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THE RELATIONSHIP BETWEEN PRE-SERVICE TEACHER PERSONALITY CHARACTERISTICS AND THE DECISION TO TEACH AT THE ELEMENTARY OR SECONDARY LEVEL

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

By
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The Ohio State University
1996

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ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

The empirical study of personality characteristics of teachers appears to have received limited attention and application in recent years. The focus of research on teacher effectiveness has gradually shifted from studies of teacher personality to teacher behavior and measures of performance (Byrd, Coble, & Adler, 1982; Getzels & Jackson, 1963; Manning & Payne, 1984). During the 1980's concern for accountability in education and teacher effectiveness directed attention to quantifiable measures (SAT scores, GPA, and class rank) of teacher candidates (Pfeifer, 1983). Educators know more about how teachers have performed as undergraduates than about their personalities. Also neglected is the understanding of how those characteristics may be related to their career decisions, specifically how likely they are to choose to teach at the elementary and secondary levels.

It is assumed that the pre-service teacher has an attraction to teach at the elementary or secondary level based in part on who he/she is. Personal characteristics
including interests and needs play an important role in occupational decisions. A theoretical basis for understanding the role of personality in education and as a variable in this study is best put forth by John Holland (1978; 1985) who asserted that the concepts of personality and vocational choice are related. Specifically, an individual’s occupational choice is significantly influenced by his/her personality (including factors of ability, interest, knowledge, and motivation). Holland proposed six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. He further claimed that work positions, work environments and the corresponding work activities required in those stereotypic work settings would attract like (congruent) personality types. When a match occurred between person and environment the resulting congruence would determine work satisfaction and persistence. It is therefore proposed, consistent with this theory, that individuals who choose teaching careers will tend to be of specific personality types and possess measurable traits in common.

Another approach to conceptualizing personality considered here is one based upon personal need states developed by Murray (1938). An individual’s varying needs or drives (internal factors) as well as environmental "press" or conditions (external factors) determine his/her behaviors, and ultimately, personality profile. When applied
to career decisions, a person’s prominent traits, therefore, determine likely choices of occupation which satisfy interests and needs in the work environment that is congruent in demands or press. Both type and trait approaches to conceptualizing personality will be offered as a framework to understand teacher personality as a predictor of choice of teaching level (Holland, 1985; and Murray, 1938).

**Teacher Personality Research**

In proposing a study of the relationship of teacher personality to career choice it is important to briefly examine the history and trends in teacher personality research. Getzels and Jackson (1963) assert that the early research (first half to mid-twentieth century) in teacher personality was flawed, having no universally accepted conceptual base, criterion for health or adequacy, or instrumentation. In the decade of the 1950’s extensive and systematic study of teacher personality was conducted mainly by psychologists in an effort to identify factors which might predict the quality of teaching (Ryan & Phillips, 1982). Historically there have been persistent efforts to study the role of personality in teaching career choice and teaching behavior.

The decades following the fifties witnessed continuing work, expanding conceptual focus to include attitudes which
were found predictive of teacher behavior (Benton and Richardson, 1990; Kraus, 1990). In addition to attitude as a manifestation of personality, there were studies of self-esteem and self-concept. The relationship of self-esteem and teaching performance was confirmed by Doherty (1980) and Payne and Manning (1991). In his survey of student teachers, Doherty found a direct relationship between self-esteem and competence as teachers. He also discovered low esteem to be associated with higher degrees of stress when teaching, less social integration with colleagues, higher incidence of emotional problems, more absence from teaching, and more psychosomatic symptoms. Payne and Manning’s (1991) study related the self-esteem of pre-service teachers to their "self-talk" and locus of control. Teachers who have high esteem tend to also have positive, mature, and independent self-talk; and an internal locus of control. Self-concept related to teaching performance has also been investigated by Halpin, Halpin, and Harris (1982). They found effective teachers were humanistically oriented, emotionally stable, imaginative, outgoing, self-assured, and high in self-concept. In contrast, the authoritarian teachers scored high in dogmatism, had low frustration tolerance, were exacting and persevering, responsible, conventional, rule-bound, and scored low in self-concept. Dogmatic teacher personalities were also studied by Lehman (1981) and Haukoos and Penick (1987), who focused on classroom climate. Low dogmatism
teacher scores tend to relate to classroom climates characterized by intellectual freedom and higher levels of academic performance than the teacher-controlled classes of more highly dogmatic teachers.

Personality variables of ego development or identity resolution were found by McNergney and Satterstrom (1984) to be highly significant in teacher performance. The more positive and firm student teachers were in their sense of self the more effectively they performed in the classroom. Similar studies by Geoffroy (1985) and Haight (1990) revealed the direct relationship between teacher effectiveness and high levels of self-realization and integration of personality.

Another body of research has demonstrated differences between elementary and secondary teacher personalities. Baldwin, Slaton, Head, and Burns (1990) compared the personalities of 188 pre-service teachers, using the 16 PF, finding secondary majors more assertive and self-sufficient than elementary majors, but less emotionally stable and less imaginative. The former group was also more conforming, conscientious, self-disciplined, rule-bound, and socially aware than the latter. Controversial results of Tusin's study (1991) of 2441 students showed the aspirants to elementary teaching have lower academic and social self-concepts than those choosing secondary teaching. Puurula (1986) discovered a Finnish sample of elementary student
teachers also felt intellectually inferior (although they weren’t), but they were more extroverted and reform oriented than the secondary student teachers who were introverted and achievement oriented.

Another study exploring differences between elementary and secondary pre-service teachers presents results which contrast Tusin’s findings (McDonald, 1991). She examined 286 female pre-service teachers with mean GPAs and ACTMATH scores above the national average. Using the BEM Sex Role Inventory, she found gender a significant predictor of teaching level. Feminine typed students chose elementary teaching, while the masculine typed selected secondary teaching. Stronger career commitment prevailed for secondary majors and family orientation for the elementary majors.

Examining a similar population of 439 pre-service and 164 in-service teachers, Miller (1992) used the California Psychological Inventory to reveal secondary pre-service teachers more dominant, independent, and assertive than elementary pre-service teachers. The elementary pre-service teachers were more responsible, cooperative, and conforming than secondary. Miller also discovered gender differences with secondary pre-service males more sociable, outgoing, and flexible; and elementary pre-service females more controlled, conforming, and responsible.

Another study of personality traits of prospective teachers was done by Wosley-George in 1990. All the
relationships between Personality Research Form (PRF) scale scores and teaching level choice were low but were in the expected direction, suggesting trends in the personalities of elementary and secondary pre-service teachers. For example, she found elementary teachers were more nurturing and concerned with students' well-being; while secondary teachers were more independent and dominant. The pre-service teacher's choice of secondary teaching level was positively related to Aggression, Autonomy, Defendence, Dominance, and Exhibition. Secondary pre-service teacher choices were negatively related to Affiliation, Harmavoidance, and Nurturance. The Pre-service teacher’s choice of elementary level was positively related to Harmavoidance and Nurturance; and negatively related to Autonomy and Defendence.

Historical Problems and Perspectives

The history of teacher personality research presents a record of numerous attempts to clarify the significant variables which have predictive value in the process of decision making and specifically of students choosing teaching careers and the elementary and secondary levels. However, the literature exploring the personality traits of a good teacher is characterized by a pervasive lack of agreement on what specifically distinguishes a good teacher from the rest (Balzer, Evans, and Blosser, 1973; Byrd,
Cobble, and Adler, 1982; and Jenkins, Fisher, and Applegate, 1989). These and other authors have over a significant period of time struggled to identify more clearly the specific traits of those students who showed the greatest promise to benefit most from the teacher training programs and become the most effective teachers. Faculties of the colleges and universities responsible for this training have attempted with limited success to select and encourage, without violating an individual’s democratic right to self determination the students, with the greatest potential for teaching (Durflinger, 1948; Heil and Washburne, 1962; Mitchell, 1965; Ethington, Smart, and Pascarella, 1987). It has been consistently evident that teachers are a significantly diverse group of people who defy attempts to clearly delineate their common personality structures (DeBlassie, 1971; Getzels and Jackson, 1963; and Guddemi, Swick, and Brown, 1987). Nevertheless, it is also clear that research must continue to further the understanding of the influence of personality on pre-service teachers’ choice of teaching level.

**Statement of the Problem**

Insufficient information about teacher personality exists especially as it may lend insight into the individual’s choice to teach and specifically decisions about the level at which to teach, elementary or secondary.
This investigation attempted to increase the understanding of the types of students attracted to teaching careers, and how their interests and personality traits influenced their choice of elementary or secondary level. Specifically, the objective was to identify the relationships between selected personality and interest variables and the choice of level of teaching.

Research Questions

The research questions of this study were:

1. What is the personality profile of students who choose a career in teaching?

2. In terms of personality measures, are there significant personality differences among students who choose to teach at the elementary and secondary levels?

3. How do the demographic variables of age and gender relate to the personality of pre-service teachers?

Objectives of the Study

The principle objective of the study was to describe (in the forms of profiles and types) the personality characteristics of the pre-service teachers enrolled in The Ohio State University Freshman Early Experience Program (FEEP) from Winter quarter, 1992 through Spring quarter, 1994 (eight quarters total).
The study also attempted to test the ability of the Jackson Personality Research Form (PRF) (Jackson, 1967), and the Holland Vocational Preference Inventory (VPI) (Holland, 1978) to separate pre-service teachers into groups based on their interest in elementary or secondary teaching.

Finally, this investigation also attempted to determine how demographic variables of age and gender are related to the personality of pre-service teachers.

Significance of the Study

The findings of this study were proposed to benefit the field of education in several ways.

1) The outcomes of this investigation may encourage future studies to more extensively investigate the relationships between the personalities of pre-service teachers and their subsequent effectiveness at the elementary and secondary levels. With this knowledge, academic advisors may appropriately guide student career choices in the educational field and the level of teaching.

2) The usefulness of the Holland Vocational Preference Inventory in identifying the vocational interest variables which predict the choice of teaching level were also examined in this study.

3) Similarly, the Jackson Personality Research Form was also tested as another valid instrument in the screening of education majors and the career counseling process for future teachers.
Definition of Terms

1. Career Choice: career decision making involving the selection of a specific type of work or profession to pursue.

2. Freshman Early Experience Program (FEEP): the required seminar for Education majors at The Ohio State University which provides exploration and discovery opportunities to aid the student's career decision making and specifically whether or not to enter the field of teaching.

3. Personality: is "a complex pattern of deeply imbedded psychological characteristics that are largely unconscious, cannot be eradicated easily, and express themselves automatically in almost every facet of functioning" (Millon, 1981).

4. Pre-service Teacher: a student who has declared an interest in Education as a major, and in the case of this study will teach at either the elementary or secondary level.

Limitations of the Study

Conclusions which may be drawn from this study must recognize limitations in generalizability to other populations and instrumentation and scoring variances.

The sample was drawn from the pre-service teachers at one university setting, therefore generalizations may be
made to that population at that university only. Speculation about similar pre-service teacher groups at other universities is subject to error.

During the three-year period from 1992 to 1994 several seminar leaders administered the instruments to FEEP students in the classroom setting. Variance in procedure when giving and scoring these tests cannot be eliminated. Although training in test administration was thorough extraneous conditions are a possibility.

Summary

Extensive but inconclusive research on teacher personality has a long history but appears to have waned in recent years with a preference for other measures of teacher behavior or performance (Byrd, Coble, and Adler, 1982). The purpose of this study was to contribute to the knowledge and understanding of the personalities of those students who chose to enter teaching and select the elementary and secondary level.
CHAPTER II

LITERATURE REVIEW

Studies of teacher personalities are lacking, especially during recent decades (Wesson & Burns, 1991, ERIC, Information Analyses). In the Wesson and Burns analysis, research to provide information to assist in the preparation of school personnel is recommended. Advocating the restructuring of schools by means of a problem solving approach, these authors call for school personnel to have personal attributes of flexibility, resilience, risk-taking, collaboration, communication, and rejection of conventional stereotypes. Their conclusions are echoed by Broadfoot (1990) in her review of British studies which lead to a similar position emphasizing the importance of understanding the personality of teachers and the way they individually and collectively approach their work, their thinking, relationships, and sources of satisfaction. She stresses the need to increase social science and behavioral research for the improvement of education.

This chapter reviews the literature under the following topics: the attractions and influences on teaching career
decisions, such as birth order (firstborns vs laterborns), high school / college experiences and relationships, and self-monitoring or conformity in the teaching environment. Studies of teacher personality characteristics follow with focus on self-concept, cognitive style, stability of interests and motivation. Millon's definition (1981) asserts that personality influences the "individual's distinctive patterns of perceiving, feeling, thinking, and coping."

Self-concept and cognitive style as manifestations of perceiving and thinking are related to personality in the studies of Bargar and Hoover (1984), Doherty (1980), Driscoll and Reynolds (1984), Halpin, et. al. (1982), Sparks and Lipka (1992), and Tusin (1991). Motivation represented as "motives to teach" was the object of study in the work of Mitchell (1965), and the drive theory of personality of Murray (1938), which is the basis for Jackson's PRF (1984). The conceptual shift in the focus of teacher personality research (self-concept, cognitive style, etc.) is well related to other personality constructs; such as those measured by the PRF and VPI instruments used in this study. Discussions of teacher characteristics with scales of the Jackson Personality Research Form (PRF) and the types of the Holland Vocational Preference Inventory (VPI) are made. A section examines the issues and problems of personality measurement, reviewing several studies which use different
instruments while concentrating specifically on the PRF and VPI.

