, the designer of the Ross Educational Philosophical Inventory (REPI) who asserts in the accompanying manual to the REPI, that an Idealist "is basically authoritarian . . . . He accepts the supernatural. He cannot compromise his ideals. He views others as needing to be told." Or that a Realist is "objective" and a "mental disciplinarian" (Ross, 1969). Likewise, Van Cleve Morris generalizes that Realists and Lay Neo-Thomists "tend to be more impersonal and systematic in their procedures" and that for an Idealist "personal rapport" with a group of students is a trademark of their philosophy (Morris, 1961, p. 409). It is then in the light of these previous statements that the present study derives its motivation--principally from the inferred personality characterizations attached to various philosophical attitudes.

In order to investigate the relationships between personality and philosophy subjects are categorized as high, average, and low on each of the sixteen source traits of Form C, of the 16PF personality factor questionnaire. In addition, each subject responds to a philosophical attitudinal inventory measuring four philosophical attitudes; realism, idealism, pragmatism, and existentialism. Of interest are the profiles of the mean scores on the four philosophical subscales as related to a groups classification of high, average, and low on the individual source traits. That is, does the mean score profile on the four philosophical subscales for individuals categorized as high on a particular source trait differ from

the mean score profile of individuals categorized as average on that particular personality trait? Specifically, given two fixed factors (Factor A being the classifications, high, average, and low for each of the source traits, and Factor B being the four subscales of the philosophical inventory, with Factor B being the repeated measures factor since each subject was scored on the subscales) does there exist a significant interaction between personality categorization and the attitudinal subscales? A significant interaction indicating in this instance, that the mean score differences on the four subscales are a function of an individual's classification on a particular source trait.

CHAPTER II. REVIEW OF LITERATURE

Background

In the technical manual of the Minnesota Teacher Attitude Inventory (MTAI), Cook, Leeds, and Callis present the theoretical rationale underlying the design and construction of their instrument.

> It would be an oversimplification of the problem to assume that the difference between teachers . . . can be completely explained in terms of attitudes toward children, toward teaching, toward the school, toward subject matter, etc. Certainly the differences are the result of numerous factors, including academic and social intelligence, general knowledge and abilities, social skills, personality traits, energy, values, and teaching techniques. However, it can be assumed that the attitudes of a teacher are the result of the interaction of this multitude of factors and, therefore, that attitudes afford a key to the prediction of the type of social atmosphere a teacher will maintain in the classroom (Leeds, et al., 1951, pp. 3-4).

Concomitantly, Marvin Shaw and Jack Wright (1967) reflect; "If the attitude of a person toward a given object, or class of objects, is known, it can be used in conjunction with situational and other dispositional variables to predict and explain reactions of the person to that class of objects" (Shaw and Wright, 1967, p. 1).

Thus attitudes, as psychologically hypothesized constructs, serve to account for and explain consistencies in social behavior. However, as noted by Cook, et al. and Shaw and Wright, attitudes must be considered in conjunction with a host of other variables, such as dispositional or personality constructs, to give a clearer account of human behavior. As argued by E. G. Guba and J. W. Getzels:

> Whatever the teacher may teach, it is obvious that the teaching is carried on in the context of an interpersonal setting. It is this factor which, more than any other, accounts for the crucial importance of teacher personality in mediating the teaching-learning process. The teacher cannot force the pupil to learn; what he can do is to produce a situation which the pupil will find conducive to learning. To relieve the teaching process of its affective elements is to reduce it to a sterile, highly intellectualized procedure which the pupil is unlikely to find encouraging" (Guba and Getzels, 1955, p. 335).

The contention of the crucial aspect of personality in explaining teacher behavior is sustained by P. M. Symonds. Based upon his studies Symonds maintains that:

> . . . teaching is essentially an expression of personality. The teacher adapts himself to teaching in a manner that is harmonious with his expressions toward life situations in general. Methods and procedures learned during college preparations may influence teaching superficially but they do not determine the nature of the relation of a teacher to his pupils or the teacher's basic attitude toward teaching (Symonds, 1954, p. 83).

Thus, in addition to attitudes, behavior is conceptualized as resulting from and being explained by an individual's personality characteristics in conjunction with situational or environmental factors (Byrne, 1974, pp. 15-27). Although the latent variables--attitudes and personality--are conceptualized as interacting to explain and predict behavior, as noted by M. Sanai: "Though numerous investigations have been carried out on the measurement of attitudes, surprisingly little research has been done on the relation of attitudes to traits of personality" (Sanai, 1952, p. 4). Ironically, this observation still appears valid.

The Leeds - Cook and Medley Studies

Carroll H. Leeds (1956) employed the Minnesota Teacher Attitude Inventory (MTAI) and the Guilford-Zimmerman Temperament Survey (GZTS) in a study designed to "provide some indication of what temperament traits tend to characterize teachers who maintain harmonious relations with pupils, and teachers who do not get along well with pupils" (Leeds, 1956, p. 333). Both instruments were administered to a sample of 300 public school teachers (grades 1 through 12) in a large metropolitan area of South Carolina. In turn, correlation coefficients were calculated between the MTAI scores and the scores of each of the ten temperament traits measured by the GZTS. The traits found most closely related to MTAI scores (all significant at the .01 level) were: Personal Relations (r=.52), Friendliness (r=.36), Objectivity (r=.44), and Emotional Stability (r=.36). Leeds concludes:

> There is a definite indication then that teachers who get along well with pupils tend to be cooperative, friendly, objective, and emotionally stable, and, to a lesser degree, manifest sociability, social ascendancy, and masculinity in emotions and interests. Those who do not have high rapport with pupils, on the other hand, tend to be critical and intolerant, hostile and belligerent, hypersensitive, depressed, and emotionally unstable . . . . The results also indicate that to a certain extent, the MTAI score is an indirect measure of these temperament traits (Leeds, 1956, pp. 333-34).

In a comparable study Walter W. Cook and Donald M. Medley (1955) administered the MTAI and the Minnesota Multiphasic Personality Inventory (MMPI) to a group of 212 public school teachers in Minnesota in order to investigate "whether any specific suggestions can be made for

counselors attempting to interpret MMPI profiles of college students interested in becoming teachers" (Cook and Medley, 1955, p. 123). The sample was grouped by sex, and within sex categorized as low or high rapport teacher as determined by the distribution of scores on the MTAI. In turn a series of T-tests were performed between the high and low rapport categories within each group on the mean raw scores of the scored scales of the MMPI.

Of particular interest were the scoring patterns for the high rapport respondents, both male and female, on the K scale of the MMPI. As discussed, the K scale measures a "generalized attitude toward self-rating inventories which differentiates individuals inclined to unduly 'normal' scores - to mark items in a socially acceptable way more often than the average person does - from individuals to get unduly 'abnormal' scores - to mark items in a way that shows them in an unfavorable light" (Cook and Medley, 1955, pp. 126-27). Consequently, although the researchers reported "tentative" scoring patterns for high and low rapport teachers on several of the MMPI scored scales, they drew no conclusions "because of the prominent role of the set factor measured by the K scale" (Cook and Medley, 1955, p. 129).

The Kidd Study

In a study designed to investigate the relationship between teachers' selected philosophical attitudes and personality traits, and principals' perceptions of teacher acceptance of cross-town bussing in Norfolk, Virginia, Sarah Kidd (1972) utilized the Ross Educational

Philosophical Inventory (REPI) and R. B. Cattell's Sixteen Personality Factor Questionnaire (16PF), Form C, to measure the appropriate philosophical attitudes and personality traits in relation to the criterion variable, acceptance of cross-town bussing. The study was designed to test three hypotheses:

1) There is no relationship between the philosophical beliefs of teachers and the degree to which their principals perceive they accept full integration of their school system through transportation.
2) There is no relationship between the personality characteristics of teachers and the degree to which their principals perceive they accept full integration of their school system through transportation.
3) The contribution of the REPI and the 16PF questionnaire are equal with respect to ratings of acceptance of bussing to integrate schools (Kidd, 1972, p. 12),

The most pertinent one to the present study is hypothesis three.

As a prelude to examining the hypotheses, Kidd advanced the usual assumption that "each individual has his own unique personality, particularlistically [particularly] shaped by his special endowments and experiences. Therefore, it is assumed that beliefs and personal characteristics as defined in this study govern behavior" (Kidd, 1972, p. 21). Concomitantly, a second crucial assumption is that the necessary instruments (attitudinal and personality inventories) exist in order to measure the appropriate facets of the attitude and personality domains.

Of the two instruments employed in the Kidd study, the reliability and validity studies conducted on the 16PF reflect the instrument's adequacy and usefulness in measuring "normal" personality dimensions (see reviews of the 16PF in the 5th, 6th, and 7th Buros Mental Measurement Yearbooks). However, the psychometric properties of the REPI at the time of the Kidd study were not as well known.

Maurice Villano (1973), who conducted a psychometric analysis of the REPI, concluded that the inventory did not measure the four philosophical domains of realism, idealism, pragmatism, and existentialism as proported by its developer. In a second, more extensive, study of the properties of the REPI, R. L. Ziomek (1975) reported that two of the instrument's four subscales were being measured (with moderate reliabilities), in addition to noting that the reliability estimates as calculated and reported in the REPI manual were erroneous.

Even if the reliability and construct validity evidence were such as to support the reasonableness of the REPI in her research, it is interesting to present the methodology employed by Kidd to analyze the data and subsequently test her hypotheses. As noted previously, the hypothesis of interest is concerned with the relationship between the 16PF and the REPI with respect to the rankings of teachers by principals regarding the acceptance of bussing to integrate schools. As a means to this end, Kidd collected data on both instruments from 120 teachers at nine schools. In the interim she constructed the Principals Rank Order Acceptance Inventory (validated by a select group of university professors) and administered it to the principals of the nine schools in order to rank the teachers in terms of their acceptance

or rejection of bussing to integrate schools. Kidd then proceeded to compute the Spearman rank order correlation for the teachers' REPI scores and their principal rankings within schools; a similar procedure was performed for the 16PF scores and rankings. On the basis of the results she concluded that the correlational structure of the REPI scores with principal rankings, and the 16PF scores with rankings revealed no difference between the two in contributing "more" explanatory variance (Kidd, 1972, p. 73). Lastly, in addition to reporting that all three hypotheses failed to be rejected, Kidd analyzed the relationship between the 16PF and REPI scores, via Pearson's product moment correlation and reported no significant correlations.

The Phillips Study

Raymond V. Phillips (1956) employed the Minnesota Teacher Attitude Inventory (MTAI) and the Gordon Personal Profile to investigate possible relationships between attitudes and personality characteristics among teachers. His sample consisted of 500 teachers categorized as either liberal arts or teachers college graduates currently teaching at one of the three grade levels; K-6, 7-9, or 10-12.

Phillips' findings revealed that although liberal arts graduates exhibited higher scores than teachers college graduates on the MTAI (higher scores on the MTAI implying a more "liberal" teacher attitude toward pupils and teaching procedures, whereas, lower scores implying a more "conservative" outlook and practice), no significant differences were found between the two categories of teachers compared at each of

three teaching levels (elementary, middle and high school). Likewise, he found no significant differences among the means for the personality scores for the teacher categories analyzed at the individual levels. Lastly, based upon an examination of the correlations between the MTAI and personality scores, Phillips concluded that, "there is no evident relationship between the results on the MTAI and the results on the Gordon Personal Profile" (Phillips, 1956, p. 73).

Phillips does report, however, a finding based upon a scoring trend on MTAI scores. Liberal arts trained teachers at the elementary level tended to score higher on the MTAI than those teaching at the "middle" and senior high levels; likewise, those teaching at the junior or "middle" level tended to exhibit higher scores than those teaching at the senior level (the same pattern being reflected by teachers college trained teachers). As a result of an analysis of variance "computed in order to determine whether or not the differences between types of training and between the various teaching levels were statistically significant" (Phillips, 1956, p. 61), the researcher concluded that there was no statistically significant difference between liberal arts and teacher college trained teachers on the MTAI; however, there existed a statistically significant difference among grade levels, teachers at the K-6 level scoring higher than those at the 7-9 and 10-12 levels.

With respect to his conclusions, Phillips maintains that the "results obtained from the testing instruments used in this study must be predicated on the assumption that these instruments measure what

they are supposed to measure, and that their validation has been made in relation to an appropriate set of concepts and an appropriate set of criteria" (Phillips, 1956, p. 72). The MTAI, developed by Leeds, Cook, and Callis, was "designed to measure those attitudes of a teacher which predict how well he will get along with pupils in interpersonal relationships, and indirectly how well satisfied he will be with teaching as a vocation" (Leeds, Cook and Callis, 1951, p. 3). Since its inception much criticism has been leveled at the instrument's susceptibility to faking (see G. G. Stern, in N. L. Gage, 1963, pp. 416-17). Phillips' results only add to the confusion associated with the numerous findings obtained in previous studies regarding teacher training institutions, teaching level, experience, etc. (see J. W. Getzels and P. W. Jackson in N. L. Gage, 1963, pp. 512-15).

The Gordon Personal Profile, published in 1953, and designed to measure the personality characteristics of Ascendancy, Responsibility, Emotional Stability, and Sociability, consists of four descriptive phrases, with all four factors being represented in each tetrad. A subject responds to each tetrad by choosing the phrase most and least like himself, and in turn a profile is generated. Probably as a result of its "newness" with respect to the Phillips' study, the researcher noted that he found no studies reported in the literature dealing with the use of the Profile since its publication (Phillips, 1956, p. 53). Phillips, likewise, reported no reliability estimates which would have afforded some idea as to how well the instrument was performing in his particular situation. In addition, B. G. Fricke, in his review of the

Profile, cautions that, "since the profile became available commercially in 1953, it is perhaps significant that the reviewer was unable to locate one study in the literature bearing on the test's validity; not only have individuals other than the author not reported on its validity, but the author himself has not done so" (Buros, Fifth Mental Measurement Yearbook, pp. 127-29). Conceivably, low reliability estimates could have contributed to the nonsignificant results reported by the researcher, and would have afforded the necessary basis for cautious interpretation of his conclusions.

Gordon and Sears' Studies

Bill Gordon (1967) and Samuel Sears (1967) conducted similar but separate studies directed respectively at studying the relationship between educational administrator dogmatism and philosophical orientation, and teacher dogmatism and philosphical perspective. Of the eight hypotheses investigated by Gordon, the following is most relevant to the current study: "Administrators scoring low in dogmatism will score progressive in philosophy and those scoring high in dogmatism will score traditional in philosophy" (Gordon, 1967, p. 36). In order to investigate this hypothesis, the researcher employed the Dogmatism Scale, developed by Milton Rokeach, in 1952, to measure the degree of a person's openmindedness - closemindedness. As noted by Gordon, data from the Scale "indicated that persons who score high reject relevant information in problem solving, remain loyal to the system longer, and are not as creative in their solutions to problems as those who score lower"

(Gordon, 1967, p. 34). A second instrument called the Philosophy Scale was utilized to measure an individual's traditional versus progressive educational philosophy, a high score on the inventory reflecting a more traditionally oriented philosophy. With respect to the philosophical inventory, Gordon reports no information regarding its construction, validation, or reliability estimates.

Both instruments were administered to a sample of 57 school administrators, first as a group, and secondly, the sample being divided into two classes on the basis of a mediating variable referred to as holding power, "the ability of a school system in this study to retain students in secondary school beyond compulsory school age, and expressed as a percentage comparing those students remaining to the total number of students of secondary school age in a district" (Gordon, p. 37). For the total sample, the Pearson product moment correlation was calculated between scores on both instruments. The coefficient (r= .75) proved significant at the .01 level. Subsequently, Gordon concluded that the hypothesis was not rejected. A similar procedure was employed for the within groups analysis. A coefficient of r= .37 significant at the .05 level of the high holding power group, and an r= .25, which was not significant for the low holding group were reported. As noted by Gordon:

> Using the significance of the difference between correlations, it was found that a difference of .12 (.37 minus .25) between administrators from high holding power systems and administrators from low holding power systems on the philosophy and dogmatism relationship was not large enough to conclude that the high holding power group of administrators was significantly different from the low holding power group on these two variables. The resulting critical ratio (CR) was .45 with 1.96 being required to reach the .05 level of significance. This implied that the high relationship

> exhibited when all the administrators were included in the calculation was contributed only slightly more by administrators from high holding power systems than by administrators from low holding power systems (Gordon, 1967, p. 41).

The utilization of r, with respect to Gordon's findings does raise an interesting point regarding the conclusiveness of the results. Snedecor and Cochran note that r is affected by both sample size and the size of the correlation coefficient (more crucially for small samples which in turn reflect small degrees of freedom), and in turn the significance or nonsignificance of r may be no more than accidents in sampling (Snedecor and Cochran, 1967, p. 184).

Samuel Sears proceeded in a similar fashion by administering the aforementioned instruments to a sample of 409 school teachers (365 sets of responses were deemed useable for subsequent analysis), and investigating a similar hypothesis. The researcher categorized teachers as opened-closedminded, and traditional versus progressive by selecting respondents scoring at the upper and lower quartile range of each scale's frequency distribution. In turn the data were analyzed via a 2 x 2 contingency table. A chi-square of 26.10, significant at the .01 level was reported. On this basis Sears concluded that "closeminded teachers tended to have a traditional philosophical orientation and openminded teachers a progressive orientation" (Sears, 1967, p. 55). Once again, a note of caution is necessary with respect to Sears' conclusion. As noted by Snedecor and Cochran:

> In interpreting the results of these χ^2 tests in non-experimental studies, caution is necessary, particularly when χ^2 is significant. The two groups being compared may differ in numerous ways, some of which may be wholly or

> partly responsible for an observed significant difference . . . . Before the investigator can claim that a significant difference is caused by the variable under study, it is his responsibility to produce evidence that disturbing variables of this type could not have produced the difference (Snedecor and Cochran, 1967, p. 218).

In establishing his contingency table and subsequently reporting a significant chi-square, Sears did not furnish a characterization of the individuals falling into the cells, in spite of collecting information on six items used as control variables: (1) age; (2) sex; (3) teaching level (elementary or secondary); (4) experience in the district; (5) experience in the education profession; and (6) whether or not the subject was a native of the district (Sears, 1967, p. 50). In relation to Snedecor's and Cochran's comment, it would appear that the data collected on the control variables could have provided invaluable information regarding an interpretation of Sears' conclusion.

The Laury Study

Patrick D. Laury's (1971) major effort was directed at investigating the relationship between personality traits and particular educational philosophical attitudes, and whether these relationships vary depending upon one's status as an undergraduate, graduate student or teacher. Form A of Cattell's Sixteen Personality Factor Questionnaire (16PF), and a philosophical attitudinal inventory, the Test of Educational Philosophy (TEP), were administered to a sample of 151 individuals - 51 undergraduate students from Harrison Teacher College, St. Louis; 69 graduate students from St. Louis University; and 31 teachers from the public and parochial school system of St. Louis.

The TEP, scored on a 5-point Likert scale, was designed by Laury to measure the educational philosophical attitudes of perennialism, essentialism, progressivsm, reconstructionism, and existentialism. Initially, 500 statements were gathered from general works in the area of philosophy of education. This set was subsequently reduced by Laury to 60 statements (12 per philosophical system) after several consultations with a professor in foundations of education at St. Louis University. In addition, the items were reviewed for clarity and edited by two undergraduates, two graduate students, and two teacher friends (Laury, 1971, pp. 52-54). No other validity information is furnished by the researcher. Based upon a set of 50 randomly selected tests from the original subsample (Ss 151) split-half estimates of reliability were reported as: essentialism (r_{xx} = .71); perennialism (r_{xx} = .65); existentialism (r_{xx} = .81); reconstructionism (r_{xx} = .75); progressivism (r_{xx} = .84).

Laury proceeded to test his first hypothesis, i.e. that "there is no relationship between a person's philosophy of education and his personality characteristics" (Laury, 1971, p. 67), by creating four intercorrelation matrices (one for each of the three subgroups, and one for the total) representing the correlations between the scores of the five TEP subscales, and the 20 factor scores of the 16PF (the 16 primary factors, and the 4 secondary factors were scored by Laury). Of the 100 correlations in the 20 x 5 total group matrix, 14 were reported significant at the .01 level and 13 more at the.05 level of significance. Based upon these results Laury concluded that, "Although

most of the correlations which were found to be significant at the .05 and .01 levels of confidence were low, the results seem quite sufficient to warrant the rejection of hypothesis one" (Laury, 1971, p. 77). The basis for this conclusion rests with Laury's statement that, "Results indicated that there were a sufficient number of correlations to warrant the rejection of the first hypothesis . . ." (Laury, 1971, p. 92).

Laury's design and testing of his second hypothesis, "the relationship, if one exists, between philosophy of education and personality characteristics is not more significant among teachers than it is among graduate and undergraudate students; and not more significant among graduate students than it is in undergraduates" (Laury, 1971, pp. 77-79), proceeds in an unusual fashion. Laury states that:

> All correlations found to be significant for the total sample or for any of the subsamples were used to test this hypothesis. For example, total group data indicated a positive significant correlation between personality factor A and progressivism. Therefore, the correlation on these variables for the teacher subsample was compared with that for the graduate student subsample and then with that obtained for the undergraduate subsample. Next, the correlations, on these same variables for the undergraduate and graduate subsamples were compared. These comparisons were accomplished by using Fisher's Transformation of r's to z's which tests the significance of the difference between two r's (Laury, 1971, p. 79).

As a result of this procedure, 36 significant correlations were found among the four intercorrelation matrices, which resulted in 108 differences being tested; of these 17 were significant at .05 level. On the basis of these tests Laury argues:

> Although there seems to be some evidence to support hypothesis two, this evidence is inconclusive at best. Graduate students did not display any consistent tendency to have correlations higher than undergraduates. And

> teacher correlations were more significant than those of the other two groups in only nine instances. This information plus the great number of insiginficant differences leads to the conclusion that, at this time, hypothesis two cannot be rejected (Laury, 1971, pp. 81-82).

However, it appears that Laury has misused a test of a statistic, and misinterpreted the results associated with it relative to his second hypothesis. For example, Laury related that:

> Correlations for undergraduates (group 1) were more significant than those for graduate students (group 2) on the following variables: personality factors E and existentialism, I and essentialism, Q_3 and reconstructionism. Although having six correlations more significant than those for group 2, undergraduates had no correlations more significant than those of group 3 (teachers) (Laury, 1971, p. 81).

When testing the difference between two sample values of r, one is not testing that one sample correlation coefficient is more significant than a second, but testing the hypothesis that the two sample values of r are drawn at random from a common population. (See Snedecor and Cochran, 1967, p. 186). Thus, the conclusions drawn based upon the "tests" of the two hypothesis are erroneous and misleading.

At this juncture it becomes appropriate to reveal a flaw associated with the studies reviewed to this point. In none of the preceding studies (Kidd, Sears, Gordon, Laury, and Phillips), attempting to measure an individual's philosophical orientation, was sufficient reliability or validity evidence provided to support the use of the inventories employed. A major undertaking of the current study is the utilization of instruments for which a reasonable amount of reliability and validity data is available.

CHAPTER III. INSTRUMENTATION AND DATA ANALYSIS

The Sixteen Personality Factor Questionnaire (16PF)

Since its publication in 1949, by the Institute for Personality and Ability Testing (IPAT), Champaign, Illinois, the 16PF has been subjected to a quarter century of research, centering on item analysis, improvements in reliability and validity, and cross cultural validations. In one of the earliest reviews of the 16PF, appearing in Buros' Fourth Mental Measurement Yearbook (MMY), J. R. Wittenborn writes, "The questionnaire as it stands is not a finished tool. It represents a very worthwhile and ambitious beginning, however, and this reviewer takes pleasure in suggesting its use wherever trial approaches to the evaluations of new aspects of personality are desired" (Fourth MMY, p. 149). The reviews of C.J. Adcock (Fifth MMY, pp. 196-199) and Maurice Lorr (Sixth MMY, pp. 367-368) discuss the refinements as well as advancing suggestions for further enhancing the inventory, while as of the Seventh MMY, L. G. Rorer comments that "In conception and design, the 16PF is unique, and a priori may well be the best personality inventory there is" (Seventh MMY, p. 333).