The Teacher

The Person in the Process

Attraction to Teaching

Considering the great importance and extraordinary demands of teaching, a logical first question may well be, "what are the attractions for those who choose a career in teaching?" A qualitative study of 24 "outstanding" elementary teachers revealed that for the majority interviewed it was the influence of other identified people - mostly teachers, and a significant proportion of them were relatives who had contributed to their decision making process (Easterly, 1983). A similar investigation of a sample of 139 elementary and secondary school teachers identified the three most frequently cited reasons they choose teaching careers: 1) Like working with children or youth, 2) Like to help others learn and develop, and 3) Fulfill a need to be useful and contributing (DeLong, 1987). In contrast to the expressed altruism, the same group reported that the most frequent reasons they accepted positions were: 1) Geographical location, 2) Teach in an area of expertise, and 3) Just needed a job. DeLong stresses that for this group, the concept of service was dominant, a
"way of life"; and those who did not hold that concept of service tended to leave the profession early.

Birth order may influence the choice of helping careers (Bryant, 1987). Using the Strong Campbell Interest Inventory (SCII), the author surveyed the differences between firstborns and laterborns in a sample of 16 and 17 year-old Catholic school girls. Firstborns were found to have significantly higher interests than laterborns in social areas: "working with people, affiliation, demonstrated leadership, sociable, concern for the welfare of others, facility with words, popular, desire for attention, and an interest in interpersonal relationships." Bryant indicated this group would be well suited for and likely to choose teaching as a career. She also emphasized the social types had a stronger sense of self-esteem, greater self-confidence, were more likely to be successful in academic pursuits, had a need for independence, were self-sufficient, and desired a career where one is self-supervising.

From another perspective, controversial results from a study of 890 elementary and secondary school teacher aspirants strongly suggested their personal characteristics were less influential in their career decisions than experiences in high school and college (Ethington, Smart, and Pascarella, 1987). Respondents in the 1971 and 1980 Cooperative Institutional Research Program (CIRP) surveys were sampled for this study. Strong academic and social
experiences (particularly student relationships with faculty) in college were more significant determining factors in vocational choice than personality. Specifically, regression analysis revealed that for aspiring teachers the significant direct effects determining entry into the teaching profession were related to college experience variables. Institutional variables (not personality variables) accounted for 41% of the outcome variance for elementary teachers and 17.2% of the variance for secondary teachers. Specifically, the only independent variables of significance were "receipt of bachelor's degree" ($r = .233$ for elementary and $r = .158$ for secondary); and "degree to which students felt prepared for a teaching career" ($r = .288$ for elementary and $r = .306$ for secondary). Secondary teaching aspirants were influenced most in entering the teaching profession by the variables of 1) "confidence of preparation" and 2) "undergraduate academic accomplishments". Successfully beginning a teaching career for elementary teachers was negatively influenced by a favorable "academic self-concept", but positively by their majoring in education and earning higher college grades. This is particularly interesting as it suggests that those students who had positive feelings about their academic ability may not tend to choose careers in education, and vice versa. The authors recognize that other studies have not produced significant measures of "college experience" variables which compared to
the predictive value of personality variables in determining the students' choice of teaching level. Nevertheless, they conclude that these variables have significant value as factors which determine entry into the profession and choice of level for aspiring teachers.

A study investigating the personality characteristics associated with the motivation for entering teaching examined a sample of 85 female junior and senior college students enrolled in teacher training (Mitchell, 1965). The 16 Personality Factor inventory was the measure used in this study to delineate personality characteristics. The subjects' motivational orientations were designated as "Child Oriented", " Practically Oriented", and " Subject Oriented". These orientations were determined from a 14-item "Questionnaire for Prospective Teachers", consisting of statements which described reasons for enrolling in a teacher preparation program. The sample was divided into almost equal groups of 42 elementary and 43 secondary teaching level aspirants.

The results of ANOVAs revealed the most significant relationship between personality and orientation was on the dominance scale. Strikingly different for the elementary and secondary groups, dominance had a significant positive relationship to the child or student orientation at the secondary level, but a significant negative relationship for the elementary child orientation group (Mitchell, 1965). The
author suggests that this finding points to the strong influence of the social adjustment patterns of the teacher trainees on their choice to teach at the elementary or secondary level. For example, the secondary teacher who tends to be dominant may have received social recognition and need satisfaction for these characteristics in peer relations. This individual may, at varying levels of awareness, perceive continuing need satisfaction in teaching adolescents who are close in age to her/his peers. In contrast, the submissive elementary teacher may have experienced lack of social recognition and few satisfying relationships with peers. These teachers may, the author continues, unconsciously seek such need gratification in relationships with younger children at the elementary level (Mitchell, 1965). He adds that this vocational pattern is essentially a defensive one but likely to be a problem only when the teacher shows more domineering and authoritarian control pattern in the classroom.

Additionally, student oriented secondary level subjects were found to be adventurous, dominant, self-disciplined, sociable, and free of excessive guilt, tension and anxiety. Trainees at the elementary level were imaginative, intelligent, sensitive, and self-sufficient. The practically oriented subjects were apprehensive, insecure, submissive, and having a high level of anxiety at
the secondary level, while tough-minded at the elementary level which was considered inappropriate for that level.

In summary, for the total group, the "Subject Oriented" group was the most dominant, self-disciplined, and least sociable. The "Child Oriented" group tended to be the most sociable and warm-hearted for the elementary and total group. Child Oriented also scored the highest on surgency and enthusiasm of the elementary subgroups. Practically oriented student trainees were the most tension-ridden and had the least superego strength at the secondary level, while within the total group they were the most tension-ridden and had the least self-discipline.

Results suggest a relationship between personality characteristics and motivation for teaching as well as the choice of teaching level (Mitchell, 1965). He adds that basic requisites for success in teaching would include characteristics of a self-disciplined, conscientious attitude toward teaching and the absence of anxiety and tension. The secondary level practically oriented student was found to have these characteristics. The author raises concern regarding this finding since one third of the subjects fall into this group.

In a somewhat different vein, it is assumed that those who aspire to enter the teaching profession have perceptions about the demands and expectations of the work setting. This may be particularly important in considering the degree to
which the future teacher believes she/he must modify her/his behavior to meet environmental demands. Brown, White, and Gerstein (1989), using Holland’s Vocational Preference Inventory (VPI) and Snyder and Gangestad’s self-monitoring scale, found in a study of 237 undergraduate students that the "low self-monitoring" individual does not tend to alter behavior to fit social or work situations, but values congruence between beliefs and behavior. This nonrandom sample of students (100 males and 152 females) was given course credit for participation in this study in which they completed demographic surveys, the VPI (revealing scores of the six personality types), and the Snyder and Gangestad’s Self-Monitoring Scale to determine their degree of self-monitoring. Particularly for the males in this sample, regression analysis revealed that the low self-monitoring tended to prefer social occupations - counselor, teacher, and minister. These respondents had less concern for appearance, higher levels of vocational maturity, and preferred closer - not superficial relationships. Also revealing is an examination of the contrasting high self-monitoring subject: pursues high level jobs, is highly sensitive to the ways he/she can modify behavior to maximize the potential rewards of the environment, seeks leadership positions, has superficial relationships, lower vocational maturity, is pleasure seeking and persuasive. The high self-monitoring tends not to choose a teaching career.
While this investigation showed that self-monitoring appears to play a significant role in career orientations for males and to a lesser extent for females, it examines the student population and has limited relevance for working teachers. The low self-monitoring individual may bear resemblance to the subject scoring high on the PRF autonomy scale as he/she would tend to be more self-determining, non-conforming, and uncompliant, as Jackson indicates in his PRF manual (1984). Future research may search for relationships between the high self-monitoring individual and aspiration for advancement in educational administration. Additional study may also find the low self-monitoring teacher to have greater satisfaction and stability in the teaching position.

Teacher Personality Characteristics

A working definition of personality is provided by Millon (1981): "a complex pattern of deeply imbedded psychological characteristics that are largely unconscious, cannot be eradicated easily, and express themselves automatically in almost every facet of functioning. Intrinsic and pervasive these traits emerge from a complicated matrix of biological dispositions and experiential learning and now comprise the individual’s distinctive pattern of perceiving, feeling, thinking, and coping." (p.8).
Another essential conceptualization of personality is from the needs-press theory in *Explorations in Personality*, (Murray, 1938). Also considered a trait theory of personality, Murray's dynamic, organismal viewpoint stresses that the human being is driven to reduce tensions generated by forces both internal (needs or drives) and external (the environmental "press" or situation). The need is a "construct of unknown physio-chemical origin, in the brain, which stands for a force which organizes perception, apperception (consciousness or awareness), intellection (thinking), conation (drive or desire), and action in such a way as to transform in a certain direction an existing unsatisfying situation" (Murray, p. 121). The environmental press is important in what it can do to or for the person, or what it can make the person do. The unity or totality of forces (needs and presses) over time represents the personality, and becomes more distinct and consistent or patterned as the organism - person gains more experience and ages. Murray identified 13 "viscerogenic" needs, requiring physiological satisfaction, and 28 "psychogenic" needs, requiring mental or emotional satisfaction. These theoretical constructs were the foundation for the development of Murray's Thematic Apperception Test and Jackson's Personality Research Form as well as others.

Based upon these theories, it is assumed that personality characteristics are relatively stable,
pervasive, and automatically expressed. It is also assumed here that instruments like the Personality Research Form and the Vocational Preference Inventory can reliably tap into these traits. From these definitions it is clear the aspiring teacher possesses personality characteristics as his/her unique personal condition, subject to only limited modification. Research which identifies the qualities present in the effective teacher can be of great significance in assisting in the selection process for teacher education programs.

Teacher Personality and Effectiveness

The studies examined in this section focus on teacher personality characteristics that have predictive value in determining competency and effectiveness. These investigations reveal the enduring determination of many researchers to discover the personality factors, if any, which are significant in predicting successful teacher performance. Manning and Payne (1984) underscore the importance of the teacher's positive personal characteristics, especially at the elementary level because of the impact of the teacher-child relationship on children who are at a point of rapid growth in all areas: cognitive, affective, physical, and social. Martin (1983) also emphasizes that consideration must be given to personality factors, self-concept, cognitive style, stability,
interests, and motivation in the process of attracting and selecting the most qualified students into the field of education.

In examining the problems with the research in teacher personality, Getzels and Jackson (1963) pointed out earlier, there is no universally accepted conceptualization, criterion of health or adequacy, or instrumentation employed to attempt to quantify such personal qualities. Treating teachers as a single group is problematic since they are diverse in grade level, subject matter, and gender. Since teaching is therefore contextual and situational there will always be a problem in making comparisons among studies of different areas within such a vast field. Getzels and Jackson (1963) further cite a lack of productivity and consistency in teacher personality research in early years because of a failure to delimit variables carefully, the use of inappropriate instruments, and the focus of study on maladaptive rather than successful or effective behaviors.

**Personality Characteristics of Outstanding Teachers**

Easterly (1983) investigated personality factors by asking outstanding teachers to describe themselves. The five most frequently identified characteristics were:

1) Caring/loving, 2) Organized, 3) Open to listening to other viewpoints, 4) Enthusiastic, and 5) A friend. The next most frequently chosen qualities were: 1) Patient,
2) Content/happy, 3) Too busy, 4) Energetic, 5) Positive, and 6) Candid/honest. In summary, the respondents emphasized the following most important qualities (including the number of subjects who identified that characteristic): 1) Caring (13 teachers stressed specifically: "kind, child-oriented, humanistic, cares about job, puts students first, carries work home as needed, dedicated and committed"); 2) Innovative (9 said: "aware of trends, will change with the times, flexible, creative, and will try new techniques and integrate into teaching"); 3) Organized (7 specified: "like to plan, structured, and fits it all in"); and 4) feel good about selves (7 teachers indicated: "confident, happy, comfortable with self and students, not take self too seriously, let loose, relaxed, allow some personal disclosure").

While this self-report format investigation has limitations in the extent to which one may draw conclusions about teachers in general, it may relate to other studies employing the PRF and VPI instruments. The characteristic of "caring" may resemble the Social personality (VPI) and high scores on the Nurturance scale of the PRF. The "organized" trait may be close to the Order scale of the PRF.

A recent study focused on the characteristics of the "master teacher" - defined as "outstandingly experienced and effective" (Sparks and Lipka, 1992). The authors compared the personality traits of exceptional and average teachers
administering the Tennessee Self-Concept Scale (TSCS),
Nowicki-Strickland locus of control (LCS), Pupil Control
Ideology Scale (PCI), and the Sixteen Personality Factor
Scale (16PF) to a sample of 29 secondary school teachers.
The master teacher was more warm-hearted, socially outgoing,
attentive to people, generous in personal relations,
maintaining interpersonal contacts, hard to fool, having a
high drive level (motivation), respectful of traditional
ideas, and sensitive and intuitive. In contrast, the "not so
masterful teacher" was cool, rigid, shy, self-sufficient,
inhibited in interpersonal contacts, tending to avoid
compromises of viewpoint, and critical.

All 29 teachers (13 males and 16 females) were from
two rural Missouri school districts. Data analysis indicated
no significant differences between the masterful and not-so-
masterful teachers on locus of control, PCI, and self-
concept scores. The 16PF scores did reveal differences
between these two groups of teachers. Four factors appeared
to be correlated with quality teachers at the .01 level of
significance: Trusting vs. suspicious .72; Conservative vs.
experimenting -.72; Relaxed vs. tense .68; and Low anxiety
vs. high anxiety .61. At the .05 level of significance three
factors were highly correlated with the master teachers:
Cool vs. warm .56; Tough-minded vs. tender-minded .51; and
Self-assured vs. apprehensive. These findings suggest that
the master teachers tend to be harder to fool, traditional,
have a high drive level, be more intuitive, more apprehensive, and more warm-hearted than not-so-masterful teachers. Sparks and Lipka (1992) advise school systems to identify, reward, and encourage retention of the master teacher, and to facilitate the formation of mentoring relationships to maximize the obvious benefits of their tenure. They also advise "altering personality characteristics so that all teachers become master teachers" with specialized training programs (p. 309). Altering personality characteristics may not be as easy as the authors suggest given Millon's (1981) belief that personality is relatively immutable.

In contrast to the above investigations of selected outstanding teachers, the next study of the personality characteristics of science teachers examined a nonrandom group of 95 teachers at 25 Eastern North Carolina high schools evaluated by their students, peers, and principals (Byrd, Coble, and Adler, 1973). The authors' stated intent was to find useful information about teacher personality characteristics to assist the process of early identification of students having promise to become successful teachers. Teaching effectiveness of the sample was assessed by peers, principals, and students. Personality characteristics were measured by the Personal Orientation Inventory (POI), a ten-scale instrument based on the concepts of self-actualization advanced by Abraham
Maslow. Principals and peers evaluated the teachers as "Excellent", "Very Good", and "Other".

The results of the investigation revealed no differences in POI scores between teachers evaluated by peers as "Excellent" or "Very Good" and those falling in the "Other" group. Differences did result when students identified them as effective: those teachers scored higher on most of the subscales, particularly Synergy, Capacity for Intimate Contact, and Acceptance of Aggression. The authors suggest that these teachers have an ability to perceive fewer dichotomies, eg. work and play are not necessarily opposites for them. Students also appreciated these teachers' ability for warm personal relationships and the ability to "get in tune" with their own feelings. Teachers rated "unsuccessful" scored low on the above mentioned scales, including existentiality, which the authors interpret as their having the tendency to hold certain views so strongly as to become compulsive or dogmatic. In conclusion, the authors recommend further exploration given the presumed regional bias in their sample, urging replication in other urban and rural areas across the country.

**Rationale for the Study of Teacher Personality**

Great concern has been expressed across the country about the quality of our educational system when examining
the substandard test scores and academic output of our students. In seeking answers and explanations, the response has been to scrutinize the abilities and skills of teachers; specifically their academic achievement (GPA and SAT scores) and pedagogical skills. This orientation is consistent with the trend recognized by Payne and Manning (1985) who indicate the focus in educational research has been directed on the teacher’s cognitive knowledge and overt behaviors. They assert the credibility of teacher personality research has diminished because much of the study of personal characteristics has been inconsistent and unproductive as well as troubled by the difficulties inherent in measuring such an elusive concept as noted by Getzels and Jackson (1963), cited above. They further argue that the teacher’s academic excellence (knowledge of subject matter, basic skills - pedagogy) has been considered sufficient to determine competence. Yet it is the affective domain - the teacher’s personal dimensions (self-awareness, self-concept, attitudes, and expectations of self and others) that makes the subject come alive, excites students, and stimulates their questions, exploration, and learning (Payne and Manning, 1985).

Recognizing that education lacks the procedures to select the most effective teachers from a group of applicants, Henjum (1969) argues that a differentiating factor among teachers is the pattern of personality
characteristics. He studied 123 student teachers from the University of Minnesota, using the Cattell 16PF and the Teacher Effectiveness Prediction Scale (TEPS) to explore the relationship between self-actualizing teacher personality patterns and effectiveness. The highest supervisory ratings were positively correlated with personality patterns characterized by self-actualizing people - those who have basic needs met, are enthusiastic, participating, emotionally stable, venturesome, self-assured, strong will power, and unfrustrated.

In a similar investigation, Phillips, Carlisle, Hautala, and Larson (1985) analyzed the relation between teacher personality measured by the 16PF to teacher behaviors (effectiveness) measured by the Physical Education Teacher Assessment Instrument. Teachers (n = 18) from primary and secondary levels volunteered to participate in the study. Basic personality traits of assertiveness, expediency, questioning, imaginativeness, genuineness, confidence, and experimenting correlated significantly with observed teacher and student behaviors equated with effectiveness. In addition, teachers scoring high on these characteristics indicated tendencies towards higher levels of knowledge, utilization of knowledge, and more effective testing than those with low scores. They were also more flexible and appropriate in their instruction, and provided
more planned instruction and positive feedback than low scorers (Phillips, Carlisle, Hautala, and Larson, 1985).

Teachers scoring high in assertiveness, questioning, and imaginativeness were observed to provide students more time on task and a higher quality of practice time. The students of teachers scoring high on assertiveness, independence, imaginativeness, and questioning tended to learn more than students of teachers with low scores on these personality characteristics.

In summary, Phillips, et al (1985) assert the findings are suggestive of a relationship between teacher personality and teacher behavior, time on task, and student achievement. Teachers giving students more time to learn skills (enabling those students to have higher achievement progress) have personalities characterized as high in independence, individuality, resilience, spontaneity, and self-assurance. Results also indicate a relationship between teacher personality and teacher classroom behavior, student classroom behavior, and student achievement. Finally, limitations in generalizability are due to the voluntary sampling and lack of differentiation of teaching level.

Representative of research employing student evaluations of teacher behaviors (effectiveness) and teacher personality, Costin and Grush (1973) examined the relation of classroom behavior to personal traits of 106 teacher subjects - graduate assistants in social-behavioral
Employing the Gordon Personal Profile and Inventories (GPP & GPI), the results suggested a high correlation between personality traits and classroom behavior (effectiveness). The more effective teachers scored high (on the GPP) in ascendancy (self-confidence), emotional stability (anxiety free), responsibility (performing tasks on time), and sociability (gregariousness - similar to Affiliation). On the GPI effective teachers scored high in cautiousness (working slowly - possibly the opposite of Impulsivity), original thinking (enjoying thought-provoking discussions, like Understanding), personal relations (tolerant and understanding), and vigor (energetic). Product-moment correlations were of high magnitude in the relations between classroom behaviors and original thinking and trust and understanding in personal relations (.55 to .80). Teacher's skill was also highly correlated with ascendancy (.67). The authors defend the use of student ratings, "the present study has demonstrated the practical utility of student ratings for an explication of those teaching traits and classroom behaviors which are most instrumental for effective teaching" (Costin and Grush, 1973, p. 65). They also acknowledge the questionable validity of such ratings, as well as the problem of extrapolating the results of graduate assistant performance to populations of working teachers.
A study related success in teaching as indicated by supervisory ratings to MMPI scores (Flanagan, 1961). The research covered a four-year period (1953-1956) and examined 167 predominately female, certificated teachers in their first years of in-service teaching. Chi-square results were as follows:

1. A high coding of scale 3 (Hysteria) for women teachers was positively related to a supervisory rating of outstanding.

2. A high coding of scale 5 (Masculinity-Femininity) for the women teachers was positively related to supervisory ratings of above average, with modest statistical significance.

3. A low coding on scale 2 (Depression) for women teachers was associated with supervisory ratings of above average.

4. Scales O (Social Introversion-Extroversion), 2 (D), and 5 (Mf) were coded lowest with significantly greater frequency than they were coded highest for women teachers. Low codings were associated with above average supervisory ratings. These scales were also coded highest more frequently for men than for women teachers.

5. Scales were coded lower more frequently for women teachers than for men teachers.

The author concluded that the MMPI, while a valid instrument in the identification of pathology, may also be
useful assisting in the prediction of teaching success (Flanagan, 1961).

At the same point in time as the Flanagan (1961) study of teacher success cited above, an investigation of the relationship between teacher personality and effectiveness specifically with certain types of pupils was done (Heil and Washburn, 1962). Measuring student growth under different kinds of teachers, the authors used the Otis Quick Scoring Intelligence Test, the Stanford Achievement Test, the Ohio Social Acceptance Scale, and the Brooklyn College Test of Children's Feelings. The teachers were classified with the following instruments: the Teacher Education Examination Program, the Manifold Interest Schedule (an index of academic interests and personality), the Brooklyn College Teacher Observation Forms, and the Brooklyn College Interaction with Children Test. The child population was from 55 classes of a widely diverse socio-economic area of Brooklyn. Therefore the teacher sample was also 55, taken from nine large public schools, two teachers from each of the three intermediate grades (4, 5, and 6). Teacher types were designated A, B, and C as follows: A) turbulent, impulsive, and variable; B) self-controlling, orderly, and work oriented; and C) fearful. Students were classified into four types: 1) conformers; 2) opposers; 3) waverers; and 4) strivers. The most noteworthy and significant result in terms of measured academic growth of pupils was that
children with type B teachers made significantly more progress than those under teachers of type C, with type A scoring in between (Heil and Washburn, 1962).

It is interesting to note, however, that the greatest progress for most pupils in mathematics and science occurred with type A teachers and in language arts under type B teachers. The type C teachers appeared most effective in social studies. In contrast, type A teachers obtained little growth by opposing (2) and wavering (3) pupils. These most significant correlations were measured on the Stanford Achievement Test; while the observations and the Teacher Education Examination results were negligible. The authors conclude the overriding factor in children's academic achievement is the teacher personality.

The results of the Ohio Social Acceptance Scale indicate that children with type B teachers became markedly and significantly more friendly toward each other than children with either type A or type C. Waverers grew most with type C teachers in the quality of friendliness, but did not grow with type A teachers in that quality. In summary, Heil and Washburn (1962) emphasize the most successful type B teacher as having warmth and empathy, but even more outstanding are the qualities of leadership coupled with a strong work orientation. Type B teachers are self-severe, methodical, and striving towards the achievement of self-set standards. With these qualities and behavior modeling, the
type B teacher is most successful instilling the same characteristics in children.

With a similar focus on comparative personality variables, Osborne (1985) studied the effects of teacher temperament on coping strategies used with distractible children. While Osborne favors the term temperament, it is evident the traits examined below are similar to those assessed by standard personality measures as well and are not incompatible with the definitions for personality given above (stable, pervasive characteristics). Two levels of teaching experience (two or more years experience vs. no previous experience) were represented in the sample of 22 female university students. Coping strategies of teachers were measured by observing teacher interactions (problem-solving tasks) with distractible child confederates. Temperament was assessed with the Guilford-Zimmerman Temperament Survey (GZTS), a 300-item questionnaire assessing 10 dimensions of temperament: general activity level, restraint vs. impulsivity, social ascendance vs. social submissiveness, sociability vs. shyness, emotional stability, "thick-skinned" vs. hypersensitive, friendliness and thoughtfulness, and a masculine-feminine dimension.

Results of one-way ANOVAs suggested the experienced teachers tend to be more task-oriented in coping with distractible pupils, providing more instruction and structure and less task-irrelevant conversation than the
inexperienced teachers (Osborne, 1985). Outcomes of the temperament survey also confirm the importance of the adult temperament variable in mediating adult-child interaction. Adults with different temperament characteristics utilize different coping strategies in managing distractible children. The high general activity level adults were significantly less likely to return a child to task than low activity adults. A teacher's score on the restraint dimension was negatively correlated with the number of irrelevant comments she made and positively correlated with the amount of instruction she gave. Teacher sociability was positively correlated with frequency of irrelevant comments and negatively related to the number of attention demands and instructional comments. A unexpected result occurred; the ascendant teachers had more irrelevant comments during interaction sessions and fewer (but not significantly) attention demands and instruction. Also surprising was the finding of a negative relationship between masculinity and the frequency of attention demands, instruction, and positive feedback. The author concludes that there is evidence in the results to suggest that teacher temperament is related to the manner (coping methods) of their responding to children of certain temperament characteristics (Osborne, 1985). The teacher's acceptance or encouragement of off-task behavior was partially predicted by temperament. Specifically, the teacher's coping responses
to distractible behavior were correlated with temperament dimensions. This gives partial support to the argument that teachers having certain temperament or personality characteristics may provide a more efficient educational environment for the distractible child than teachers with other personality traits (Osborne, 1985).

Aside from the issues of matching temperaments, another study investigating teacher personality and teacher-pupil rapport employed the use of the Edwards Personal Preference Schedule (EPPS) with 91 female student teachers (Medley, 1961). Pupil reactions were collected several months later to measure teacher-pupil rapport. The analysis of the data yielded no significant relationships between personality and rapport scores. The scores of 66 teachers were discarded based on their high scores on "consistency" which suggests insincere responses. The remaining 25 subjects had correlations approaching statistical significance. Those teachers scoring highest on rapport tended to have a stronger need to understand others, to question their own motives, to be successful, to feel guilty and accept blame when wrong, to attack opposing points of view, to hold others responsible for bad outcomes, and to respond with timidity before superiors (Medley, 1961).

On a different dimension from rapport, studying high-empathy teachers, Morgan (1984) attempted to delineate and describe their personality traits and how those
characteristics may relate to the psychosocial development of children. Empathy was assessed by self-ratings, supervisors, and outside raters using the Scale for the Measurement of a Teacher's Understanding of the Meaning of Classroom Experiences for the Students. Personality was measured with the Personal Orientation Inventory (POI), Acceptability of Others to Others Test (AOOT), and the Philosophy of Human Nature Test (PHNT). From residential and public school classrooms, 24 teachers of emotionally disturbed children participated in the study. Ten were evaluated as high-empathy and 14 in the low-empathy range.

The results of chi-square tests revealed differences of moderate significance between high-empathy and low-empathy teachers on six personality scales. At the .05 level of confidence differences in empathy were found on the POI scales of Synergy and Dependence and on the Strength of Will and Rationality of the PHNT. At a confidence level of .10 there were differences on the POI Spontaneity scale; Acceptability to Others from the AOOT; and Complexity of Human Nature on the PHNT.

The author concludes that high-empathy teachers were psychologically neither high nor low regarding sensitivity to their own needs and feelings and they scored very high on the ability to express those feelings behaviorally (Morgan, 1984). Free and unfearful of spontaneity, their feelings of worth are not extreme in either direction and they do not
show exaggerated high or low scores in self-regard. Having
difficulty with dichotomies, the opposites in life can be
problematic, according to Morgan (1984). Accepting their own
feelings of anger and aggression suggests their ability to
resist stimulation to express those feelings. High empathy
teachers have no difficulty establishing warm, personal
relationships, especially with those they perceive as
sharing commonalities.

Interestingly, high-empathy teachers score extremely
low on Acceptability to Others, suggesting their belief that
others have low opinions of them. Worrying that they are not
as capable and competent as most people, they think others
share this perception of them. They depend heavily on others
for emotional support and are extremely sensitive to
approval and disapproval which heightens their awareness to
the psychological needs of others, i.e., their students.
Their greatest sense of satisfaction is achieved in knowing
that they meet the emotional needs of their children, and
they believe that this is their primary function as
teachers. This does not occur, however, to the detriment of
their effective teaching – they demonstrate good teaching
and management skills.