The 16PF has been constructed via the factor analytic technique, built up from the factoring of questionnaire material, rating data, objective tests, etc. Each factor (rotated to oblique simple structure) or source trait, as referred to by Raymond B. Cattell, is composed of items:

> . . . which go together to constitute a single factor scale . . . because they correlate significantly with that factor. But items do not necessarily correlate significantly with each other; i.e., the scale need not have significant homogeneity . . . . A simple-structure factor is hypothetically a single influence which operates on, and correlates with all items chosen for the given scale, and which is functionally distinct from all other factors (Cattell, et al., 1970, pp. 15-16).

The central feature of the 16PF, as noted by Cattell, is that the 16PF is "firmly based on the personality sphere concept . . . -- a design to insure initial item coverage for all the behavior that commonly enters ratings and the dictionary descriptions of personality" (Cattell, et al., 1970, p. 6)

The 1969 edition of Form C, of the 16PF battery, contains 105 items. Statements are of two types, each with three alternate responses:

I like to watch team games.

a. yes b. occasionally c. no

I prefer people who:

a. are reserved b. (are) in between c. make friends quickly

Of these 105 items, seven are associated with an experimental factor which was not scored for the present study; thus ninety-eight items distributed among the 16 primary factors were scored (see Cattell, et al., 1970, pp. 16-17). Although chapter five of the technical handbook for the 16PF, entitled "Psychometric Properties of the Scales: Consistencies and Validation, " contains an extensive discussion of the psychometric properties of the 16PF, limited information is presented on the 1969 edition of Form C. Major emphasis is concentrated upon Forms A and B (the longer of the six parallel forms), and various combinations of

Forms A, B, C and D, in the discussion of the technical properties of the scales, principally, because Cattell recommends the use of at least two if not the full extension (depending upon situational considerations), i.e. all six forms, to enhance reliability (Cattell, et al., 1970, p. 24). However, because of the complex of situational considerations necessitated by testing the use of a single form is not discouraged by Cattell, "So long as the test has any real validity and reliability above 0.0, a better decision on an individual case can be made with the test than without it" (Cattell, et al., 1970, p. 40-41). The exigencies of time and testing circumstances necessitated the utilization of the single Form C in the current study.

Both the philosophical inventory and Form C were completed by students (Ss=194), attending courses in the College of Education, at Iowa State University, during the Fall and Winter quarter, 1976-77, in a single sitting. Form C takes approximately 30 minutes to complete, while the inventory takes 20 minutes to fill out. Appendix C contains, in condensed form, a description of the 16 primary source traits, upon which scores were tabulated for this study. (For a more detailed discussion, see Cattell, et al., 1970, Chapter 9.)

The Philosophical Attitude Inventory

The attitudinal inventory utilized in the current study represents an attempted refinement of the Ross Educational Philosophical Inventory (REPI), developed by Professor Colvin Ross (1969) of the University of Connecticut. (For a detailed discussin of the development of the REPI see Ziomek, 1975, pp. 18-22.) Thirty-six members

of the American Educational Studies Association (AESA) whose area(s) of expertise were in either educational foundations and/or educational philosophy responded by categorizing each of the original 80 items of the REPI (Ziomek, 1975) with respect to one of the four philosophical positions being measured, i.e. realism, idealism, pragmatism, and existentialism. As a result of the content analysis of these data, forty-six of the original eighty tiems were retained. The criteria for deleting an item was that no statement representing below a 75% agreement among the judges would be retained. This resulted in eleven realism and existentialism statements, and twelve idealism and pragmatism items being retained (see Tables I through IV).

Several statements were edited according to the Maurice Villano's (1973) suggestions. In addition, Ross' original five-point Likert scale format, ranging from "strongly agree" to "strongly disagree," was changed to a seven-point Likert scale anchored "very strongly disagree" to "very strongly agree," including an "undecided" response category, is an effort to enhance the instrument's realiability (Nunnally, 1967, p. 521).

Subsequent to these refinements, the revised instruments was mailed to a second subsample of AESA members which included individuals who had participated in the earlier study (see Appendix A). The members were requested, prior to completing the inventory, to indicate which of the four philosophical positions best reflects their philosophy of life and/or education, and if eclectic, respond by indicating the appropriate combination of

Table I. Percentage agreement with realism subscale statements

Item	% Agree
5. Knowledge is true as it corresponds to physical reality.	93.9%
9. Man discovers knowledge from the physical and material world.	90.9%
20. Physical or natural laws are real.	84.8%
23. Knowledge is systematized - - its certainty and objectivity are all in accord with the scientific teachings of physical reality.	90.9%
28. Matter is real and concretely exists in its own right independent of the mind.	87.9%
30. The external world of physical reality is objective and factual. Man has to accept it and conform.	87.9%
32. Reality originates in the material and physical world.	93.9%
33. Obtaining knowledge is essentially a process of searching the universe for facts.	87.9%
36. Reality is determined by natural laws beyond man's control.	81.8%
39. Nature contains laws for behavior and ethical direction.	84.8%
44. Knowing is understanding the laws of nature.	93.9%

Table II. Percentage agreement with realism subscale statements

	Item	% Agree
3.	Reality is spiritual or mental in nature.	96.9%
4.	Education can unite the child with the spiritual world.	93.9%
7.	Man is essentially a spiritual being, needing assistance in freeing himself from the confines of the physical and social world.	87.9%
11.	Education is basically a process of spiritual or "soul" growth.	93.9%
14.	Man is a small part of a large universal idea.	100%
16.	The mind is a spiritual entity and dictates or determines what reality is.	90.9%
21.	Reality is a projection of a supernatural mind.	96.9%
26.	The origin of knowledge is in a supernatural source.	84.8%
37.	The aims and laws which regulate human conduct are determined by the superior intelligence of an ultimate being.	87.9%
40.	Truth can be best ascertained through an infinite being.	87.9%
41.	The world of ideas is of a higher quality and nature than the physical world.	93.9%

Table III. Percentage agreement with realism subscale statements

	Item	% Agree
2.	Learning is a process of social interaction that creates new relationships which can be applied to bio-social problems.	81.8%
6.	Experiences constitute reality and govern responses to problems.	78.8%
10.	Knowledge is an instrument of survival, existing for practical utility.	84.8%
13.	Good is whatever promotes a course of action as seen in the effect on further action.	87.9%
15.	Knowledge is found by considering the practical consequences of ideas.	90.9%
19.	Intelligence is the ability to formulate and project new solutions to problems.	93.9%
22.	The test of theory, belief, or doctrine must be its effect upon us, its practical consequences.	96.9%
31.	Knowledge is operational; therefore, there is always a possibility of improvement.	90.9%
42.	Speculating on the relative importance of mind and matter is not as important as investigating the practical utility of each.	87.9%
43.	Knowing is realizing what or how something works relative to any given set of assumptions or circumstances.	84.8%
46.	Solving problems is a students major ambition.	81.8%

Table IV. Percentage agreement with realism subscale statements

	Item	% Agree
1.	The basis of morality is freedom.	75.8%
8.	The only values acceptable to the individual are those he has freely chosen.	90.9%
17.	All knowledge arouses the feeling of the knower.	78.8%
18.	The essence of reality is choice.	96.9%
25.	Reality exists in confronting problems consisting of love, choice, freedom, personal relationships, and death.	90.9%
27.	Man is free; consequently, he is responsible for all of his actions.	84.8%
29.	Man does not form part of any universal system; therefore, he is absolutely free.	87.9%
34.	The authentic life is one of self determination, within a specific time and place.	93.9%
35.	Reality is determined when man chooses either to confront or avoid a situation, make or refuse to make a commitment.	87.9%
38.	Ultimately, the individual chooses what is ethical and must be responsible for his choice.	87.9%
45.	The teacher's primary job is to help the student discover himself.	75.8%

positions (see Appendix B). Of the 178 inventories mailed, 74 were returned. Of these 68 were deemed useable for further analysis. Based upon an initial screening of the useable responses, two statements (idealism item #12, pragmatism item #24) were deleted from their respective scales because of low item means relative to the statements comprising the scale. This left a total of forty-four statements, eleven per scale (see Tables V through VIII).

The total scores, in addition to the means and variances, were calculated for the five categories of respondents; nine respondents declared themselves to be Realists, eleven Idealists, twenty-one Pragmatists, thirteen Existentialists, and fourteen Eclectics (see Tables IX through XIII). In turn, those judges, by category, who indicated adherance to a particular philosophy, but whose total score on that scale was less than or equal to a score on one or more of the other scales were eliminated from further consideration. The asterisked case in each of the tables reflect those respondents who were deleted. This procedure reduced the initial pool of 68 respondents to a total of fifty-six: eight Realists, six Idealists, seventeen Pragmatists, eleven Existentialists, and fourteen Eclectics. Tables XIV and XV respectively tabulate the descriptive statistics for the classification of judges on each of the four subscales, in addition to the reliability estimates for the subscales using both the original group of respondents (N=68) and the adjusted group (N=56).

Table V. Means and variances of realism subscale item scores for respondents classified as realists (N=9)

Item #	Item mean	Item variance
5.	4.889	5.361
9.	5.667	2.500
20.	5.444	0.778
23.	4.444	3.028
28.	6.000	2.500
30.	5.444	1.278
32.	4.667	3.250
33.	4.556	2.278
36.	5.000	2.750
39.	4.667	3.000
44.	5.111	0.861

Table VI. Means and variances of idealism subscale item scores for respondents classified as idealists (N=11)

Item #	Item mean	Item variance
3.	5.727	1.018
4.	5.818	0.764
7.	5.818	0.764
11.	5.727	1.618
12.[a]	3.364	3.255
14.	5.000	2.000
16.	4.455	2.273
21.	4.182	2.164
26.	4.727	3.418
37.	5.364	2.055
40.	5.273	1.218
41.	5.636	1.455

[a]Item deleted from further analysis.

Table VII. Means and variances of pragmatism subscale item scores for respondents classified as pragmatists (N=21)

Item #	Item mean	Item variance
2.	5.524	1.262
6.	5.143	2.229
10.	4.810	1.762
13.	4.429	2.957
15.	5.381	0.848
19.	5.952	0.748
22.	5.667	1.333
24.	4.143	3.229
31.	5.667	1.933
42.	5.000	3.300
43.	5.429	0.357
46.	5.000	2.200

[a]Item deleted from further analysis

Table VIII. Means and variances of existentialism subscale item score for respondents classified as existentialism (N=13)

Item #	Item mean	Item variance
1.	5.462	3.269
8.	5.923	2.077
17.	5.077	1.577
18.	5.231	2.359
25.	5.846	0.974
27.	6.154	0.808
29.	4.385	2.590
34.	6.077	1.244
35.	6.077	0.910
38.	6.231	0.526
45.	5.923	0.577

Table IX. Subscale scores and summary statistics for respondents classified as realists.

Respondent	Philosophical subscale score			
	R	I	P	E
1.	57	41	22	36
2.	62	44	39	43
3.	64	40	40	40
5.	51	25	34	27
6.[a]	59	65	34	47
7.	48	17	44	34
8.	49	17	29	29
9.	55	49	44	44
Mean	55.889	36.889	36.222	38.889
Variance	31.611	244.361	52.694	63.111

[a]Respondent deleted from further analysis.

Table X. Subscale scores and summary statistics for respondents classified as idealists

Respondent	Philosophical subscale score			
	R	I	P	E
1[a]	54	66	50	68
2	41	59	39	32
3	45	54	34	38
4[a]	36	52	52	56
5	26	77	19	35
6	46	53	49	50
7	33	54	36	43
8[a]	54	59	54	59
9	30	63	34	40
10[a]	50	49	54	52
11[a]	61	49	58	37
Mean	43.273	57.727	43.545	46.364
Variance	123.818	70.618	143.273	131.055

[a]Respondents deleted from further analysis.

Table XI. Subscale scores and summary statistics for respondents classified as pragmatists

Respondent	Philosophical subscale score			
	R	T	P	E
1	49	38	57	41
2[a]	67	18	63	50
3	33	30	55	47
4	11	26	57	32
5	43	33	55	38
6[a]	68	33	66	55
7	49	14	70	46
8	34	32	54	48
9	34	15	65	28
10	42	29	52	36
11	47	35	53	39
12	39	11	56	19
13	47	29	66	45
14[a]	52	42	46	38
15	22	23	61	35
16	36	49	53	51
17	49	34	53	44
18	47	26	58	44
19	49	27	60	50

[a]Respondents deleted from further analysis.