Short (1985) examined the problematic conceptualization
of teacher competence as did Getzels and Jackson (1963);
both reports recognizing categories of definition:
performance behaviors, knowledge and skills, and criterion.
The required specificity of these narrowly focused conceptualizations of competence is troublesome and the authors suggest a more holistic definition be considered which conceives competence as a state of being, the quality of a person - his/her characteristic attributes.

**Elementary - Secondary Teacher Personalities**

Much of the recent literature on the choice of teaching level tends to examine pre-service or student teachers except one that includes experienced faculty (Miller, 1992) and another that is a longitudinal study of students who entered the teaching field (Wosley-George, 1990).

In a review of the findings of early studies on the prediction of teaching success, Durflinger (1948) examined 34 studies from the first half of the 20th century. While pointing to the problems of lack of valid measures and lack of predictability from studies of pre-service teachers, he does conclude that there is evidence that the trait patterns of successful secondary teaching differ from those of successful elementary teaching. Interestingly, he made this statement while admitting that there was a general lack of agreement on the characteristics of a good teacher.

Another important review of teacher personality research was conducted more recently by Levine (1971). In the second half of the 20th century, research continued to focus on teacher effectiveness and was broadened to include
examination of attitudes, interests, and values. Levine's (1971) review of the literature examined prospective and in-service teacher motivation, personality, and teaching level. He found these variables to have predictive value in the choices of men and women entering the teaching profession. As Durflinger found (cited above, 1948), there were significant differences between elementary and secondary level teachers with respect to personality characteristics. Unfortunately, he did not clearly delineate those specific differences in trait patterns in his report. He also noted that significant gender differences were well established with the majority of elementary teachers being female and the secondary level more gender balanced (Levine, 1971).

Elaborating on the scope of early research in teacher personality, recent studies have examined the relationship between personality, gender, and level of pre-service teacher subjects (Baldwin, Slaton, Head, and Burns, 1990; and Jenkins, Fisher, and Applegate, 1989). In the first of these, 186 subjects (n=127 elementary - 95% female, and n=59 secondary - 40% female) completed the Sixteen Personality Factor Inventory (Baldwin, et al., 1990). The t-tests revealed that both level groups were over the norm on the dimensions of conformity, self-discipline, self-sufficiency, and social awareness. However, results also identified significant differences between the elementary and secondary groups on assertiveness, emotional stability, imagination,
and self-sufficiency. The secondary education majors tended to be more assertive and more self-sufficient but less emotionally stable and less imaginative than the elementary education majors. Also, in contrast to the elementary level teachers, the secondary level teachers were more conforming, disciplined, and socially aware, suggesting they were more conscientious, rule-bound, and needing order. Additionally, they appeared more socially astute, sensitive to the norms of socialization; more independent decision-makers and more resourceful; and more controlled and precise in personal and professional lives (Baldwin, et al., 1990).

The other recent examination of the relationship between personality, gender, and teaching level utilized the California Psychological Inventory (CPI) and the Edwards Personal Preference Schedule (EPPS) on a sample of 230 education majors at a medium-sized western university (Jenkins, Fisher, and Applegate, 1989). Since the sample included sophomore, junior, and senior students, it is safe to assume that part of the sample was in field placement at the time of the study. The ratio of elementary to secondary majors was 57 to 55 for the females, and 8 to 43 for the male subjects. Discriminant analyses revealed significant differences on selected scales of the personality measures between elementary and secondary levels, with elementary majors scoring higher than secondary pre-service teachers on the CPI scales: communality, femininity, responsibility,
self-control, socialization, and tolerance. In comparison, secondary education students had higher EPPS scores on autonomy than elementary education students. The EPPS scales confirm the above finding of the higher CPI socialization scores of elementary level students with higher scores on affiliation than the secondary level majors.

From the results, the authors suggest the elementary school group can be characterized as more even-tempered, accepting and as needing social contact than the secondary level. In contrast, the secondary school students present a higher need for independence and freedom (Jenkins, et al, 1989). Further speculation on the meaning of the results lead the authors to suggest that the personality differences between the students planning to teach at the elementary and secondary levels may be a function of previous experiences and perceptions of the settings. For example, individuals with high self-control and tolerance would be more likely to receive encouragement to teach at the elementary level than the secondary level. Similarly, those with high need for affiliation would seek the attachments that are more likely with younger children at the elementary level. Prospective teachers at the secondary level, on the other hand, having a high for autonomy would perceive the higher grades as offering more freedom. Finally, the authors assert that the elementary school students were more even tempered, accepting, and in need of social contact than the secondary
school students; while the latter group need more autonomy and freedom (Jenkins, et al, 1989).

An investigation of personality differences between elementary and secondary teachers, both pre-service (n=439) and experienced (n=164) was conducted by Miller (1992). Contrasts in personality were measured by the California Psychological Inventory. Secondary pre-service teachers were more dominant, independent, and assertive, while elementary pre-service teachers were more responsible, cooperative, and conforming. Secondary pre-service males were more sociable, outgoing, and flexible; and elementary pre-service females were more controlled, conforming, cooperative, and responsible. In both the pre-service and experienced groups the secondary males were more extroverted and flexible, and both groups of elementary females had the same profile as the pre-service females above.

A similar study comparing the personalities of elementary and secondary pre-service teachers using the Jackson Personality Research Form was conducted by Wosley-George (1990). All the relationships between scale scores and elementary - secondary career choices had low, correlations as reported here. A low negative correlation was found between scores on the Affiliation scale and teaching at the secondary level, suggesting those individuals tend to expend little effort making friends. A low positive relationship between Aggression and teaching at
the secondary level, indicating tendencies toward aggressive behavior was also suggested by the results. Autonomy achieved low negative scores for teaching at the elementary level (dependent, compliant, etc.), and low positive at the secondary level (individualistic, unconstrained, etc.). Defendence was low positive at the secondary level (more self-protective, secretive, suspicious) and low negative at the elementary level (open, conforming, slow to take offence). Dominance yielded a low positive correlation for the teaching at the secondary level where leadership and attempts to control the environment are characteristic. Exhibition had a low positive relationship for teaching at the secondary level (desire to be the center of attention, dramatic, witty, entertaining is typical). Harmavoidance was low positive at the elementary level (fearful, careful, apprehensive) and low negative at the secondary level where there’s less need to be responsible as true for the younger children at the elementary level. Nurturance was low - negatively correlated at the secondary level where less affective component is required and more focus is on the subject matter. Finally, Nurturance had a low positive correlation for teaching at the elementary level where affective enthusiasm and a focus on the personal development of the child is essential. While these results were not significant in comparing the teaching levels, they may lend direction to future study of this relationship.
The study of 1,300 students which utilized the Dictionary of Holland Occupational Codes and the College Majors Finder to examine the relationship between personality and college major / chosen career found the Early Childhood Education majors predominately identified with the SAE code (Harrington, Feller, and O’Shea, 1993). This group is closest to the elementary education majors tested in another college-based study using the College Majors Finder and the Self Directed Search which also revealed a consistent SAE code (Miller, Newell, Springer, and Wells, 1992).

In comparison, at the secondary level the investigation of Weslander and Arnsdorf (1982), also reviewed below, examined 104 effective social studies teachers using the VPI which was found predictive of effective teaching and typed these teachers with high scores in Enterprising and Social interests. A broader study (also cited above) of 102 retired secondary school teachers yielded the following results in Holland VPI codes: vocational agricultural teachers, RSI; history teachers, SIC; mathematics teachers, ISC; business teachers, CSE; and english teachers, ASE (Wiggins, 1982).

In contrast to the findings cited above, were studies highlighting similarities between elementary and secondary level teachers. In a review of the research on teacher personal characteristics, Hosier and Schmidt (1985) compared factor analytic studies of teachers at the elementary,
secondary, and college levels and discovered the same affective personal traits for teachers at both elementary and secondary levels: patience, sympathy, calmness, understanding, tolerance, and impartiality. Some of the instruments employed were Ryan's Classroom Observation Scale, the Estimate of Teachers' Qualifications Based on Teaching Experience, and the Purdue Rating Scale. They noted that students gain relative to these affective personality conditions. Good teachers (both elementary and secondary) were perceived as understanding, kind, sympathetic to problems of the learners, and being fair in evaluations of student achievement. While their findings identify personal traits, it is important to note that these studies did not employ personality measures as the others have.

Finally, Pigge and Marso (1990) conducted a study using the Meyers Briggs Type Indicator (MBTI) and found the majority of teachers at both elementary and secondary levels were Extrovert (70%). They displayed low anxiety about teaching, tended to rate themselves high as future teachers, and expressed a positive attitude about teaching.

The limited usefulness of the narrow focus on teacher behaviors and subject knowledge as measures of competence redirects attention to the examination of personality characteristics. While Payne and Manning (1985) recognize GPA, SAT scores, and class rank cannot be ignored, they also stress the importance of encouraging student teachers to
develop human relations skills, foster classroom climate, self-concept, and sense of responsibility. There is widespread agreement that these qualities are related to teacher effectiveness although difficult to measure (DeBlassie, 1971; Guddemi, et al, 1987; and Henjum, 1969). Many instruments employed in teacher personality research have been criticized for their limited precision and their inconsistency in conceptualization. The above research citations include the use of many different instruments, some of the most frequently mentioned are: the California Personality Inventory, Myers-Briggs Type Indicator, Sixteen Personality Factor Questionnaire, and the Vocational Preference Inventory. In the remainder of this section, attention will be directed to discussions of the Jackson Personality Research Form and the Holland Vocational Preference Form.

**Teacher Personality Characteristics Measured by the Personality Research Form (PRF).** The PRF has been used to measure personalities of working teachers (Erdle, Murray, & Rushton, 1985; Murray, Rushton, & Paunonen, 1990; Sherman & Blackburn, 1975; and, Tomasco, 1980). The PRF is a bipolar adjective rating scale developed from an explicitly theoretical model based upon Murray's theory of psychological needs (Fowler, 1985; and King, King, and Klockars, 1983). A multitrait personality inventory based on
a construct-oriented approach developed by Jackson (1967), the PRF has psychometric qualities (eg., internal consistency) known to be excellent (Jackson & Holmes, 1979). It is especially suited to developmental and educational contexts (schools, clinics, and business / industry) according to Douce and Hansen (1988). They point out the primary focus of the PRF is on psychological areas of normal functioning. These authors also found significant correlations of the PRF to the Strong Vocational Interest Blank (SVIB) and the Strong - Campbell Interest Inventory (SCII) when administered to 136 undergraduate college women.

The SVIB Adventure scale was highly positively correlated to the PRF Impulsivity, Exhibition, Play, Autonomy, and Dominance scales, and negatively to the Harmavoidance and Succorance scales.

Support for the usefulness, strong psychometric properties, and high validity rating of the PRF provide confidence for its use in measuring personality characteristics of pre-service teachers.

Several studies have employed the use of the Jackson Personality Research Form (PRF) to identify the traits of teachers as related to teaching effectiveness. Nearly all of the investigations cited below were done in college - university settings; only one longitudinal study examined pre-service and teachers at the elementary and secondary levels (Wosley-George, 1990). Similar to the above-cited
investigation, Erdle, Murray, and Rushton (1985) tested the hypothesis that teachers' behaviors are important intervening factors between personality and teaching effectiveness. A predominantly male sample of full-time college instructors was assessed by colleagues on 29 personality traits (20 scales adapted from the PRF) and by trained observers on 95 specific teaching behaviors. The results of factor analysis were the isolation of two prominent factors: Achievement-Orientation, characterized by Dominance, Ambition (Achievement), Leadership, and Intelligence; and Interpersonal-Orientation, characterized by Nonauthoritarian (low in Dominance), Supportive (Nurturance), Nondefensive (low in Defendence), Fun-loving (Play), Objective, and Aesthetically Sensitive (Sentience). The authors assert these findings as support for the hypothesis that teacher personality and classroom behaviors are related and those behaviors are mediating factors between teacher personality and teaching effectiveness. Results from such a nonrepresentative sample must be cautiously interpreted to populations of gender balanced instructors in the public school setting.

University level psychology instructors (n = 46) were rated on the same 29 PRF-derived personality traits in relation to student ratings of teaching effectiveness in another similar investigation (Murray, Rushton, & Paunonen, 1990). The teachers represented six different types of
university courses from freshman lecture to graduate seminar. The authors found: 1) substantial variance across types of courses for a given instructor, 2) colleague ratings of teacher personality could predict with accuracy the teaching effectiveness in each type of course, and 3) specific personal characteristics which contributed to teaching effectiveness were markedly different for different courses. For example, liberal, outgoing teachers tend to be more highly rated by undergraduates than graduate students. Psychology instructors appear to be differently suited to different types of courses and that evident compatibility seems to be determined by personality traits. The authors conclude that few teachers have the range of personality traits to be successful in all types of courses. Therefore, they emphasize that a secret of effective teaching is to find the conditions under which an individual teacher will perform most effectively. Unfortunately, this sample was also predominately male and from a university setting, suggesting limited generalizability.

Tomasco (1980) also studied the relations between teacher personality and teaching effectiveness from student ratings utilizing 15 of the PRF traits. A sample of 16 intact classrooms (instructors) were evaluated by 316 undergraduates to determine the validity of student ratings and the canonical relationships between personal dimensions and instructional effectiveness. The author concludes that
students relate teacher characteristics of ascendancy, warmth (affiliation), objectivity, and cultural / intellectual attainment to teaching effectiveness. The first canonical correlation identifies an Interpersonal Orientation relationship; instructors who receive high ratings inspire class confidence, respect student opinions, are sensitive to student difficulty, and interested in class progress. They are seen by their students as friendly (Affiliation) and hard working. The second canonical correlation was the Task Orientation relationship; where high scoring teachers challenge students, use time effectively, and have well organized presentations. Students perceive them as productive, aggressive (constructive, nonhostile - not fitting Jackson's description), and perfectionistic (similar to Cognitive Structure). The third, weakest, canonical correlation relates student feedback or progress reports with Abasement; wherein effective teachers were seen as humble, nonauthoritarian. Again the study examines student evaluations of university teachers and can be generalized only to that population with confidence.