Table XI. (Continued)

Respondent	Philosophical subscale score			
	R	I	P	E
20[a]	59	28	55	53
21	55	30	63	44
Mean	44.381	28.667	58.000	42.048
Variance	181.348	83.833	34.400	77.448

Table XII. Subscale scores and summary statistics for respondents classified as existentialists

Respondent	Philosophical subscale score			
	R	I	P	E
1	40	42	52	62
2	29	33	59	71
3	33	30	46	59
4	25	21	36	59
5	43	35	54	61
6	32	24	33	64
7[a]	61	18	63	61
8	33	29	54	58
9	60	29	69	73
10	14	11	57	71
11	41	32	63	66
12	54	52	43	57
13[a]	39	50	41	49
Mean	38.769	31.231	50.077	62.385
Variance	184.359	139.192	126.244	44.256

[a]Respondents deleted from further analysis.

Table XIII. Subscale scores and summary statistics for respondents classified as eclectics

Respondent	Philosophical subscale score			
	R	I	P	E
1	51	52	35	56
2	46	52	35	27
3	42	58	25	15
4	71	26	60	30
5	43	42	47	44
6	50	47	47	52
7	48	29	55	53
8	61	37	46	59
9	48	40	55	60
10	55	48	42	43
11	33	36	58	55
12	40	37	56	64
13	56	47	47	59
14	41	61	57	43
Mean	48.929	44.429	47.500	47.143
Variance	93.456	90.418	107.192	208.132

Table XIV. Means and variances of subscale scores by philosophical category of respondent

Category		Philosophical subscale score			
		R	I	P	E
Realist	$\bar{X}_2$	55.500	33.375	36.500	37.875
	s^2	34.571	152.268	59.429	61.554
Idealist	$\bar{X}_2$	36.833	60.000	35.167	39.667
	s^2	69.367	84.000	94.167	40.267
Pragmatist	$\bar{X}_2$	40.353	28.294	58.118	40.412
	s^2	125.618	85.221	27.860	71.007
Existentialist	$\bar{X}_2$	36.727	30.727	49.727	63.727
	s^2	167.218	114.018	126.418	33.018
Eclectic	$\bar{X}_2$	48.929	44.429	47.500	47.143
	s^2	93.456	90.418	107.192	208.132

Table XV. Estimates of reliability for philosophical subscales[a]

Group	N	Philosophical subscale			
		R	I	P	E
Original	68	.88769	.92078	.87362	.87676
Adjusted	56	.88376	.91729	.88305	.89011

[a]The reliability estimates appearing in the table are estimates derived from Cronbach's Coefficient α.

The next step in the analysis was directed at examining the factor structure of each of the four subscales, via the principal components technique. The primary focus of the factor analysis was to determine "empirically" whether a major portion of the variance in the judges responses to each of the inventory's subscales was being accounted for by a single component conforming to the philosophical construct being measured, or whether several distinct interpretable dimensions emerge in explaining the variability of responses. The principal components solution produces a unique set of mutually uncorrelated, linear combinations of scale variables, successively accounting for a unique proportion of explainable variance, in descending order of magnitude, associated with each factor's corresponding eigenvalue. (See Tatsuoka, 1971, pp. 94-156; Morrison, 1967, pp. 221-258). Tables XVI through XIX contain the results of this analysis. Only those components whose eigenvalues (λ) are greater than or equal to 1.0 are presented. The entries associated with each item for the corresponding component represent the item-factor correlation; this information is useful in "interpreting" a component (see Morrison, 1967, pp. 241-244). It is noteworthy that not only do the first components in each subscale extract approximately 50% of the total scale variance, but, in addition, based upon the item-factor correlations, the initial components in each case can be "interpreted," or "named," by their respective subscale philosophy. The remaining components for each subscale are not as easily interpreted or are simply uninterpretable; this does not, however, exclude

the possibility of "substantive" subsidiary components being measured. However, this possibility is presently indeterminable.

Consequently, on the basis of the psychometric evidence provided, i.e., the principal components analysis, the results of the judges scores presented in Table XIV, and the reliability estimates presented in Table XV, it was concluded that the philosophical attitudinal inventory was providing an adequate measure of the four philosophical constructs.

Table XVI. Correlation coefficients of the realism subscale items with principal components and summary statistics

Realism Item	Components		
	1	2	3
5	.99	-.15	.12
9	.99	-.22	-.32
20	.98	.22	-.30
23	.99	.11	.21
28	.93	.07	-.23
30	.99	-.20	-.009
32	.78	-.19	.04
33	.99	-.16	.16
36	.99	.25	-.05
39	.70	.40	.20
44	.99	-.08	.24
Characteristic Root	5.16862	1.10455	1.03996
Percentage of Total Variance	47.0	10.0	9.5
Cumulative Percentage	47.0	57.0	66.5

Table XVII. Correlation coefficients of the idealism subscale with principal components and summary statistics

Idealism item	Component	
	1	2
3	.94	.33
4	.96	.02
7	.99	-.03
11	.99	.08
14	.99	.16
16	.99	.40
21	.99	-.001
26	.98	-.25
37	.90	-.37
40	.99	-.24
41	.99	.08
Characteristic Root	6.09885	1.30766
Percentage of Total Variance	55.4	11.9
Cumulative Percentage	55.4	67.3

Table XVIII. Correlation coefficients of the pragmatism subscale with principal components and summary statistics

Pragmatism item	Components		
	1	2	3
2	.70	.48	.25
6	.98	-.02	.33
10	.99	-.07	-.18
13	.65	-.28	.34
15	.99	-.12	.04
19	.99	.16	-.08
22	.99	-.15	-.02
31	.99	.23	-.27
42	.84	-.32	-.13
43	.99	-.05	-.19
46	.98	.44	.06
Characteristic Root	5.22995	1.34001	1.09157
Percentage of Total Variance	47.5	12.2	9.9
Cumulative Percentage	47.5	59.7	69.7

Table XIX. Correlation coefficients of existentialism subscale with principal components and summary statistics

Existentialism item	Components	
	1	2
1	.74	.34
8	.91	-.005
17	.96	-.26
18	.88	.27
25	.97	-.35
27	.87	.005
29	.83	.48
34	.99	-.10
35	.97	-.08
38	.88	.03
45	.99	-.18
Characteristic Root	5.27346	1.34881
Percentage of Total Variance	47.9	12.3
Cumulative Percentage	47.9	60.2

Data Analysis

Only the sixteen primary source traits of the 16PF were scored. Each of the one hundred ninety-four students were in turn categorized (Low, stens one through three, average, stens four through seven, and high, stens eight through ten) on each of the source traits (see Cattell, 1970, p. 63). Since the "sixteen dimensions or scales are essentially independent" (Cattell, 1972, p. 5) each trait was examined separately. The method of analysis was an unweighted-means two-factor analysis of variance of the responses to the four philosophical subscales with repeated measures on one factor as discussed in B. J. Winer's book, Statistical Principles In Experimental Design (1971, pp. 514-603). The two factors were the levels of source trait (low, average and high) for the sixteen personality traits on the 16PF and the subscales of the philosophical inventory (realism, idealism, pragmatism and existentialism). The latter was the repeated measures factor since each student completed the four philosophical subscales. Tables XX through LI present the results of the analyses in addition to summary tables of subscale means by level of source trait for each of the sixteen traits. Of interest, as explained in Chapter I, is the test of the hypothesis of no interaction between the levels of the personality trait and the four philosophical subscales. Where significant interaction resulted, the Scheffé procedure was employed as the posteriori technique to discover where differences were occurring

among the four subscales for each level of the source trait. The four source traits with significant interactions are: Factor F, Factor I, Factor M, and Factor Q_3. These will be discussed in detail in Chapter IV.

Upon inspection of the ANOVA tables for each of the source traits, one notes that all the analyses reveal significant differences among subscale means for the philosophical inventory. In addition, careful examination of the source trait summary tables reveals a definite scoring pattern among the subscale means, independent of the source trait level. In the vast majority of cases the pragmatism subscale mean tends to be the highest. For those source traits in which the interaction was nonsignificant the average philosophical subscale scores across source trait levels are presented in the appropriate summary tables to illustrate this point. Whether this scoring trend is peculiar to the sample tested, or is a reasonable reflection of a "dominant educational attitude" is empirically indeterminable at this point. However, this conjecture should not be dismissed simply on the grounds that it is speculative. For as noted by G. F. Kneller, "The world view of pragmatism has certainly proved more congenial to American students thatn the philosophies of realism or idealism . . . . A dynamic and skeptical society appreciates the philosophy of change rather than of permanence; a calling into question of all things; and a theory that man be nature is enterprising and exploratory" (Kneller, 1971, p. 15).

Table XX. Analysis of variance of Philosophical subscale scores classified by Factor A (reserved-outgoing)

Source of Variation	d.f.	Sum of squares	Mean square	F-value
Between subjects	193			
A (Personality levels)	2	3.59	1.79	
Subjects w. groups	191	10,773.09	56.4	
Within subjects	582			
B (Philosophical scales)	3	1,750.66	583.56	16.62**
AB	6	147.43	24.57	
B X subjects w. groups	573	20,123.19	35.12	

**Significant at the .01 level.

Table XXI. Philosophical subscale means by level of Factor A (reserved-outgoing)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	50.66	47.00	52.40	49.03
Average	131	50.36	47.00	53.05	49.37
High	28	49.04	48.25	52.36	50.18
Mean subscale score across trait level		50.23	47.18	52.83	49.43

Table XXII. Analysis of variance of philosophical subscale scores classified by Factor B (dull-bright)

Source of Variation	d.f.	Sum of squares	Mean square	F-value
Between subjects	193			
A (Personality levels)	2	109.67	54.83	
Subjects w. groups	191	10,688.90	55.86	
Within subjects	582			
B (Philosophical scales)	3	1,918.58	639.53	18.16**
AB	6	61.91	10.19	
B X subjects w. groups	573	20,176.78	35.21	

**Significant at the .01 level.

Table XXIII. Philosophical subscale means by level of Factor B (dull-bright)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	50.05	47.50	53.45	50.05
Average	131	50.34	47.39	52.76	49.69
High	28	49.81	45.97	52.77	47.74
Mean subscale score across trait level		50.23	47.18	52.83	49.42

Table XXIV. Analysis of variance of philosophical subscale scores classified by Factor (less stable-emotionally stable)

Source of Variation	d.f.	Sum of squares	Mean square	F-value
Between subjects	193			
A (Personality levels)	2	45.06	22.53	
Subjects w. groups	191	10,746.35	56.26	
Within subjects	582			
B (Philosophical scales)	3	2,417.29	805,76	23.55**
AB	6	390.87	65.14	1.90
B X subjects w. groups	573	19,603.23	34.21	

** Significant at the .01 level.

Table XXV. Philosophical subscale means by level of Factor C (less stable-emotionally stable)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	52.75	45.28	52.94	47.88
Average	131	49.43	47.76	52.74	49.63
High	28	52.24	45.82	53.41	50.59
Mean subscale score across trait level		50.22	47.18	52.83	49.42

Table XXVI. Analysis of variance of philosophical subscale scores classified by Factor E (humble-assertive)

Source of Variation	d.f.	sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	92.94	46.47	
Subjects w. groups	191	10,710.00	56.07	
Within groups	582			
B (Philosophical scales)	3	2,012.59	670.86	20.46**
AB	6	268.31	44.72	1.36
B X subjects w. groups	573	18,793.04	32.79	

**Significant at the .01 level.

Table XXVII. Philosophical subscale means by level of Factor E (humble-assertive)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	48.62	46.62	52.56	47.94
Average	131	50.19	47.84	52.67	49.32
High	28	51.06	44.81	53.58	50.47
Mean subscale score across trait level		50.22	47.17	52.82	49.42

Table XXVIII. Analysis of variance of philosophical subscale scores classified by Factor F (serious-happy-go-lucky)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	955.36	477.68	9.05**
Subjects w. groups	191	10,082.1	53.78	
Within groups	582			
B (Philosophical scales)	3	1,981.88	660.62	19.13**
AB	6	518.31	86.38	2.50*
B X subjects w. groups	573	19,785.70	34.56	

*Significant at the .05 level.
**Significant at the .01 level.

Table XXIX. Philosophical subscale means by level of Factor F (serious-happy-go-lucky)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	48.04	46.88	49.88	46.48
Average	131	49.97	47.39	52.85	49.78
High	28	53.84	46.24	55.64	50.28
Mean subscale score across trait level		50.22	47.17	52.82	49.42

Table XXX. Analysis of variance of philosophical subscale scores classified by Factor G (expedient-conscientious)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	177.47	88.73	1.60
Subjects w. groups	191	10,557.47	55.27	
Within groups	582			
B (Philosophical scales)	3	1,476.36	492.12	13.96*
AB	6	117.16	19.52	
B X subjects w. groups	573	20,200.76	35.25	

*Significant at the .01 level.

Table XXXI. Philosophical subscale means by level of Factor G (expedient-conscientious)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	49.56	46.22	52.78	49.44
Average	131	49.96	46.97	52.75	49.18
High	28	51.97	48.83	53.28	50.62
Mean subscale score across trait level		50.23	47.18	52.83	49.43

Table XXXII. Analysis of variance of philosophical subscale scores classified by Factor H (timid-venturesome)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	365.49	182.74	3.34*
Subjects w. groups	191	10,432.81	54.62	
Within groups	582			
B (Philosophical scales)	3	2,624.36	874.78	25.18**
AB	6	268.00	44.66	1.28
B X subjects w. groups	573	19,909.96	34.74	

*Significant at the .05 level.
**Significant at the .01 level.

Table XXXIII. Philosophical subscale means by level of Factor H (timid-venturesome)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	51.22	44.72	53.56	50.00
Average	131	49.73	47.50	52.29	48.89
High	28	51.58	48.54	54.73	51.50
Mean subscale score across trait level		50.22	47.19	52.49	49.42

Table XXXIV. Analysis of variance of philosophical subscale scores classified by Factor I (tough-minded-tender-minded)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	255.32	127.66	2.33
Subjects w. groups	191	10,482.35	54.88	
Within groups	582			
B (Philosophical scales)	3	2,166.52	722.17	20.88**
AB	6	470.65	78.44	2.27*
B X subjects w. groups	573	19,818.27	34.58	

*Significant at the .05 level.
**Significant at the .01 level.

Table XXXV. Philosophical subscale means by level of Factor I (tough-minded-tender-minded)

Source trait level	N	Philosophical subscale			
		R	I	P	E
Low	35	52.52	45.35	52.83	49.04
Average	131	49.82	47.32	52.55	48.79
High	28	50.39	47.96	54.25	52.96
Mean subscale score across trait level		50.22	47.19	52.49	49.42

Table XXXVI. Analysis of variance of philosophical subscale scores classified by Factor L (trusting-suspicious)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	83.76	41.88	
Subjects w. groups	191	10,684.37	55.93	
Within groups	582			
B (Philosophical scales)	3	2,477.72	825.9	23.69*
AB	6	286.62	47.77	1.37
B X subjects w. groups	573	19,972.93	34.85	

*Significant at the .01 level.

Table XXXVII. Philosophical subscale means by level of Factor L (trusting-suspicious)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	51.42	46.79	53.05	48.87
Average	131	49.73	47.42	52.69	48.95
High	28	50.74	46.71	53.13	52.00
Mean subscale score across trait level		50.22	47.17	52.83	49.42

Table XXXVIII. Analysis of variance of philosophical subscale scores classified by Factor M (practical-imaginative)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	13.31	6.65	
Subjects w. groups	191	10,757.8	56.32	
Within Groups	582			
B (Philosophical scales)	3	2,254.7	751.56	21.77**
AB	6	585.14	97.52	2.82*
B X subjects w. groups	573	19,785.48	34.52	

*Significant at the .05 level.
**Significant at the .01 level.

Table XXXIX. Philosophical subscale means by level of Factor M (practical-imaginative)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	52.03	46.06	53.72	48.84
Average	131	50.27	47.02	52.77	49.12
High	28	48.53	48.63	52.26	50.89
Mean subscale score across trait level		50.22	47.17	52.83	49.42

Table XL. Analysis of variance of philosophical subscale scores classified by Factor N (forthright-astute)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	27.12	13.56	
Subjects w. groups	191	10,755.60	56.31	
Within Groups	582			
B (Philosophical scales)	3	1,859.94	619.98	17.71*
AB	6	194.45	32.40	
B X subjects w. groups	573	20,055.76	35.00	

*Significant at the .01 level.

Table XLI. Philosophical subscale means by level of Factor N (forthright-astute)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	50.72	48.62	51.69	49.79
Average	131	49.95	46.94	53.11	49.73
High	28	50.65	46.88	52.81	48.30
Mean subscale score across trait level		50.22	47.18	52.83	49.42

Table XLII. Analysis of variance of philosophical subscale scores classified by Factor O (secure-insecure)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	6.46	3.23	
Subjects w. groups	191	10,768.16	56.37	
Within groups	582			
B (Philosophical scales)	3	944.38	314.79	8.96**
AB	6	109.54	18.25	
B X subjects w. groups	573	20,124.97	35.12	

*Significant at the .01 level.

Table XLIII. Philosophical subscale means by level of Factor O (secure-insecure)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	51.75	48.25	51.67	47.83
Average	131	50.03	47.01	52.86	49.61
High	28	50.77	47.86	53.23	48.96
Mean subscale score across trait level		50.22	47.18	52.84	49.43

Table XLIV. Analysis of variance of philosophical subscale scores classified by Factor Q_1 (conservative-liberal)

Source of Variation	d.f.	Sum of squares	Mean sqaures	F-value
Between subjects	193			
A (Personality levels)	2	48.00	24.00	
Subjects w. groups	191	10,735.16	56.20	
Within groups	582			
B (Philosophical scales)	3	1,648.98	549.66	15.63*
AB	6	99.86	16.64	
B X subjects w. groups	573	20,156.48	35.17	

*Significant at the .01 level.

Table XLV. Philosophical subscale means by level of Factor Q_1 (conservative-liberal)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	51.00	46.84	52.28	49.47
Average	131	50.09	47.17	52.87	49.14
High	28	49.90	47.76	53.38	51.24
Mean subscale score across trait level		50.22	47.18	52.83	49.42

Table XLVI. Analysis of variance of philosophical subscale scores classified by Factor Q_2 (group dependent-self-sufficient)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	4.95	2.47	
Subjects w. groups	191	10,775.04	56.41	
Within groups	582			
B (Philosophical scales)	3	1,630.06	543.35	15.57*
AB	6	257.89	42.98	1.23
B X subjects w. groups	573	19,999.30	34.90	

*Significant at the..01 level.

Table XLVII. Philosophical subscale means by level of Factor Q_2 (group dependent-self-sufficient)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	49.06	48.00	53.00	49.11
Average	131	50.15	47.44	52.89	49.18
High	28	51.27	45.40	52.43	50.80
Mean subscale score across trait level		50.22	47.17	52.83	49.43

TABLE XLVIII. Analysis of variance of philosophical subscales scores classified by Factor Q_3 (careless of social rules-socially precise)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193			
A (Personality levels)	2	43.95	21.97	
Subjects w. groups	191	10,740.36		
Within groups	582			
B (Philosophical scales)	3	1,613.70	537.90	15.50**
AB	6	512.36	85.39	2.46*
B X subjects w. groups	573	19,878.10	34.69	

*Significant at the .05 level.
**Significant at the .01 level.

Table XLIX. Philosophical subscale means by level of Factor Q_3 (careless of social rules-socially precise)

Source trait level	N	Philosophical subscale R	I	P	E
Low	35	49.88	45.95	52.48	49.88
Average	131	50.47	46.96	52.96	49.48
High	28	49.50	50.50	52.75	48.33
Mean subscale score across trait level		50.22	47.17	52.83	49.43

Table L. Analysis of variance of philosophical subscale scores classified by Factor Q_4 (relaxed-tense)

Source of Variation	d.f.	Sum of squares	Mean squares	F-value
Between subjects	193	82.17	41.08	
A (Personality levels)	2	10,682.41	55.92	
Subjects w. groups	191			
Within groups	582			
B (Philosophical scales)	3	1,640.18	546.72	15.57*
AB	6	137.90	22.98	
B X subjects w. groups	573	20,119.74	35.11	

*Significant at the .01 level.

Table LI. Philosophical subscale means by level of Factor Q_4 (relaxed-tense)

Source trait level	N	Philosophical sbuscale R	I	P	E
Low	35	50.84	48.26	53.84	50.89
Average	131	50.00	47.27	52.63	49.24
High	28	51.59	45.18	53.59	49.47
Mean subscale score across trait level		50.22	47.19	52.83	49.41

CHAPTER IV. FINDINGS AND CONCLUSIONS

Reliability and Interaction Results

Tables LIII through LVI present the results of the Scheffé tests for differences among the philosophical subscale means of the four source traits having significant personality by philosophical attitude interactions. Table LII presents the Cronbach Coefficient- estimates for the four subscales based upon the student sample of 194 subjects, and estimates of increased subscale lengths needed to attain a subscale reliability estimate of α = .80. Finally, Figures I through IV present the mean profiles for each of the four primary source traits.

Table LII. Student sample subscale reliability estimates

	Philosophical subscales			
	R	I	P	E
Cronbach Coefficient-	.69021	.65542	.54458	.53639
Number of items per subscale	11	11	11	11
Number of items per subscale necessary to attain an α = .80	22	22	33	33

Factor F (desurgency-surgency)

For those individuals scoring 'low' (stens 1 to 3) on source trait F there exist no significant differences among the four subscale means

Table LIII.1. Scheffé tests-Factor F (Low)[a]

	Philosophical subscale means			
	46.68	46.88	48.04	49.88
Subscale	E	I	R	P
E	-	.40	1.56	3.40
I		-	1.16	3.00
R			-	1.84
P				-

[a]Scheffé critical value at .05 level equals 4.66.

Table LIII.2. Scheffé tests-Factor F (Average)[a]

	Philosophical subscale means			
	47.39	49.78	49.97	52.85
Subscale	I	E	R	P
I	-	2.39*	2.58*	5.46*
E		-	.19	3.07*
R			-	2.88*
P				-

aScheffé critical value at .05 level equals 1.94.
*Significant at the .05 level.

Table LIII.3. Scheffé tests-Factor F (High)[a]

	Philosophical subscale means			
	46.24	50.28	53.84	55.64
Subscale	I	E	R	P
I	-	4.04	7.60*	9.4*
E		-	3.56	5.36*
R			-	1.8
P				-

[a]Scheffé critical value at .05 level equals 4.66.
*Significant at the .05 level.

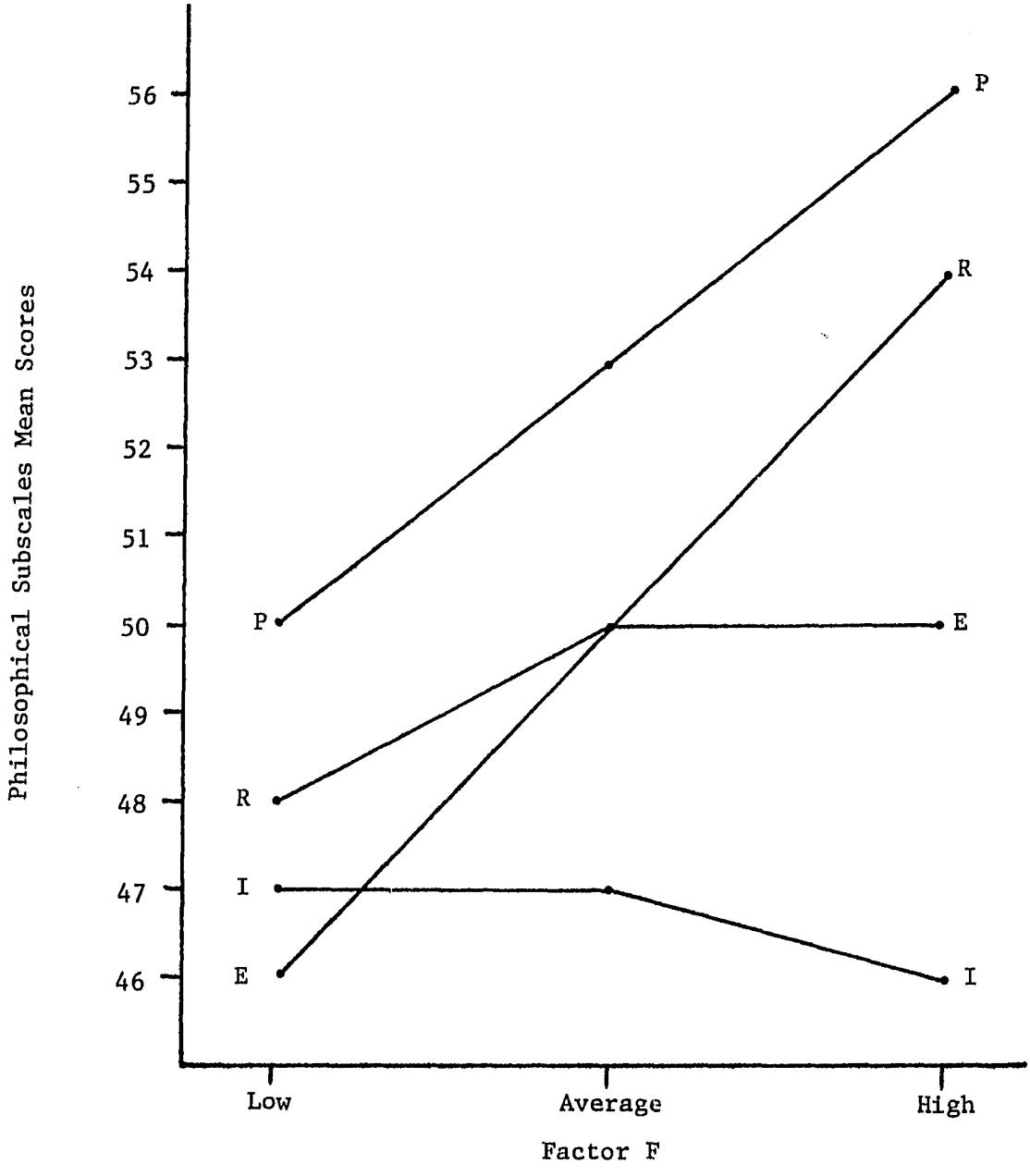

Figure I. Factor F (desurgency-surgency) attitudinal profile.