Utilizing a similar population and procedures, Sherman and Blackburn (1975) examined student ratings of the effectiveness of 108 college instructors. The judgements of 1,500 students using a teacher evaluation instrument and a semantic differential form were subjected to factor analysis, analysis of variance, and multiple regression
analysis. Results indicated that personality and teaching effectiveness were highly correlated (.77), and significantly higher competence ratings were given to those described as dynamic, pragmatic, amicable (Affiliation - PRF), and highly intellectually competent. The authors conclude that their data suggests that the improvement of teaching effectiveness may depend more upon changes relating to personality factors than on those involving classroom procedures.

**Teacher Personality Characteristics Measured by the Vocational Preference Inventory (VPI).** The VPI has also been used to measure teacher personality (Walsh & Huston, 1988; Weslander & Arnsdorf, 1982; Wiggins, 1976 & 1982; and Wiggins, Lederer, Salkow, & Rys, 1983). In his manual, Holland describes the VPI as a personality-interest inventory composed of 240 items (occupational titles) to which subjects respond with their likes or dislikes (1985). His theory conceptualizes career interests as personality and identifies these factors as instrumental in a person's vocational choices. The VPI is intended to assist the career counseling process with high school and college students as well as employed adults. Personality characteristics are clustered in six categories or types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. An individual identifies a dominant category
with second and third-ordered types. When the person's occupational choice (work environment) is congruent with the personality type classified on the VPI, work success and satisfaction theoretically result.

Numerous investigations have used Holland's personality types (RIASEC), and specifically the Vocational Preference Inventory to relate career interest and vocational personality to teaching behaviors and teaching effectiveness. Harrington, Feller, and O'Shea (1993) conducted a survey of 1,300 students in 28 major fields using the College Majors Finder and Dictionary of Holland Occupational Codes to investigate the relationship between personality and college major/chosen career field. A high degree of agreement was found between student Career Decision-Making codes (student personality-major fit) and the Dictionary of Holland Occupational Codes (representing the person working in that major field). The authors used the Iachan Index to measure the congruence between the codes from different measures, and state that it was preferred by Holland as "the most accurate technique to estimate agreement between any pair of three-letter codes" (Harrington, et al, p.385). Agreement between any pair of three-letter codes is scored from 0 to 28; scores between 26 and 28 are very close RIASEC matches, between 20 and 25 are reasonably close, and so on. Of specific interest here was the Early Childhood Education majors, the closest major to
elementary education, who were predominantly identified with 
SAE of the Holland codes.

Another college-based study utilizing the College 
Majors Finder and Self Directed Search with 68 seniors also 
found a high degree of agreement between the two sets of 
codes (Miller, Newell, Springer, & Wells, 1992). An all 
female sample portion of elementary education majors (n = 
27) were predominantly SAE (like the group cited above). The 
same weakness applies to this student sample with limited 
applicability to populations other than college students, 
but the findings are in the expected direction.

Weslander and Arnsdorf (1982) investigated the 
personality profile of a survey of 104 effective social 
studies teachers from a three state area (Del., Md., & Pa.). The authors found the VPI predictive of teacher 
effectiveness; describing the outstanding social studies 
teacher as experienced (several years in present position), 
young (not specified), having high Enterprising and Social 
interests, and scoring lowest in Conventional type. Using 
multiple regression analyses, these variables explained 36% 
of the variance of teacher effectiveness having a multiple 
correlation of .605 with effectiveness at the .001 level of 
significance. In general, the results lend support to the 
Holland personality - environment theory and the 
predictability, of the VPI, although the authors caution 
that it not be used as a screening tool until more research
is completed. As a small, nonrandom sample of teachers from a single discipline the generalizability of these results is limited, although telephone contacts to nonrespondents produced findings consistent with the respondents.

An earlier study by Wiggins (1976) examined the relation of job satisfaction to vocational preferences of teachers of the educable mentally retarded (EMR) also utilizing the Holland VPI. Teachers of EMR (n = 110) completed the Hoppock Job Satisfaction Blank and VPI to reveal a significant, high correlation of satisfaction with the Social, Artistic, and Realistic scales (.56, .29, & -.54 respectively, p< .001). While satisfaction is not correlated with teaching effectiveness, the satisfied teacher is reported being enthusiastic about job, feeling satisfied most of the time, could not think of any other preferable work, and believing themselves as liking their jobs more than most people. These descriptors suggest teachers who would tend to be more effective than unsatisfied respondents. The sample was entirely from Delaware, but consisted of almost all EMR teachers in the state. Generalizations should be limited to the same specialists in Delaware, but the author doubts there would be significant variance in interstate comparisons.

The VPI and Hoppock JSB was again applied to the study of the relation of job satisfaction and congruence with 247 teachers of diverse Holland types in a more recent study by
Wiggins, Lederer, Salkowe, and Rys (1983). Significant, positive correlations of job satisfaction were found with scores on the Investigative and Social VIP scales (represented by teachers of mathematics and history respectively). Satisfaction correlated negatively with scores on the Realistic scale (represented by vocational agriculture teachers). Positive correlations were also found with the Enterprising scale - unrepresented by a teacher group in this study. The authors conclude that job - person compatibility is the single best predictor of job satisfaction and differentiation (peakedness of profile, or the magnitude of the score differences) is the next best predictor. The results are considered generalizable to other categories of teachers, and as also lending strong support to the Holland theories and his categorizations manifested on the VPI.

The above cited principle author, Wiggins, attempted to validate Holland's theory and instruments for older persons in a 1982 study of a gender balanced sample of 102 retired secondary school teachers. Wiggins found that the VPI may be used with moderate confidence across the life span. He also found that a high degree of compatibility existed for teachers from several categories as specified in Holland's Occupations Finder. The sample matched the Holland codes as follows: Vocational Agriculture Teachers, RSI; History Teachers, SIC; Mathematics Teachers, ISC; Business Teachers,
CSE; and English Teachers, ASE. Cautions are noted by the author because the sample is small.

Administering the VPI to 151 adults in gender traditional occupations (nurses, elementary school teachers, and librarians), Walsh and Huston (1988) found men and women to have similar raw scores. The Social scale did not differentiate gender in any of the traditional occupations. For example, the Social scale did not differentiate between women and men elementary school teachers. Referring to Holland's theory that people who work in an occupational field should score highest in that area, the authors note that the elementary school teachers (both female and male) were the only occupational group (of all traditionally female occupations) to consistently score highest on the Social scale. Walsh, Woods, and Ward (1986) used the VPI and Self-Directed Search with a group of Black and white American women employed in traditional female occupations (Realistic, Artistic, and Social). Black and white women in the same occupation obtained very similar scores, thus appearing far more similar than different. These studies further suggest that the VPI may be used with different races and genders without compromising validity.

There is a large body of research that supports the ability of the VPI to distinguish among individuals in various college majors and occupations. Pryor and Taylor (1986) studied a sample of 287 technical college students
using the VPI and Work Aspect Preference Scale (WAPS), to test the relationship between measures of college course choice and vocational interests and work values. The results of multivariate analysis of variance and discriminate analysis indicated the VPI had greater discriminatory power than the WAPS, but together they revealed significantly greater ability to differentiate among students selecting different college courses. The Australian gender balanced sample with a mean age of 30 may not be generalizable to populations in America in every respect but the authors recommend further study using the VPI in combination with other instruments to differentiate college major and vocational choices.

Wakefield and Doughtie (1973), in an earlier study administered the VPI to 373 college freshmen (male dominant - 71%, and nearly all under 30 years of age) to determine the power of the VPI to provide evidence for the Holland hexagonal structure theory of vocational personality. Pearson product-moment correlations between the scales produced a matrix for factoring, specifically of interest here being the one referred to at the time as Feminine - Social factor. The factors significantly discriminate among types and reveal distances between the points of the hexagonal structure. Of additional interest is the description of the Social type: "solving problems through feelings and intuition...seek(ing)...self-expression
directly to other people...prefer(ing) unstructured, ambiguous settings and avoid(ing) well-defined work settings" (p. 516). With a reasonably representative sample, this well-controlled study appears to offer useful implications for the use of the instrument and method of analysis as well as descriptive information about the Social personality.

Similar to the Pryor and Taylor study cited above regarding college majors, Rosen and Baggaley (1982) also tested the theory that different personality types will differ in academic interest. They administered the VPI and Milwaukee Academic Interest Inventory to a female dominated sample of 550 community college students using discriminant analysis to distinguish personality - career group membership and provided strong support for the construct validity of the instruments with highly significant discriminating patterns among personality types. Also of interest is the author's specific mention of the "female types" having the highest mean score on the Children variable as a traditional area of particular strength.

Martin and Bartol (1986) also found significant results using the VPI to predict orientation towards areas of special study for 168 MBA students. Their objective was to discriminate among various areas of specialization using the Holland personality types. Congruence scores were obtained using the Iachan method previously cited under Harrington,
et al (1993). Management groups scored significantly higher Social scores than students in other areas of concentration (information systems, accounting, finance, etc.). While these results are from a discipline which has similarities as well as contrasts with education, it demonstrates the discriminatory use of the VPI instrument across various career areas and among the divisions within a given area as well.

Similar canonical discriminant functions revealed the validity of the VPI in discriminating environments and personality types for 296 subjects tested by Royalty and Magoon (1985). The male dominated sample (75%) was the doctoral-level psychology faculty with APA membership. Holland's theory was supported as this investigation demonstrated that different personality types prefer different research areas, which appears similar to the above indications of VPI ability to discriminate among students' choice of major area of study or specialization within a discipline.

Support for the hexagonal model which structures the six types and congruence theory has been offered by several convergent validity studies. Lee and Hedahl (1973) provided that support in their investigation of 432 college students taking the VPI and SVIB. A study of 86 undergraduate students using the California Occupational Preference System (COPS) and VPI discovered high correlations between scales
of the two instruments which measure similar constructs revealing high convergent validity (Knapp-Lee, Michael, and Grutter, 1984). The magnitude of the correlation is interpreted as providing evidence for the construct validity of the two instruments. A similar comparison of the COPS and VPI with 213 undergraduates gives further support to the construct validity of the instruments (Omizo & Michael, 1983).

More recently, Luzzo (1993) gave the VPI, Career Development Inventory, and the Crites Career Maturity Inventory to a group of 129 undergraduate students and found statistically significant correlations among measurements of the same traits by the three instruments suggesting convergent and construct validity. Daniel and Wagner (1982) tested 120 male undergraduates using the Wagner Hand Test and the VPI to provide evidence for construct validity and significant differences among Holland types. Finally, a stepwise discriminant analysis produced two significant canonical discriminant functions in the correlation of Super’s Work Values Inventory (WVI) and the VPI types of 250 college students (Deakin & Blank, 1983). Specifically, the WVI "Altruism" and "Achievement" were related to the Social type on the VPI.

Tranberg, Slane, and Ekeberg (1992) used a short VPI to examine 321 volunteers’ congruence and satisfaction, both globally and specifically. When matching person- environment
codes, the authors report weak support for Holland's congruence theory. When congruence is measured more complexly as a difference between real and ideal elements of the job, some strong relationships between congruence and job satisfaction emerge. Tranberg, et al emphasize these relationships are complex; while for some jobs congruence is important, for others there is no apparent relationship.

The plethora of research which relies very heavily upon the instrumentation approach to identifying career interest is evident from the above reports. In contrast to the findings of predictive validity and utility in the use if the VPI, a study of participants' self-reported or classified vocational aspirations found those methods superior to the VPI as a means of obtaining useful information about career interest and coherence (Holland, Gottfredson, & Baker, 1990). Examining 717 naval recruits, substantial predictive, concurrent, and retrospective validity was achieved with stated vocational preferences. While it may suffice to simply ask an individual what he/she wants to do, the authors point out that predictive validity increases with tandem employment of these methods.

The literature cited provides substantial support for the utility of the Holland Vocational Preference Inventory in discriminating between and predicting the specific vocational choices of pre-service teachers to enter the field and choose the teaching level. The hexagonal structure
of personality is also specifically well supported. Studies which compare different tests of vocational interest and personality, measuring similar concepts tend to demonstrate high convergent validity. Cross-cultural investigations reveal consistency as well.

**Summary**

In reviewing the findings, consideration must be given to factors of gender, level of teaching, instrumentation, and specific conceptualization of personality as they are related to the variance in findings. As well as indicating the advisability of a teaching career choice, certain teacher personality traits appear to suggest the potential for success at the elementary or the secondary levels.

The research reviewed suggests that those attracted to teaching were influenced by significant people in their lives (teachers and relatives), had a strong desire to work with children or youth in a helping role, and tended to be firstborns. Evidence also points to teachers' academic achievement and adequacy of preparation as significant predictors of successful entry into the profession. Outstanding teachers describe themselves as nurturing, organized, tolerant, enthusiastic, and friendly, which may correspond to the Nurturance, Order, and Affiliation scales of the PRF and the Social type on the VPI. Several studies using a variety of different scales tend to support the
findings that teachers who are "warm-hearted, socially 
outgoing, and attentive to people" are more effective. 
Investigations indicate teachers would as a group tend to 
score low in Impulsivity and high in Understanding. PRF 
measures appear to be useful in discriminating among 
teachers of different subjects at secondary and higher 
levels as suggested by several studies. The VPI also 
effectively differentiates between elementary and secondary 
revealing that elementary teachers consistently show 
distinct Social, Artistic, and Enterprising (SAE) profiles 
(Harrington, Feller, and O’Shea, 1993; Miller, Newell, 
Springer, and Wells, 1992); while the secondary teachers are 
identified by their subject focus as well; eg., social 
studies: ESA (Weslander and Arnsdorf, 1982; Wiggins, 1982; 
figure in personality studies in education, Wiggins, has 
found subject focus differentiation with Holland types 
correlating with career satisfaction as follows: mathematics 
teachers tend to be Investigative, and history teachers are 
likely to be Social types (1983). Results of a similar study 
were: vocational agriculture teachers - RSI; business 
teachers - CSE; history teachers - SIC; mathematics teachers 
- ISC; and english teachers - ASE (Wiggins, 1982).

Studies which suggest that contrasting personality 
characteristics may discriminate between teachers at the 
elementary and secondary levels indicate PRF correlations
that are low but in the expected direction (Wosley-George, 1990). Elementary teachers had low positive correlations on Harmavoidance and Nurturance, and low negative on Autonomy and Defendence. Secondary teachers were low positive on Aggression, Autonomy, Defendence, Dominance, and Exhibition; and low negative on Affiliation, Harmavoidance, and Nurturance. A similar investigation using the CPI produced results in agreement with the finding of positive relations between secondary teachers and Autonomy and Dominance but disagreement in showing positive correlations between secondary teachers and Affiliation (Miller, 1992).

It is advisable to consider the results and conclusions with caution since there is rarely agreement about the concept of personality. Indeed most recent inquiry has focused on objective measures of teacher competence, attending to GPA and SAT scores. Both the Jackson Personality Research Form and the Vocational Preference Inventory are valid and reliable measures and may be employed in future investigations. Clearly, there is a great need for additional inquiry in the area of teacher personality since more effective education is the key to the future of our society.
CHAPTER III

RESEARCH DESIGN

Introduction

This research was designed to examine and explain relationships between pre-service teacher personality characteristics and career choice and teaching level, i.e., elementary vs secondary. Undergraduates from The Ohio State University Freshman Early Experience Program were given the Jackson Personality Research Form and Holland's Vocational Preference Inventory, measuring personality characteristics and career interests. The differences between elementary and secondary pre-service teachers are examined in the outcomes of the study.

Research Setting and Population

The Ohio State University, a major research oriented comprehensive state university, has a student body which generally represents a cross section of the population of the state of Ohio. Subjects of the study are students who have declared education majors and plan to teach at either the elementary or secondary levels. They all actively participate in the pre-service preparation program known as the Freshman Early Experience Program.
The Ohio State University

A major comprehensive university in the state of Ohio, The Ohio State University (Ohio State) is the largest single campus in the U.S.A. A land grant institution founded in 1870, Ohio State has a tradition of almost 125 years of academic excellence and leadership in research (OSU Bulletin, 1993). Extensive national and international endeavors have gained Ohio State exceptional prominence in the academic world. Over 50,000 students, more than 20% of them international students from over 100 foreign countries, attend Ohio State. Undergraduates have more than 200 major fields of study from which to choose. The graduate student body, over 20% of the total student population, is increasing each year. Annual faculty surveys consistently rank Ohio State professors with the best in the nation.

The College of Education

As a major center for the preparation of teachers, the OSU College of Education is nationally recognized as a leader in educational research, innovation, public service, and policy making. The academic demands of the program are high as a minimum of a master’s degree is required to be eligible for certification to teach in some of the programs. The college meets standards for accreditation by the National Council for the Accreditation of Teacher Education.
The Freshman Early Experience Program

The Ohio State University College of Education began the Freshman Early Experience Program (FEEP) in 1972, the only one of its kind in the nation at that time. FEEP has continued to be a vital part of the education student's developmental process of exploration and discovery of career and personal-social concerns, issues and decisions. Unique opportunities are provided for the student to learn about him/herself and gain exposure to the classroom environment. For many of these students, the FEEP experience strengthens their commitment to an educational career, while for others it provides the encouragement to search for more viable options in other fields.

In addition to the classroom experience, FEEP students attend a weekly, two and a half hour seminar. Part of the self-discovery process involves the administration of the Jackson Personality Research Form (PRF) and the Holland Vocational Preference Inventory (VPI) to all students during this seminar. Since many such instruments are given in this class, this is not a novel experience for these students.

Population

The target population included all Freshman Early Experience Program (FEEP) students at The Ohio State
University. The accessible population for the study was all FEEP students who completed the PRF and VPI tests during the eight quarters from Winter, 1992 through Spring, 1994. An average of approximately 170 FEEP students enrolled each term for a total of 1530 in the accessible population. Identified proportions or subgroups were gender: 66.6% female and 33.3% male; and choice of level of teaching: 51% elementary and 49% secondary.

Variables under investigation

This investigation sought to explain the nature, direction, and degree of relationship between personality variables (independent) and career choice (dependent) of elementary or secondary teaching. The relationship between the demographic variables, age and gender, and personality and career choice, were also examined.

Research Design

This study was a descriptive-correlational research design. Only one group was examined with no control group. The objective was to identify and explain the relationship between the independent and dependent variables, without consideration as to cause.
Procedures

During each of the eight quarters of this study, Winter, 1992 through Spring, 1994; FEEP students were required to complete personality instruments and surveys as part of the process of exploration and discovery. In their seminar classes they were directed by the instructors to follow the simple standardized directions for the completion of the PRF and VPI. Both of these instruments are designed to be given in group settings with limited supervision and little compromise to their validity. Of the various tests taken by the students, these were the ones selected for this study.

Sampling

In order to acquire a manageable number of subjects with the same proportion of subgroups as exists in the target population, simple random sampling was used. The total sample selected in the study preserved the proportion of males to females and elementary to secondary students; as well as similar percentages of students sampled from each quarter. A total of 300 students comprised the sample for data analysis.

Instrumentation

This section describes the two measures which quantify the personality variables (independent variables): the
Jackson Personality Research Form (Jackson, 1984) and Holland’s Vocational Preference Inventory (Holland, 1985).

The Personality Research Form (PRF) is designed to yield a set of scores for personality traits of persons functioning within the normal range of conventional human behavior in a wide variety of situations (Jackson, 1984). Scales and items are grounded in theory, originally developed by Murray (1938) and colleagues, and describe personality extensively if not completely. Jackson’s modifications of Murray’s work were based on the research completed in the years following the publication of the latter’s work, Variables of Personality, (1938).

The 22 scales of the PRF are those measuring characteristics judged to be most important or relevant to a wide variety of areas of human functioning (Jackson, 1984). Variables of personality are measured in 20 scales of 20 items each; and there are two additional 20-item validity scales. Raw scores may be recorded on vertical axes to form a profile, or converted into standard (T) scores with a mean of 50 and standard deviation of 10. Factor analytic studies have suggested superordinate categories of clustering the characteristics. On the basis of factor analytic results and also based on theory, these categories provide a convenient way of organizing the results.

The PRF was standardized on samples of over a thousand male and a thousand female college students assembled from
over 30 North American colleges and universities. Strong efforts were made to ensure the representativeness of the samples, but they were not strict randomized groups since voluntary participation was allowed. Confidence of representativeness was encouraged by the high degree of stability of normative statistics from one college and region to another.

Scale intercorrelation matrices of the PRF generally reveal that correlations between scales are low to moderate. The scales therefore do confidently measure independent characteristics, and possess substantial unique variance (Jackson, 1984).

Standard practice for many personality instruments is the use of the profile as the basis for the interpretation of scores. The PRF profiles were developed by a more accurate conversion of every raw score for each scale to cumulative proportions and then to deviates from the normal distribution (Jackson, 1984). This method is an improvement over the expedient of obtaining the mean and standard deviation for the normative sample and converting these into standard scores, according to Jackson (1984). This more accurately reflects the individual’s standing within the normative group. As in any normal distribution, 68% of the subjects will score between 40 and 60 standard score units (one standard deviation from the mean), while 95% will fall between 30 and 70 (two standard deviations).
The scales of the PRF were developed from carefully defined, theoretically based conceptions of what each scale should measure, according to Jackson (1984). The work of Murray and colleagues (1938) contributed significantly to the scale definitions, served to orient item writing, and provided descriptions of the variables of personality for criterion behavior-rating scales (Jackson, 1984).

One of the most significant modifications and refinements of Murray's work was Jackson's conceptions of personality dimensions as bipolar both theoretically and in terms of measurement (1984). He points out, for example, that Aggression is represented at one extreme as enjoying combat and argument, and at the other as shrinking from conflict. Each scale has half its items written in terms of one pole of the dimension and the other half in terms of the other. Whereas with Murray's descriptions it was clear that high scorers possessed the trait, there was uncertainty if low scorers were characterized by the opposite condition or an absence of the trait. The low scoring subject on the PRF is clearly characterized by an absence of the trait.

In order to detect invalid records, Jackson constructed the Infrequency Scale. When a subject is unmotivated to follow directions, omits several items, or commits non-purposeful or random responses due to oppositional inclinations, this can be readily detected by the Infrequency Scale (Jackson, 1984). The individual who is
careless, misunderstanding, noncomprehending, or rebellious will tend to score high on this scale. High scorers on this scale for reasons other than non-purposeful responding are highly unlikely, i.e., scores of four and above should be checked for errors in scoring or responding.

Designed to assess the presence of responses made for the connotative property, the Desirability Scale will detect those trying to "fake good." This scale also permits the statistical correction of PRF scale scores for the level of desirable or undesirable scoring (Jackson, 1984). Although not recommended as routine practice, this correction is legitimate in research contexts. For most administrative purposes, the item selection procedures have adequately reduced the degree of desirability bias. A very high score may be an attempt by the respondent to manage the impression or it may indicate an unusually high degree of esteem. A very low score may suggest malingering or an atypically low self-regard. The average subject is more likely to respond in a desirable direction than in an undesirable direction.

The validity of an instrument is the degree to which it measures the concept or trait it intends to measure. It is essential to properly assess the adequacy of the empirical definition of the trait being applied in measurement, and the degree of confidence we may have in the scale score as a representation of a construct according to Jackson (1984). He further stresses that validity evidence must show the
test correlates with variables with which it is supposed to relate (convergent validity), and also show low correlations with theoretically distinct variables (discriminant validity).

The ratings of expert judges provides a convincing way to demonstrate validity for a set of personality scale scores. Studies utilizing this approach have presented judges with lists of traits which exemplify the variables of personality in the PRF, requiring them to rate the degree to which the trait was present or absent in themselves. This was essentially the procedure of the validity study by Jackson (1984), in which he tested 51 college students at Stanford University and San Jose State College. In a similar investigation, Jackson and Guthrie (1968) applied the same procedure to 202 Pennsylvania State University students (cited in Jackson, 1984). The results from these two studies of PRF validity are very convincing, with substantial correlations for every scale with independent criteria.

Studies of PRF validity reveal good convergent, construct, and content validity. Retzlaff, Gibertini, Scolatti, Laughna, and Sommers (1986) compared the PRF to a similarly derived Personality Adjective Inventory (PAI) with a group of 549 students. Strong psychometric properties and convergent validity were confirmed in this investigation. Fowler's (1985) factor analysis of the results of a PRF study of 140 undergraduates provides
evidence for criterion validity, as did his confirmatory follow-up the following year (1986) with 215 college students. King, King, and Klockars (1983) found support for the potential for adjective rating scales to measure personality traits in a valid manner in testing the PRF against another similarly derived scale. Finally Donovan and Bringman (1983) administered the PRF to 47 undergraduate college students who were later requested to complete a rating scale to evaluate the accuracy of the PRF findings. They discovered college students can confirm the accuracy of their own personality tests, i.e., self-validation ability as well as support for the validity of the instrument.

Other PRF validity studies have compared the PRF to other instruments, demonstrating construct and convergent validity. Douce and Hansen (1988) found significant correlations of the PRF to the Strong Vocational Interest Blank and the Strong Campbell Interest Inventory, administered to 136 undergraduate college women. Retzlaff, Gibertini, Scolatti, Laughna, and Sommers (1986) compared the PRF to a similarly derived Personality Adjective Inventory with a group of 549 students. Strong psychometric properties and convergent validity were confirmed in this investigation. Fowler's (1985) factor analysis of the results of a PRF study of 140 college students provides evidence for criterion validity as well. Finally, Donovan and Bringman (1983) administered the PRF to 47 undergraduate
college students who were later requested to complete a rating scale to evaluate the accuracy of the PRF findings. They discovered college students can confirm the accuracy of their own personality tests, i.e., providing self-validation ability as well as support for the validity of the instrument.

Reliability refers to dependability, stability, or trustworthiness of test performance, the degree to which the test consistently measures whatever it measures. Two studies of the stability of PRF scores are reported in Jackson's manual (1984). The first, by Bentler (1964) at Stanford University, was an evaluation of conditions affecting change in personality scores (cited in Jackson, 1984). The test-retest results revealed low-end estimates of .69 to .90 (generally quite satisfactory) due to the settings of the testing being different, and the reliability estimate was an interclass correlation rather than a simple intercorrelation. The second study of PRF stability, done by Angleitner, Stumpf, and Wieck (1976) achieved higher correlations of .80 to .96 (cited in Jackson, 1984).

Reliabilities for the PRF are generally very high for a personality scale. The median reliability is over .92 for the control scales, and of the lower bound Kuder-Richardson formula 20 values for the content scales is .91 (Jackson, 1984).
Vocational Preference Inventory (VPI). The VPI is described by Holland (1985) as a personality-interest inventory, composed of 240 occupational titles (items) which an individual selects according to personal preference. Career interests are conceptualized as personality, according to Holland (1985) and clustered in the test interpretation to reveal a personality profile. These personality factors are instrumental in the individual’s process of career decision making.

Personality characteristics are clustered in six categories or types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. An individual identifies a dominant category with second and third order types. When the person’s occupational choice (work environment) is congruent with - matches - the personality type classified on the VPI, work success and satisfaction result.

Although not representative samples, normative data is reported on first-year college males (n= 6290) and females (n= 6143), from 31 diverse institutions (Holland, 1985). This norm group is presumed to be typical of college freshmen. Some attempt was also made to ensure within group diversity, although to a limited extent.