of the inventory. At the "average" or "normal" level of Factor F (stens 4 to 7) the means for the R, P and E subscales are all significantly greater than the I subscale mean, with no difference between the R and E subscale means. Also, at this level the P subscale mean is significantly greater than the means for the other three scales.

At the 'high' level of Factor F (stens 8 to 10) both the I and E subscale means level off, while the P and R subscale means are significantly greater than the I subscale mean, with no difference existing between the R and P subscale means.

Thus, for those individuals scoring low on Factor F, and being characterized as tending to be restrained, introspective, sticks to inner values, reflective (Cattell, et al., 1970 and 1972) there exist no differences among the four subscale means. For those scoring high on Factor F and being characterized as tending to be expressive, frank, talkative, reflecting the group, active, the highest mean is on the P subscale, with no difference between the P and R means, and the I subscale mean being lowest.

Factor I (tough-minded-tender-minded)

For the individuals scoring low on Factor I both the R and P subscale mean scores are significantly higher than the I subscale mean, with no difference between the I and E subscale means. Thus those scoring low on source trait I, and characterized as, self-reliant, realistic, acts on practical, logical evidence, and unaffected by fancies, tend to score higher on the R and P scales, relative to the I subscale.

Table LIV.1. Scheffé tests-Factor I (Low)[a]

	Philosophical subscale means			
	45.35	49.04	52.52	52.83
Subscale	I	E	R	P
I	-	3.69	7.17*	7.48*
E		-	3.48	3.79
R			-	.31
P				-

[a]Scheffé critical value at .05 level equals 4.82.
*Significant at the .05 level.

Table LIV.2 Scheffé tests-Factor I (Average)[a]

	Philosophical subscale means			
	47.32	48.79	49.82	52.55
Subscale	I	E	R	P
I	-	1.47	2.50*	5.23*
E		-	1.03	3.76*
R			-	2.73*
P				-

[a]Scheffé critical value at .05 level equals 1.94.
*Significant at the .05 level.

Table LIV.3. Scheffé tests-Factor I (High)[a]

	Philosophical subscale means			
	47.96	50.39	52.96	54.25
Subscale	I	R	E	P
I	-	2.43	5.00*	6.29*
R		-	2.57	3.86
E			-	1.29
P				-

[a]Scheffé critical value at .05 level equals 4.38.
*Significant at the .05 level.

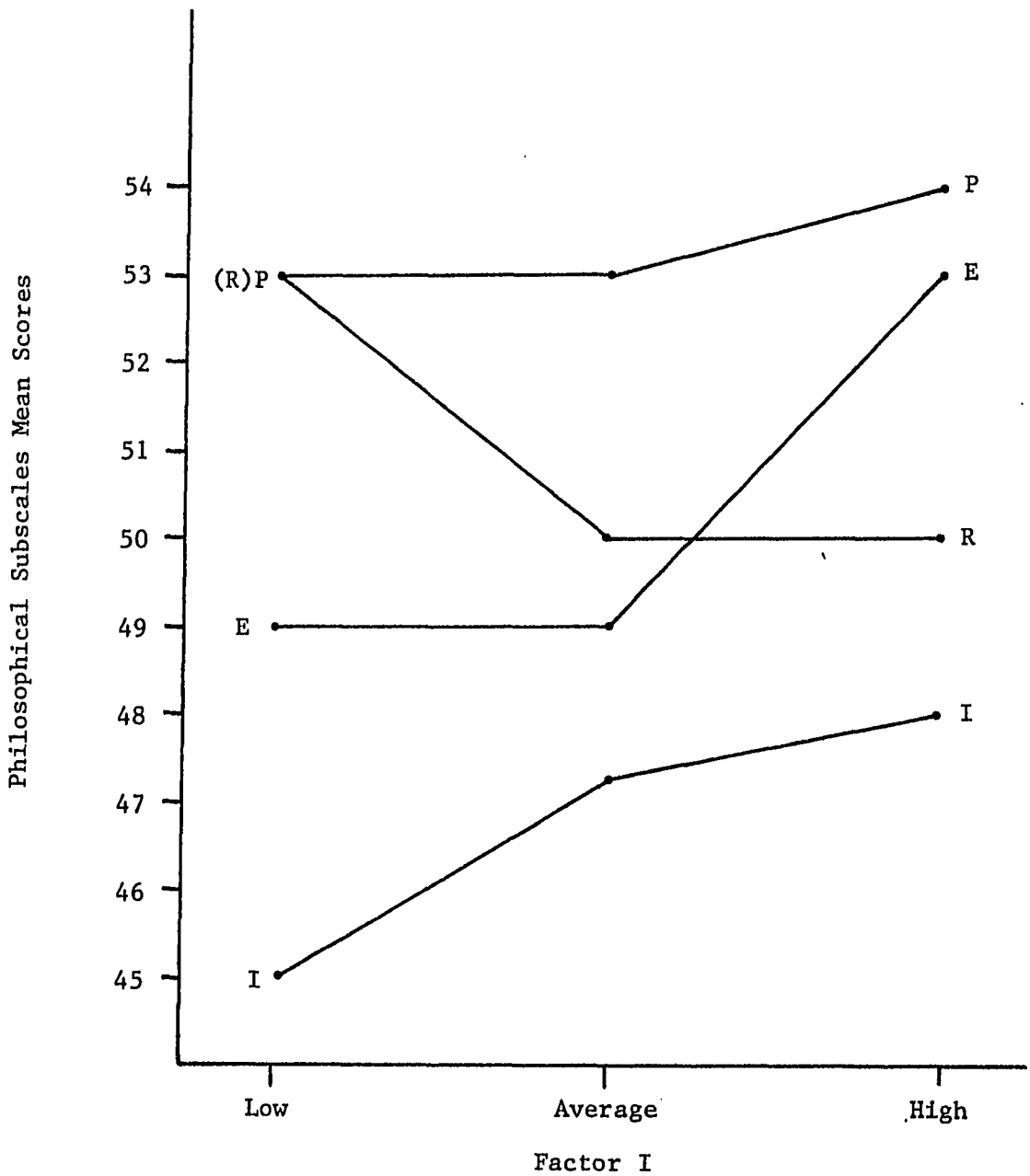

Figure II. Factor I (tough-minded-tender-minded) attitudinal profile.

Individuals scoring high on source trait I and characterized as, indulgent to self and others, acts on sensitive intuition, artistic, expecting affection and attention, fastidious, had means on the E and P scales significantly higher relative to the I scale mean, with no difference between the E and P means. At the average level of Factor I the mean on the E scale is less than the R subscale mean, with no difference between the I and E scale means, whereas, at the high level of Factor I, the E scale mean becomes greater than the R mean, and significantly greater than the I scale mean.

Factor M (practical-imaginative)

For individuals scoring low on source trait M and characterized as, conventional, alert of practical needs, guided by objective realities, concerned over detail, dependable in practical judgment, means on the R and P subscales are significantly greater than the I subscale mean, with no difference existing between the E and I subscale means. Those scoring high on Factor M and characterized as absorbed in ideas, imaginative, easily seduced from practical judgement, unconventional, revealed no difference among the four subscale means.

Factor Q_3 (careless of social rules-socially precise)

Low scoring individuals on source trait Q_3, characterized as uncontrolled, lax, follows own urges, careless of social rules, tend to score higher on the R, P, E subscales relative to the I subscale. At the average level of Q_3 the mean on the P scale is significantly greater than the R, I, and E scale means, with the I scale mean being lowest.

Table LV.1. Scheffé tests-Factor M (Low)[a]

	Philosophical subscale means			
	46.06	48.84	52.03	53.72
Subscale	I	E	R	P
I	-	2.78	5.97*	7.66*
E		-	3.19	4.88*
R			-	1.69
P				-

[a]Scheffé critical value at .05 level equals 4.11.
*Significant at the .05 level.

Table LV.2. Scheffé tests-Factor M (Average)[a]

	Philosophical subscale means			
	47.02	49.12	50.27	52.77
Subscale	I	E	R	P
I	-	2.10*	3.25*	5.75*
E		-	1.15	3.65*
R			-	2.50*
P				-

[a]Scheffé critical value at .05 level equals 2.09.
*Significant at the .05 level.

Table LV.3. Scheffé tests-Factor M (High)[a]

	Philosophical subscale means			
	48.53	48.63	50.89	52.26
Subscale	R	I	E	P
R	-	.10	2.36	3.73
I		-	2.26	3.63
E			-	1.37
P				-

[a]Scheffé critical value at .05 level equals 3.75.

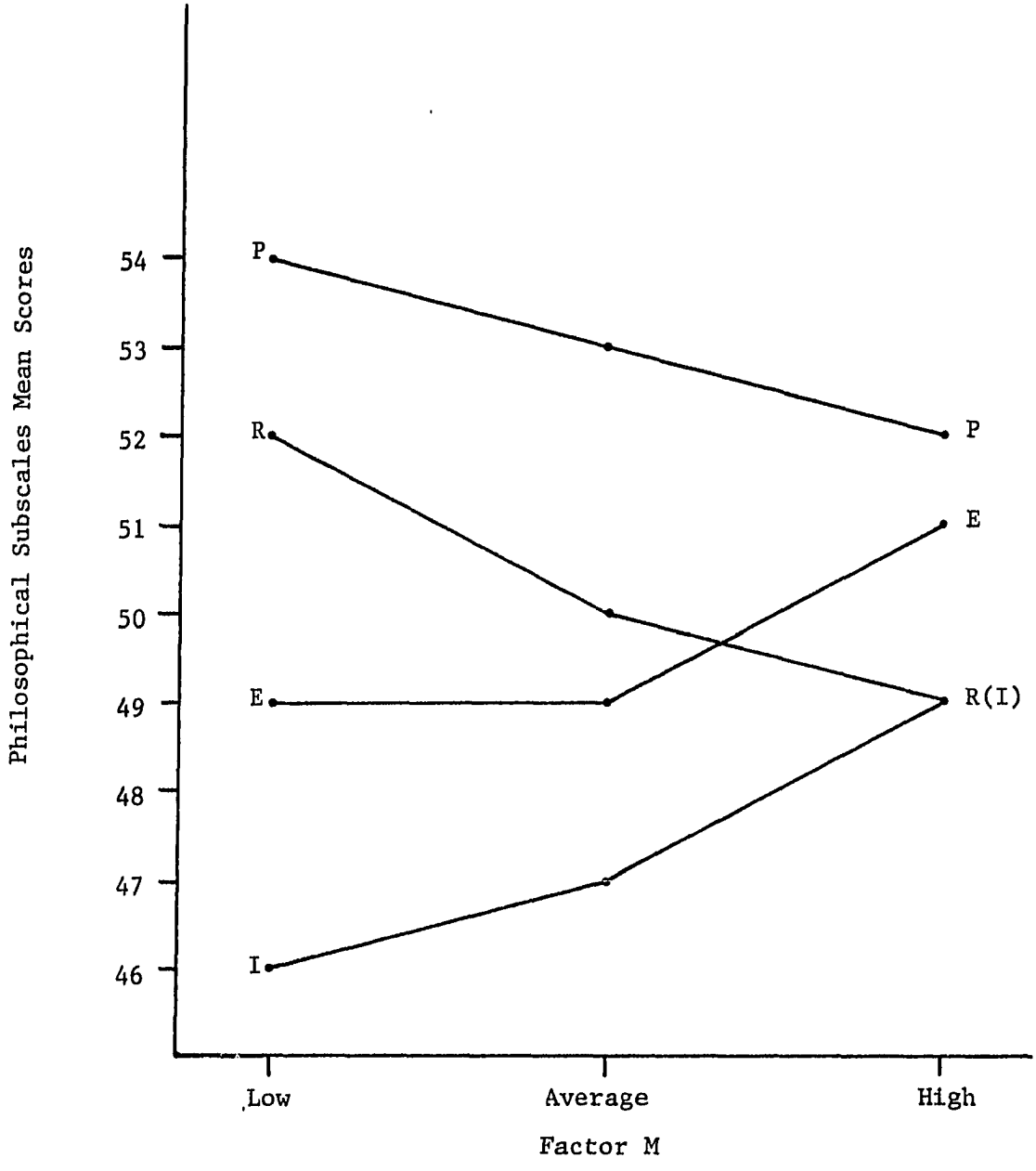

Figure III. Factor M (practical-imaginative) attitudinal profile.