The reliability of the VPI is moderate to high as suggested by the data from internal consistency and test-retest reliability studies (Holland, 1985). Tests of
internal consistency (Kuder-Richardson 20) of the VPI scales for a sample of male and female subjects indicates the content of most scales is homogeneous (Holland, 1985). For samples of college students and older women, the test-retest reliability for the VPI suggests moderate reliability for the interest scales: .62 to .98 for college seniors with a six week interval; and .61 to .93 for college freshmen with a one year interval.

Holland reports moderate correlations from diverse investigations categorized according to the main kinds of variables in the VPI scales: theoretical, personality, interest, values, competencies, and aptitudes (Holland, 1985). Wiggins, Lederer, Salkow, and Rys (1983) gave the VPI to 247 teachers producing results which strongly supported the person-environment theory and the VPI categorizations. Their findings suggest that the VPI is useful in the prediction of job satisfaction. A similar investigation by Weslander and Arnsdorf (1982) also supports the theoretical structure of the VPI and the six environmental dimensions when applied to a group of 104 teachers.

Examining personality variables, Holland reports the intercorrelations of the VPI with the Neuroticism, Extraversion, and Openness Inventory (NEO); the Guilford-Zimmerman Temperament Survey; the California Psychological Inventory; the 16 Personality Factor Questionnaire, and the Edwards Personal Preference Schedule (1985). Holland notes
that correlations usually support the interpretations of selected VPI scales. The VPI scales are low to moderately related to similar scales in other personality inventories (Holland, 1985).

As interest inventories, the VPI and Strong scales (SVIB and SCII) have been extensively compared generating voluminous intercorrelational data indicating that the VPI and the Strong assess similar dimensions (Holland, 1985). Considering values and life goals, several investigations suggest the VPI scales incorporate some of the dimensions assessed by the Allport-Vernon-Lindsey, the Life Values Inventory, and self-reports of life goals (Holland, 1985). Holland concludes these correlational and discriminant function analyses indicate that values are related with some of the constructs measured by selected VPI scales (1985).

Measuring concurrent validity, the VPI differentiates between psychiatric and control subjects and psychotic and nonpsychotic patients (Holland, 1985). Administering the VPI to 124 government workers, Lopez (1963) finding five of the nine personality scales significantly correlated with employee satisfaction (cited in Holland, 1985).

Holland concludes the VPI validity studies reveal moderate predictive power for occupational membership with equal or greater efficiency than inventories with which these scales have been compared (Holland, 1985). As personality scales, the VPI scales' construct validity is
supported by comprehensive data from highly varied populations ranging in age from 15 to 80.

**Analysis of Data**

Logistic regression is the recommended statistical method for analyzing the data. This is a statistical technique for studying the differences between two or more groups with respect to several variables simultaneously. Additionally, t tests were used to compare the means of subjects grouped according to gender and level of teaching. Intercorrelations were computed to examine the potential for multicollinearity among all variables.

**Internal / External Validity**

The major concern in the evaluation of results of a study is that extraneous variables may explain the outcomes. In analyzing the data for this study, therefore, it is essential to be alert to the possibility that alternative explanations may exist for the relationships between the variables (Fraenkel and Wallen, 1990).

**Threats to Internal Validity**

Subject characteristics may pose a threat to internal validity to the extent other characteristics than those measured influence the results. Other personality or other human conditions than those indicated on the scales of the
PRF or VPI may influence the subject’s decision to select an elementary or secondary teaching career choice. Partial correlation is a statistical technique to control for this threat to internal validity (Fraenkel and Wallen, 1990).

Location is a possible threat whenever the tests are administered in different settings to different segments of the population as is true in the case of this study. It is expected to be a threat of minimal impact since the classrooms are in the same building and have similar conditions (lighting, temperature, etc.).

Instrumentation threats may occur depending on validity and reliability as well as administration uniformity. Instrument decay could be a factor affecting validity if numbers of the students had taken these tests previously. Additionally, any significant variation in the administration to different classes with regard to time of day, instructions, or assistance during administration. The presence or absence of additional tasks to prevent the disruption of students’ leaving when completed early in the testing period could be a factor as well. Care and precision of scoring may be a threat since many instructors hand scored these instruments and could have produced variance in the process.

Threats to External Validity

External validity is the extent to which the results of
a study may be generalized to other populations and settings (Fraenkel and Wallen, 1990). When the sample is representative of the population of interest there may be confidence of external validity. The simple random sampling methods proposed in this study may increase this confidence. The definition of the group to which these results may be generalized must be made with care, however. The greatest potential for generalizability - external validity - should be to the FEEP students who participated during the eight quarters from Winter, 1992 through Spring, 1994. Confidence in external validity declines as broader generalizations are considered: to all FEEP students before and after the period of study; to other educational-experiential programs like FEEP; to all Education majors at Ohio State; to all college students, etc.

Ecological generalizability of the results to other settings is another dimension of external validity. As indicated in the argument above the greatest confidence may be in generalizing results to groups of FEEP students tested at the Ohio State setting, followed by replication at similar large state universities with lesser degrees of confidence. The extent to which these conditions apply defines the limitations of this study.

Randomization is the most powerful technique to control for these threats to internal and external validity (Fraenkel and Wallen, 1990). When each and every member of
the population of interest has an equal chance of being selected into the sample, and existing proportions of identified subgroups are preserved, these threats are lessened. Stratified proportional random sampling is the best means employed in this study to provide these assurances.
CHAPTER IV
RESULTS

This descriptive correlational study was guided by the following major objectives:

1) to describe (in the form of profiles and types) the personal characteristics of the pre-service teachers enrolled in the Ohio State University Freshman Early Experience Program (FEEP) from Winter quarter, 1992 through Spring quarter, 1994 (eight quarters total).

2) to test the ability of the Jackson Personality Research Form (PRF) (Jackson, 1967), and the Holland Vocational Preference Inventory (VPI) (Holland, 1978) to separate pre-service teachers into groups based upon their interest in teaching at the elementary or secondary levels.

3) to determine how demographic variables of age and gender are related to the personality of pre-service teachers and their choice of teaching level.
The independent variables in this investigation were age, gender and personality. The personality variable was measured by the subjects' mean scores on the 20 personality content scales of the PRF (Jackson, 1967) and the personality types of the VPI (Holland, 1978). The dichotomous dependent variable was the subjects' choice of teaching level - elementary or secondary.

The accessible population for this study was all students enrolled in FEEP from Winter quarter, 1992 through Spring quarter, 1994 who decided to enter into a teaching career, chose the elementary or secondary level, and completed both the PRF and VPI at the time of FEEP enrollment. The simple random sample was selected from this accessible population.

Data were collected from the FEEP student files in the FEEP office, which contained copies of the scored PRF and VPI forms, a record of the student age and gender, and preferences for teaching level.

Personal and Demographic Variables

Distribution of Subjects by Gender

The total number of subjects sampled for the study was 300. Of this number, 200 (66.6 percent) were female, and 100 (33.3 percent) were male. (See Table 4.1 for gender distribution of subjects.)
Table 4.1
Gender Distribution of Subjects

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>200</td>
<td>66.6</td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>33.3</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Distribution of Subjects by Level of Teaching

The total number of subjects who chose elementary education was 152 (50.7 percent), while 148 (49.3 percent) subjects chose the secondary level. (See Table 4.2 for distribution of subjects by level of teaching.)

Table 4.2
Level of Teaching Distribution of Subjects

<table>
<thead>
<tr>
<th>Teaching Level</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>152</td>
<td>50.7</td>
</tr>
<tr>
<td>Secondary</td>
<td>148</td>
<td>49.3</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Distribution of Subjects by Year of FEEP Enrollment

Table 4.3 shows the distribution of subjects by year of enrollment in FEEP. Of the 300 subjects in the sample, 137 (45.7 percent) were enrolled in 1992 (Winter, Spring, and Autumn); 104 (34.7 percent) were enrolled in 1993 (Winter, Spring, and Autumn); and 59 (19.7 percent) were enrolled in 1994 (Winter and Spring). The primary reason for the
differences in numbers of students per quarter was the eligibility factor: the numbers of students who had completed and scored personality inventories. In the Autumn quarter, 1994, different instruments were used to assist students in career decision making thus rendering those students ineligible for this sample.

Table 4.3
Distribution of Subjects by Year of Enrollment in FEEP

<table>
<thead>
<tr>
<th>FEEP Year</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>137</td>
<td>45.7</td>
</tr>
<tr>
<td>1993</td>
<td>104</td>
<td>34.7</td>
</tr>
<tr>
<td>1994</td>
<td>59</td>
<td>19.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>300</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Distribution of Subjects by Age

The age distribution of subjects in the study is presented in Table 4.4. Of the 300 subjects participating in the investigation, 25 were 18 years old (the youngest); 96 were aged 19 (largest group); 79 subjects were 20 years old. Sample frequencies drop off sharply with 49 participants aged 21; and age categories of 22 and 23 had 13 subjects each. Six students were 24 years old; 3 were aged 25; 2 were 26 years old; 4 were aged 27; and 2 were aged 28. From this point some age levels are skipped with only one subject each at ages 30, 32, and 34; while there were 2 at age 35. Finally, only one student each at ages 38, 40, and 42. The
mean age for all subjects was 20.63. Two thirds of the subjects were under 21 years of age, and just over 90% were under 24. Nearly three fourths of the sample (74.7%) was contained in the 19 through 21 age range.

Table 4.4
Age Distribution of Subjects

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>25</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td>19</td>
<td>96</td>
<td>32.0</td>
<td>40.3</td>
</tr>
<tr>
<td>20</td>
<td>79</td>
<td>26.3</td>
<td>66.6</td>
</tr>
<tr>
<td>21</td>
<td>49</td>
<td>16.3</td>
<td>82.9</td>
</tr>
<tr>
<td>22</td>
<td>13</td>
<td>4.3</td>
<td>87.2</td>
</tr>
<tr>
<td>23</td>
<td>13</td>
<td>4.3</td>
<td>91.5</td>
</tr>
<tr>
<td>24</td>
<td>6</td>
<td>2.0</td>
<td>93.5</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>1.0</td>
<td>94.5</td>
</tr>
<tr>
<td>26</td>
<td>2</td>
<td>0.7</td>
<td>95.2</td>
</tr>
<tr>
<td>27</td>
<td>4</td>
<td>1.3</td>
<td>96.5</td>
</tr>
<tr>
<td>28</td>
<td>2</td>
<td>0.7</td>
<td>97.2</td>
</tr>
<tr>
<td>30</td>
<td>1</td>
<td>0.3</td>
<td>97.8</td>
</tr>
<tr>
<td>32</td>
<td>1</td>
<td>0.3</td>
<td>98.1</td>
</tr>
<tr>
<td>34</td>
<td>1</td>
<td>0.3</td>
<td>98.4</td>
</tr>
<tr>
<td>35</td>
<td>2</td>
<td>0.7</td>
<td>98.8</td>
</tr>
<tr>
<td>38</td>
<td>1</td>
<td>0.3</td>
<td>99.1</td>
</tr>
<tr>
<td>40</td>
<td>1</td>
<td>0.3</td>
<td>99.4</td>
</tr>
<tr>
<td>42</td>
<td>1</td>
<td>0.3</td>
<td>99.7</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Pre-service Teacher Profiles

Profile for All Subjects

The first objective of this study was to describe (in the form of profiles and types) the personal characteristics of the pre-service teachers in the FEEP program who indicated interest in teaching as a career. To that end,
the means and standard deviation scores for all subjects on each PRF scale were obtained. (Table 4.5). The profile for all FEEP students in this sample shows the strongest traits (P <0.05) in Achievement (12.96), Affiliation (16.34), Nurturance (16.31), Play (13.99), and Sentience (16.26).

These findings suggest that this sample of FEEP students would tend to strive toward the accomplishment of challenging tasks, be driven by high standards, and enjoy competition (Jackson, 1984). They would also tend to enjoy social contacts, make friends readily, and be warm, outgoing, and cooperative. They would display sympathetic, caring, and comforting behaviors with children. Playful and fun-loving, these FEEP students would be inclined to engage in spontaneous, carefree, and light-hearted encounters with children. Finally, the results point to the subjects' enjoyment of physical and sensuous experiences, being highly aesthetic, observant, and aware of the environment (Jackson, 1984).
### Table 4.5

Means and Standard Deviations for All Subjects on Each Jackson Personality Research Form (PRF Form AA) Scale

<table>
<thead>
<tr>
<th>PRF Scale</th>
<th>All Subjects</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abasement (Ab)</td>
<td></td>
<td>6.99</td>
<td>3.05</td>
</tr>
<tr>
<td>Achievement (Ac)</td>
<td></td>
<td>12.96*</td>
<td>3.43</td>
</tr>
<tr>
<td>Affiliation (Af)</td>
<td></td>
<td>16.34*</td>
<td>2.89</td>
</tr>
<tr>
<td>Aggression (Ag)</td>
<td></td>
<td>6.92</td>
<td>3.29</td>
</tr>
<tr>
<td>Autonomy (Au)</td>
<td></td>
<td>6.41</td>
<td>3.02</td>
</tr>
<tr>
<td>Change (Ch)</td>
<td></td>
<td>10.30</td>
<td>3.07</td>
</tr>
<tr>
<td>Cognitive Structure (Cs)</td>
<td></td>
<td>11.55</td>
<td>3.65</td>
</tr>
<tr>
<td>Defendence (De)</td>
<td></td>
<td>8.86</td>
<td>3.27</td>
</tr>
<tr>
<td>Dominance (Do)</td>
<td></td>
<td>11.58</td>
<td>4.02</td>
</tr>
<tr>
<td>Endurance (En)</td>
<td></td>
<td>11.91</td>
<td>3.93</td>
</tr>
<tr>
<td>Exhibition (Ex)</td>
<td></td>
<td>11.79</td>
<td>3.86</td>
</tr>
<tr>
<td>Harmavoidance (Ha)</td>
<td></td>
<td>9.44</td>
<td>4.71</td>
</tr>
<tr>
<td>Impulsivity (Im)</td>
<td></td>
<td>10.74</td>
<td>3.41</td>
</tr>
<tr>
<td>Nurturance (Nu)</td>
<td></td>
<td>16.31*</td>
<td>3.01</td>
</tr>
<tr>
<td>Order (Or)</td>
<td></td>
<td>11.16</td>
<td>4.52</td>
</tr>
<tr>
<td>Play (Pl)</td>
<td></td>
<td>13.99*</td>
<td>2.97</td>
</tr>
<tr>
<td>Sentience (Se)</td>
<td></td>
<td>16.26*</td>
<td>2.96</td>
</tr>
<tr>
<td>Social Recognition (Sr)</td>
<td></td>
<td>11.76</td>
<td>3.53</td>
</tr>
<tr>
<td>Succorance (Su)</td>
<td></td>
<td>11.68</td>
<td>3.70</td>
</tr>
<tr>
<td>Understanding (Un)</td>
<td></td>
<td>11.68</td>
<td>3.19</td>
</tr>
</tbody>
</table>

* = p <0.05

### Types for All Subjects

In addition to the profiles on PRF scales, the VPI personality types were obtained for all subjects and are reported with means and standard deviation scores in Table 4.6. The prominent scores (p <0.05) which suggest the SAE type for all FEEP students are starred in the table: Social (highest at 8.58), Artistic (5.90), and Enterprising (5.08). High scorers on the Social scale tend to have the ability to form close, sensitive relationships with others and are comfortable with their feminine inclinations (Holland, 1985). Social types tend to problem solve guided by their
feelings rather than thinking, and with strong regard for moral and religious values. They prefer teaching and therapeutic careers. The Artistic personalities enjoy the arts and music; tend to be original, imaginative, and complex. They may also display characteristics of femininity, immaturity, sensitivity, and introversion. Enterprising types tend to be dominant, cheerful, and adventurous. They prefer more ambiguous verbal tasks to routine ones, enjoy being in control, and view themselves as having persuasive abilities and leadership potential (Holland, 1985).