Individuals scoring high on Factor Q_3 and characterized controlled, exacting will power, socially precise, compulsive, revealed no scoring differences on the four subscales, although the E scale mean was the lowest, with subscales I and P having the highest mean scores.

Conclusion

While it is premature to make sweeping claims about the relationships between personality and philosophical preference, some suggestive patterns do emerge in the present research.

First, it is interesting to note that in the twelve sets of Scheffé contrasts there are four cases in which Pragmatism was significantly preferred over all three other philosophies. All four cases were the "average" personality positions. In these same four cases, Realism was significantly preferred over Idealism. In three of the four "average" cases, Existentialism was also significantly preferred over Idealism, but in all four cases, Realism and Existentialism were not significantly different.

It is also interesting that in three cases there were no significant philosophical preference patterns evident: M(High)- Imaginative, bohemian, absent-minded; F(Low)- Sober, taciturn, serious; and Q_3 (High)- Controlled, exacting will power, socially precise, following self-image. In the remaining five sets of contrasts, Pragmatism and Realism were not differentiated from each other, but both were significantly preferred over Idealism in all five cases. In three of these five cases M(Low) - Practical, down-to-earth concerns; I(Low) - Tough-minded, self-

reliant, realistic; and F(High) - Sober, taciturn, serious, Existentialism and Idealism were not significantly differentiated. In two of the five cases Q_3 (Low) - Undisciplined self-conflict, lax, follows own urges, careless of social rules; I(High) - Tough-minded, self-reliant, realistic, Existentialism was grouped with Pragmatism and Realism and significantly preferred to Idealism. Not until a series of studies are conducted substantiating consistent scoring patterns and employing the full extension of the 16PF battery, or comparable inventory, can definite claims be advanced. Concomitantly, the current philosophical instrument is still experimental and necessitates further study of its psychometric properties; for example, the enhancement of subscale reliability via the increase in subscale length, as suggested by the results presented in Table LII, and the investigation into the stability of the principal component factors as well as the existence of subsidiary dimensions.

Likewise, an apparent scoring pattern evolving out of the present study revealed that at each level of the personality factor studied the idealism subscale mean tended to be the lowest of the four scale means, whereas the pragmatism subscale mean tended to be the highest. Thus, is this scoring trend due to peculiarities of the instrument, testing situation, or does it represent a true pattern? The latter possibility is supported by George F. Kneller:

> The world view of pragmatism has certainly proved more congenial to American students than the philosophies of realism or idealism. . . . A dynamic and skeptical society appreciates a philosophy of change rather than of permanence; a calling into question of all things; and a theory that

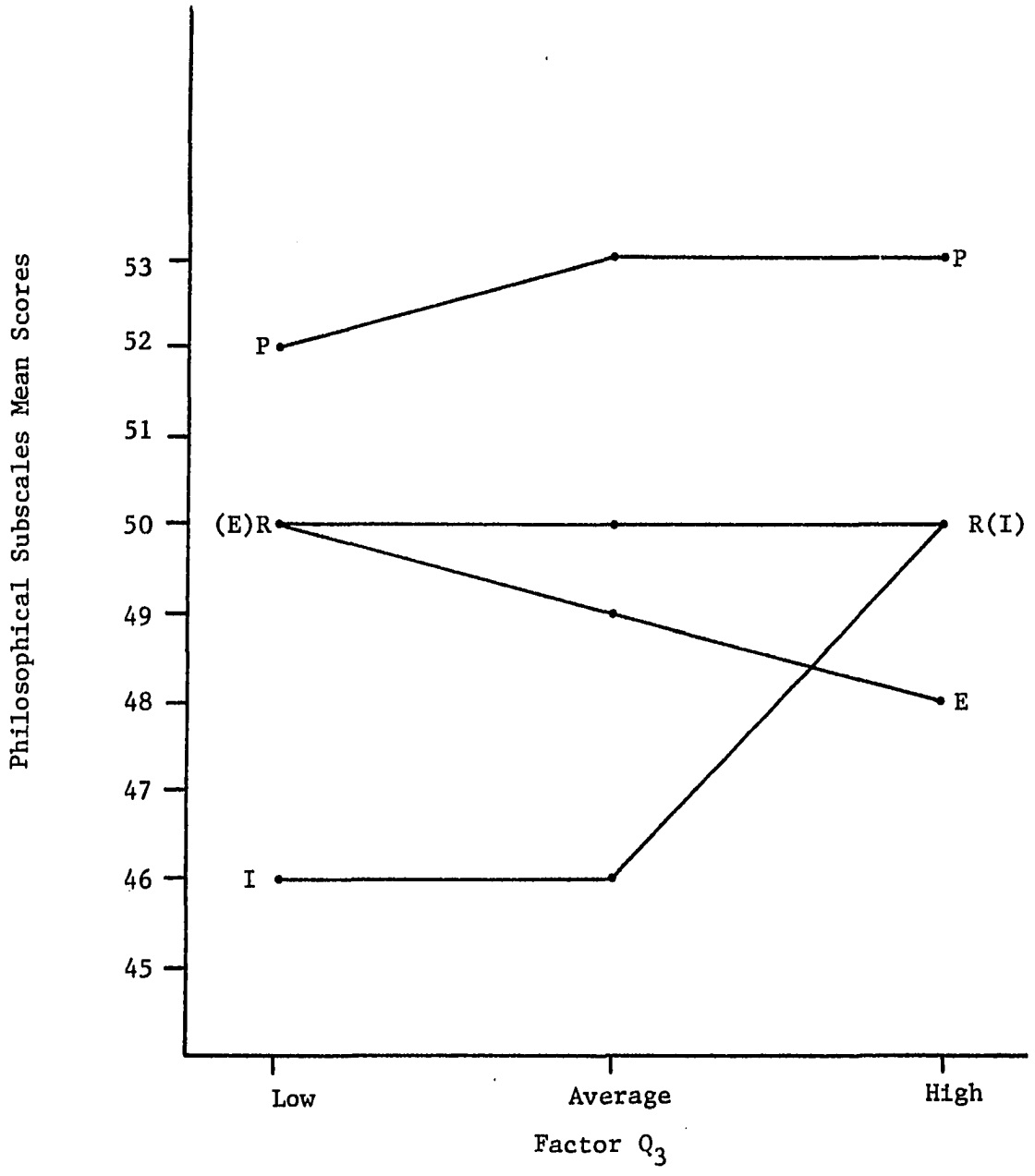

Figure IV. Factor Q_3 (careless of social rules-socially precise) attitudinal profile.

Table XVI.1. Scheffé tests-Factor Q_3 (Low)[a]

	Philosophical subscale means			
	45.95	49.88	49.88	52.48
Subscale	I	E	R	P
I	-	3.93*	3.93*	6.53*
E		-	0.0	2.6
R			-	2.6
P				-

[a]Scheffé critical value at .05 level equals 3.59.
*Significant at the .05 level.

Table XVI.2. Scheffé tests-Factor Q_3 (Average)[a]

	Philosophical subscale means			
	46.96	40.48	50.47	52.96
Subscale	I	E	R	P
I	-	2.52*	3.51*	6.00*
E		-	.99	3.48*
R			-	2.49*
P				-

[a]Scheffé critical value at .05 level equals 2.05.
*Significant at the .05 level.

Table XVI.3 Scheffé tests-Factor Q_3 (High)[a]

	Philosophical subscale means			
	48.33	40.50	50.50	52.75
Subscale	E	R	I	P
E	-	1.17	2.17	4.42
R		-	1.00	3.25
I			-	2.25
P				-

[a]Scheffé critical value at .05 level equals 4.74.

> man by nature is enterprising and exploratory (Kneller, 1971, pp. 14-15).

Of central concern are the statements regarding the personality characterizations advanced by some educational philosophers and attributed to individuals espousing certain philosophical positions. The primary source traits measured by the 16PF are all reasonably researched and well-defined. By the same token the characterizations discussed by various philosophers tend to be open to a host of interpretations and at times contradictory. For example, Colvin Ross asserts that an Idealist is basically authoritarian and views others as needing to be told (Ross, 1969); whereas, H. H. Horne characterizes the Idealistic teacher as not seeking to impose his views on his pupils, but stimulates and guides them. Likewise, are the characterizations of self-directing, self-conscious and self-active, attributed to the Idealist, by Horne, (1942, p. 157), comparable to the self-directing personality of the Pragmatist as discussed by W. H. Kilpatrick (1942, p. 85). Similarly, are these attributes unique to an Idealist or Pragmatist, or are they shared by individuals espousing other philosophical positions.

Consequently, unless some agreement in definition exists among those educational philosophers concerned with personality descriptions and attitudinal positions, studies directed at examining such relationships will be virtually meaningless because of the lack of a common base or referent determining meaningful comparisons. Subsequently, the potential for resolving these inconsistencies rests in part with research, not primarily from a philosophical rationale, but from a

psychological-philosophical platform, in an attempt to delineate the relationships between the attitudinal and personality domains, as well as furnishing much needed information relevant to the study of teacher behavior.

Thus the question raised earlier in this study can be posed once again: If one knows something about a person's personality characteristics, can any definitive statements be made regarding that individual's philosophical preferences? With minor qualifications, the answer at this point must be no. In twelve of the sixteen source traits measured by the 16PF, no differences in pattern of philosophical preference was found. In the four cases where differences were discovered, it is not readily apparent what the differences mean. For example, in all four cases, the "average" group exhibits common features - pragmatism is significantly preferred over the three other philosophical categories, whereas in three of the four cases idealism is significantly least preferred. In the fourth instance (Factor I - tough-minded, self-reliant vs. tender-minded, clinging) existentialism and idealism are not significantly less preferred than either realism or pragmatism.

The preferences exhibited by the "average" groups seem consistent with what one would expect, but it is not apparent why people who have a tendency toward being imaginative, bohemian, absent minded (Factor M) should exhibit the same philosophic eclecticism as those tending to be sober, taciturn and serious (Factor F) or controlled, socially precise and compulsive (Factor Q_3). Moreover, it is not clear why sober vs. happy-go-lucky (Factor F) people should show differences that are not seen in reserved vs. outgoing (Factor A) people.

One explanation for the findings in this study is that, contrary to claims by some educational philosophers, there is not much relationship between personality and philosophical preference or belief. Another potential explanation may be that the subjects in this sample are, for the most part, philosophically pragmatic and that there are simply not enough representatives of the other three philosophical camps to give a clear reading. Kneller's observation lends support to the latter possibility.

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APPENDIX A. ALPHABETICAL LISTING OF JUDGES

Alphabetical Breakout of Judges

Name	Professional Rank	Institution	Years teaching Philosophy of Education
1. Alley, Stephen L.	Professor	Brigham Young University	21 years
2. Al-Rubaiy A.	Assistant Professor	University of Akron	5 years
3. Atzmon, Ezri	Professor	Jersey City State College	8 years
4. Bayles, Ernest E.	Professor Emeritus	University of Kansas	45 years
5. Beck, Robert H.	Professor	University of Minnesota	30 years
6. Bender, Hilary E.	Assistant Professor	Boston University	8 years
7. Bernstein, Norman	Associate Professor	Gannon College	11 years
8. Brownlee, Leon W.	Professor	Memphis State University	24 years
9. Burkhouse, Barbara	Associate Professor	Marywood College	9 years
10. Calatrello, Robert L.	Associate Professor	California State College	12 years
11. Campbell, Malcolm B.	Professor	Bowling Green University	11 years
12. Carter, John E.	Associate Professor	Indiana State University	6 years
13. Colvin, Charles R.	Professor	S.U.N.Y. (Fredonia)	15 years
14. DeJong, Norman	Administrator	Bellflower Christian Schools	7 years

15.	Dodson, Edward	Superintendent	Incheliom School	14 years
16.	Dupuis, Adrian	Professor	Marquette University	30 years
17.	Eder, Alan H.	Assistant Professor	Northern Arizona University	7 years
18.	Finchum, George A.	Professor	East Tennessee State University	13 years
19.	Foley, Patrick J.	Associate Professor	Southeastern Massachusetts University	2 years
20.	Georgeoff, John	Professor	Purdue University	10 years
21.	Glasow, Ogden L.	Professor Emeritus	Western Illinois University	14 years
22.	Green, Joe L.	Assistant Professor	University of Southwestern Louisiana	8 years
23.	Gutek, Gerald	Professor	Loyola University (Chicago)	13 years
24.	Hausman, Marian C.	Assistant Professor	Jersey City State College	7 years
25.	Hedley, Eugene W.	Associate Professor	State Univeristy of New York (Stony Brook)	14 years
26.	Howick, William H.	Professor	Memphis State University	10 years
27.	Itzkoff, Seymour W.	Professor	Smith College	18 years
28.	Jackim, Halas	Professor	S.U.N.Y. (Oswego)	No information furnished

Name	Professional Rank	Institution	Years teaching Philosophy of Education
29. Joyce, Michael S.	Director	Momis Goldseker Foundation of Maryland, Inc.	3 years
30. Katz, Michael S.	Assistant Professor	The American University	3 years
31. Kincaid, George H.	Associate Professor	University of South Florida	10 years
32. Kizer, George	Professor	Iowa State University	13 years
33. Klein, Lawrence D.	Associate Professor	Central Connecticut State	9 years
34. Kohlbrenner, Bernard J.	Professor Emeritus	Notre Dame	6 years
35. Lantz, E. D.	Professor	University of Wyoming	20 years
36. Leight, Robert L.	Associate Professor	Lehigh University	12 years
37. Levit, Martin,	Professor	University of Missouri (Kansas City)	27 years
38. Lottich, Kenneth V.	Professor Emeritus	University of Montana	10 years
39. Lucas, C. J.	Professor	University of Missouri	10 years
40. Manhall, Julian	Principal	Carrboro Elementary	0 years
41. Manning. T. E.	Director	Commission on Institutions	0 years

42.	Maxcy, Spencer J.	Associate Professor	Louisiana State University	8 years
43.	McKenney, William A.	Professor	Eastern Kentucky University	17 years
44.	Merryman, John E.	Professor	Indiana University of Pennsylvania	12 years
45.	Morris, Van Cleve	Professor	University of Illinois (Chicago Circle)	25 years
46.	O'Brien, John J.	Professor	St. Louis University	25 years
47.	Oliker, Michael A.	Assistant Professor	Loyola University (Chicago)	8 years
48.	Poltier, Gary	Professor	University of Nevada	10 years
49.	Pounds, Ralph L.	Professor Emeritus	University of Cinncinati	29 years
50.	Reed, John E.	Associate Professor	College of the Ozarks	0 years
51.	Reeves, J. Don	Associate Professor	Wake Forest University	16 years
52.	Reppas, Basil	Professor	University of Northern University	17 years
53.	Ripley, David B.	Associate Professor	Northern Illinois University	6 years
54.	Rothstein, Arnold M.	Professor	City College of New York	10 years
55.	Sartori, Shirley	Ph.D. Candidate	S.U.N.Y. (Albany)	2 years

Name	Professional Rank	Institution	Years teaching Philosophy of Education
56. Schmiedicke, Joseph E.	Professor	Edgewood College	5 years
57. Schneider, Samuel	Associate Professor	Hunter College (C.U.N.Y.)	18 years
58. Schultz, Frederick	Associate Professor	University of Akron	8 years
59. Schwada, Paul	Professor	Seattle Pacific College	10 years
60. Sherman, Robert R.	Associate Professor	University of Florida	15 years
61. Silk, David Neil	Assistant Professor	Indiana University (Kokomo)	6 years
62. Smith, James	Professor	Earlham College	3 years
63. Tull, Mary J.	Assistant Professor	Southern Connecticut State College	3 years
64. Vaughan, Herbert G.	Associate Professor	Baldwin Wallace College	6 years
65. Vickery, Tom R.	Associate Professor	Syracuse University	1 year
66. Vikner, C. F.	Professor	Gustavus Adolphus College	20 years
67. West Earle H.	Professor	Howard University	10 years
68. Wilder, Joan K.	Professor	University of Detroit	15 years

69.	Wright, Donald L.	Executive Director	Business-Industry-Community Education Partnership	0 years
70.	Yonker, Tom	Professor	Linfield College	7 years
71.	Zepper, John T.	Professor	University of New Mexico	15 years
72.	Ziebell	Professor	Fox Valley Lutheran	0 years
73.	No Name Furnished	Associate Professor	No Institution Furnished	12 years

APPENDIX B. INSTRUCTIONAL LETTER AND PERSONAL DATA SHEET

Educational Studies
A JOURNAL IN THE FOUNDATIONS OF EDUCATION

Glenn Smith, Editor
107 Quad.
Iowa State University
Ames, Iowa 50011
515/294-7327

October 22, 1976

Dear Colleague:

Approximately 1 1/2 years ago you participated in a research project aimed at validating an attitudinal inventory entitled, the "Ross Educational Philosphical Inventory (REPI)," constructed and copyrighted by Colvin Ross of the University of Connecticut. We would like, at this time, to express our gratitude for the attention and consideration given by you to this study by supplying you with a reprint of the article in which your findings were incorporated. We hope you will find it of professional interest.

Currently, we are in the second phase of our study revolving around the REPI and again we are requesting your assistance. We ask that you respond to each of the 46 statements in the accompanying questionnaire by circling the appropriate response reflecting your agreement or disagreement with the item. One important point to note, which will be crucial to the validation process, is your response to the statement, "My philosophy of life and/or education is best reflected by or in accord with the tenets of Realism, Idealism, Existentialism, or Pragmatism." We want to determine the extent to which the responses to the questionnaire items, of people who are knowledgeable in philosophy, tend to support their professed philosophical positions. Via this technique, we hope to generate additional information regarding the validity of this instrument as a measuring device.

Once again, thank you for your time and professional consideration in this matter. If you should desire a report of the findings of the present study upon its conclusion, please note this fact, and we will be more than willing to forward you this information. A post card is enclosed for your convenience in replying.

Sincerely,

L. Glenn Smith
Professor of Education
Iowa State University

Robert L. Ziomek
Instructor of Mathematics
Iowa State University

RLZ:hi
Enclosure

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY
Ames, Iowa 50010

COLLEGE OF EDUCATION
SECONDARY EDUCATION

October 13, 1976

Dear Colleague:

We are currently in the second phase of a research project involving the pyschometric analysis of the Ross Educational Philosophical Inventory (REPI), developed by Professor Colvin Ross of the University of Connecticut. His instrument purports to measure an individual's degree of commitment to four philosophic categories, Idealism, Realism, Existentialism, and Pragmatism. The instrument was initially screened by a sub-sample of AESA members and the findings generated from that study have been incorporated into the current version. (See article appearing in the Fall 1976 issue of Educational and Psychological Measurement entitled, "A Psychometric Analysis of the Ross Educational Philosophical Inventory (REPI)").

Once again we are requesting the assistance of a sub-group of the AESA membership. We ask that you respond to each of the 46 statements in the accompanying questionnaire by circling the appropriate response best reflecting your agreement or disagreement with the item. We also hope that you will complete the attached personnal data inventory before proceeding directly to the questionnaire itself. One important point to note, which will take careful consideration on your behalf, and which will be crucial to the validation process, is your response to the statement, "My philosophy of life and/or education is best reflected by or in accord with, Realism, Idealism, Existentialism, or Pragmatism." We want to determine the extent to which the responses to the questionnaire items, of people who are knowledgeable in philosophy, tend to support their professed philosophical positions. Via this technique, we hope to generate additional information regarding the validity of this instrument as a measuring device.

Thank you for your time and professional consideration in this matter. If you desire a reprint of the aforementioned article and/or the findings of the present study upon its conclusion,

please note this fact, and we will be more than willing to forward you this information. A post card is enclosed for your convenience in replying.

Sincerely,

L. Glenn Smith
Professor of Education
Iowa State University

Robert L. Ziomek
Instructor of Mathematics
Iowa State University

RLZ:hi
Enclosure

PERSONAL DATA QUESTIONNAIRE

Please supply all information requested:

Name: Institution:

Professional Rank and/or Position:

Academic Degree and Area:

Have you taught Philosophy or Philosophy of Education?

How many years?

Please respond to the following question by circling one of the responses. If eclectic respond by circling the responses best reflecting your position.

My Philosophy of life and/or education is best reflected by or in accord with the tenets of:

Realism Idealism Existentialism Pragmatism

APPENDIX C. 16PF PRIMARY SOURCE TRAITS

The primary source traits covered by the 16PF test[a]

I. Primaries

	Low Sten Score Description (1-3)	High Sten Score Description (8-10)
A	Reserved, detached, critical, aloof, stiff Sizothymia	Outgoing, warmhearted, easygoing, participating Affectothymia
B	Dull Low intelligence (Crystallized, power measure)	Bright High Intelligence (Crystallized, power measure)
C	Affected by feelings, emotionally less stable, easily upset, changeable Lower ego strength	Emotionally stable, mature, faces reality, calm Higher ego strength
E	Humble, milk, easily led, docile, accommodating Submissiveness	Assertive, agressive, competitve, stubborn Dominance
F	Sober, taciturn, serious Desurgency	Happy-go-lucky- enthusiastic Surgency

	Low Sten Score Description (1-3)	High Sten Score Description (8-10)
G	Expedient, disregards rules Weaker supergo strength	Conscientious, persistent, moralistic, staid Stronger supergo strength
H	Shy, timid, threat-sensitive Threctia	Venturesome, uninhibited, socially bold Parmia
I	Tough-minded, self-reliant realistic Harria	Tender-minded, sensitive, clinging, overprotected Premsia
L	Trusting, accepting conditions Alaxia	Suspicious, hard to fool Protension
M	Practical, "down-to-earth" concerns Praxernia	Imaginative, bohemian, absent-minded Autia

[a]Source: Cattell, et al. (1970, pp. 16-17).

Factor	Low Sten Score Description (1-3)	High Sten Score Description (8-10)
N	Forthright, unpretentious, genuine but socially clumsy Artlessness	Astute, polished, socially aware Shrewdness
O	Self-assured, placid, secure, complacent, serene Untroubled adequacy	Apprehensive, self-reproaching, insecure worrying, troubled Guild proneness
Q_1	Conservative, respecting traditional ideas Conservatism of temperament	Experimenting, liberal, free-thinking Radicalism
Q_2	Group dependent, a "joiner" and sound follower Group adherence	Self-sufficent, resourceful, prefers own decisions Self-sufficiency
Q_3	Undisciplined self-conflict, lax, follows own urges, careless of social rules low self-sentiment integration	Controlled, exacting will power, socially precise, compulsive, following self-image High Strength of self-sentiment

Factor	Low Sten Score Description (1-3)	High Sten Score Description (8-10)
Q_3	Relaxed, tranquil, torpid, unfrustrated, composed Low ergic tension	Tense, frustrated, driven, overwrought High ergic tension