Table 4.6

Means and Standard Deviations for All Subjects on Each Vocational Preference Inventory Scale

<table>
<thead>
<tr>
<th>VPI Scale</th>
<th>All Subjects</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realistic (R)</td>
<td></td>
<td>2.68</td>
<td>3.07</td>
</tr>
<tr>
<td>Investigative (I)</td>
<td></td>
<td>3.84</td>
<td>3.39</td>
</tr>
<tr>
<td>Artistic (A)</td>
<td></td>
<td>5.90*</td>
<td>4.34</td>
</tr>
<tr>
<td>Social (S)</td>
<td></td>
<td>8.58*</td>
<td>3.51</td>
</tr>
<tr>
<td>Enterprising (E)</td>
<td></td>
<td>5.08*</td>
<td>3.50</td>
</tr>
<tr>
<td>Conventional (C)</td>
<td></td>
<td>1.71</td>
<td>2.45</td>
</tr>
</tbody>
</table>

* = p <0.05

Differences in Personality of Pre-Service Teachers by Level of Teaching

The second objective of this study was to test the ability of the Jackson Personality Research Form (PRF) and the Holland Vocational Preference Inventory (VPI) to
separate pre-service teachers into groups based upon their interest in teaching at the elementary or secondary levels. Table 4.7 shows the means by level of teaching, both unadjusted (from t tests) and adjusted (by computing analyses of covariance, using level as the independent variable, gender as the covariate, and each personality scale as a dependent variable). The adjusted means effectively removes the gender variable to determine the predictive value of the PRF and VPI scales alone. Effect sizes are also shown for each set of means, to enable ease of comparison. Effect sizes are computed by subtracting the secondary from elementary level means and dividing the remainder by the standard deviation for the sample.

Significant differences (p < 0.05) were found between elementary and secondary level subject unadjusted means on nine PRF scales (starred on table). Elementary level teachers (E) scored higher than secondary level teachers (S) on three scales: Harmavoidance (E = 10.55, S = 8.36, p < 0.01), Nurturance (E = 16.91, S = 15.72, p < 0.01), and Succorance (E = 12.56, S = 10.76, p < 0.01). These findings suggest that the elementary pre-service teachers are more fearful, protective, and concerned for personal safety than secondary level teachers (Harmavoidance). They would tend to be vigilant, cautious, unadventurous, and attentive to danger, i.e., as teachers, concerned with keeping children out of harms way (Jackson, 1984). This would appear
appropriate for teachers at the elementary level. Elementary pre-service teachers, scoring high in Nurturance, tend to be more parental than secondary level; inclined to be sympathetic, helpful, encouraging, comforting, and supporting. Again, traits more useful at the elementary level. As high scorers in Succorance, elementary level teachers are trusting, dependent, and displaying tendencies toward helplessness (Jackson, 1984). More than subjects at the secondary level, they tend to readily share their difficulties with willing listeners, seek support and reassurance from others, and feel insecure when unassisted. These pre-service teachers would not suggest inclinations to be assertive or the likelihood to direct efforts toward system change. Secondary level teachers scored higher than elementary level on six scales: Achievement (E = 12.36, S = 13.61, p < 0.01), Aggression (E = 6.32, S = 7.53, p < 0.01), Autonomy (E = 5.48, S = 7.36, p < 0.01), Defendence (E = 8.42, S = 9.30, p < 0.02), Dominance (E = 10.75, S = 12.44, p < 0.01) and Endurance (E = 11.24, S = 12.66, p < 0.01). More than the elementary level pre-service teachers, these subjects would tend to display competitive, goal-directed behaviors in their efforts to achieve excellence (Achievement). Ambitious, resourceful, and industrious, they are driven to maintain high standards and accomplish difficult tasks. Aggressive high-scorers can be irritable, argumentative, threatening, and antagonistic, in their
combative drive to have their way. While tending to display these traits, at the secondary level teachers may be more subject-focused and less concerned with the well-being of students. As such the potential destructive influence is not as great as at the elementary level. The more autonomous secondary level teacher is self-reliant, independent, rebellious, and non-conforming (Jackson, 1984). These subjects avoid confining, restraining structure, and may be resistant, undominalle, and ungovernable.

Secondary pre-service teachers scored higher in Defendance than elementary level; and would exhibit tendencies toward self-protective, denying, suspicious, secretive, and rationalizing behaviors. As such they easily take offense and are reluctant to accept criticism. Also more dominant than elementary teachers, the secondary level are apt to attempt to control their environment, to influence and direct other people, and take the lead with forcefully expressed opinion (Jackson, 1984). They tend to be domineering, persuasive, assertive, and powerful. Lastly, secondary pre-service teachers scored higher in Endurance than the elementary level. Highly persevering, they are willing to work long hours, refuse to give up on problems, and are patient and relentless in their drive toward task completion.

The effect sizes of adjusted means are markedly smaller than those of the unadjusted means. Subjects
consistently score higher on the Harmavoidance scale at the elementary level, but when those scores are adjusted for gender the difference is reduced from 0.46 to 0.30. This drop in effect size also occurred for Nurturance (0.40 to 0.20), and for Succorance (0.49 to 0.26). Additionally, the adjusted mean difference in Nurturance was insignificant. Secondary level pre-service teachers also recorded smaller differences in Aggression (-0.37 to -0.27), Autonomy (-0.62 to -0.43), Defendence (-0.27 to -0.19), and Dominance (-0.42 to -0.37). There was also a loss of significance in the Defendence variable when adjusted. Secondary subjects had two increased effect sizes in Achievement (-0.36 to -0.43) and in Endurance (-0.36 to -0.41). The increases are of lesser magnitude than the decreases in these cases. Generally, effect sizes are greatly reduced when the gender variable is removed from the equation.
Table 4.7
Means by Level of Teaching for All PRF Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unadj</th>
<th>Means</th>
<th>Effect</th>
<th>Adj</th>
<th>Means</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elem</td>
<td>Level</td>
<td>Sec</td>
<td>Level</td>
<td>Effect</td>
<td>Size</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRF1 Ab</td>
<td>7.00</td>
<td>6.98</td>
<td>0.01</td>
<td>6.94</td>
<td>7.04</td>
<td>-0.03</td>
</tr>
<tr>
<td>PRF2 Ac</td>
<td>12.36*</td>
<td>13.61</td>
<td>-0.36</td>
<td>12.23*</td>
<td>13.71</td>
<td>-0.43</td>
</tr>
<tr>
<td>PRF3 Af</td>
<td>16.60</td>
<td>16.08</td>
<td>0.18</td>
<td>16.45</td>
<td>16.22</td>
<td>0.08</td>
</tr>
<tr>
<td>PRF4 Ag</td>
<td>6.32*</td>
<td>7.53</td>
<td>-0.37</td>
<td>6.48*</td>
<td>7.38</td>
<td>-0.27</td>
</tr>
<tr>
<td>PRF5 Au</td>
<td>5.48*</td>
<td>7.36</td>
<td>-0.62</td>
<td>5.77*</td>
<td>7.06</td>
<td>-0.43</td>
</tr>
<tr>
<td>PRF6 Ch</td>
<td>10.21</td>
<td>10.43</td>
<td>-0.07</td>
<td>10.01</td>
<td>10.61</td>
<td>-0.20</td>
</tr>
<tr>
<td>PRF7 Cs</td>
<td>11.76</td>
<td>11.36</td>
<td>0.11</td>
<td>11.61</td>
<td>11.48</td>
<td>0.04</td>
</tr>
<tr>
<td>PRF8 De</td>
<td>8.42*</td>
<td>9.30</td>
<td>-0.27</td>
<td>8.55</td>
<td>9.17</td>
<td>-0.19</td>
</tr>
<tr>
<td>PRF9 Do</td>
<td>10.75*</td>
<td>12.44</td>
<td>-0.42</td>
<td>10.84*</td>
<td>12.33</td>
<td>-0.37</td>
</tr>
<tr>
<td>PRF10En</td>
<td>11.24*</td>
<td>12.66</td>
<td>-0.36</td>
<td>11.11*</td>
<td>12.74</td>
<td>-0.41</td>
</tr>
<tr>
<td>PRF11Ex</td>
<td>11.51</td>
<td>12.11</td>
<td>-0.16</td>
<td>11.56</td>
<td>12.03</td>
<td>-0.12</td>
</tr>
<tr>
<td>PRF12Ha</td>
<td>10.55*</td>
<td>8.36</td>
<td>0.46</td>
<td>10.13*</td>
<td>8.74</td>
<td>0.30</td>
</tr>
<tr>
<td>PRF13Im</td>
<td>10.61</td>
<td>10.85</td>
<td>-0.07</td>
<td>10.55</td>
<td>10.93</td>
<td>-0.11</td>
</tr>
<tr>
<td>PRF14Nu</td>
<td>16.91*</td>
<td>15.72</td>
<td>0.40</td>
<td>16.60</td>
<td>16.01</td>
<td>0.20</td>
</tr>
<tr>
<td>PRF15Or</td>
<td>11.48</td>
<td>10.89</td>
<td>0.13</td>
<td>11.23</td>
<td>11.10</td>
<td>0.03</td>
</tr>
<tr>
<td>PRF16Pl</td>
<td>14.01</td>
<td>13.99</td>
<td>0.01</td>
<td>13.95</td>
<td>14.03</td>
<td>-0.03</td>
</tr>
<tr>
<td>PRF17Se</td>
<td>16.29</td>
<td>16.21</td>
<td>0.03</td>
<td>16.13</td>
<td>16.38</td>
<td>-0.08</td>
</tr>
<tr>
<td>PRF18Sr</td>
<td>12.06</td>
<td>11.44</td>
<td>0.18</td>
<td>11.97</td>
<td>11.54</td>
<td>0.12</td>
</tr>
<tr>
<td>PRF19Su</td>
<td>12.56*</td>
<td>10.76</td>
<td>0.49</td>
<td>12.16*</td>
<td>11.18</td>
<td>0.26</td>
</tr>
<tr>
<td>PRF20Un</td>
<td>11.51</td>
<td>11.87</td>
<td>-0.11</td>
<td>11.41</td>
<td>11.96</td>
<td>-0.17</td>
</tr>
</tbody>
</table>

* = p < 0.05

Table 4.8 shows the means by level of teaching for the VPI types. Significant unadjusted level mean differences occurred on the first four scales (p < 0.05) as starred on the table. Elementary level teachers scored higher on only the Social scale (E = 9.28, S = 7.86, p < 0.01); while secondary level teachers were higher on Realistic (E = 1.86, S = 3.53, p < 0.01), Investigative (E = 3.36, S = 4.34, p < 0.01), and Artistic (E = 5.32, S = 6.49, p < 0.02). When adjusted for gender, only two scales are significant: Realistic and Artistic. The effect size decrease for the
Realistic scale was of considerable magnitude (-0.54 to -0.27); but a moderate increase appeared for the Artistic scale (-0.27 to -0.35). While insignificant, the effect size reduction for Investigative was from -0.29 to -0.18; and the drop for Social was from 0.41 to 0.21.

Table 4.8
Means by Level of Teaching for All VPI Codes

<table>
<thead>
<tr>
<th>Variable</th>
<th>Unadj Means</th>
<th>Adj Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elem Level</td>
<td>Sec Level</td>
</tr>
<tr>
<td>VPI1 (R)</td>
<td>1.86*</td>
<td>3.53</td>
</tr>
<tr>
<td>VPI2 (I)</td>
<td>3.36*</td>
<td>4.34</td>
</tr>
<tr>
<td>VPI3 (A)</td>
<td>5.32*</td>
<td>6.49</td>
</tr>
<tr>
<td>VPI4 (S)</td>
<td>9.28*</td>
<td>7.86</td>
</tr>
<tr>
<td>VPI5 (E)</td>
<td>4.98</td>
<td>5.19</td>
</tr>
<tr>
<td>VPI6 (C)</td>
<td>1.51</td>
<td>1.92</td>
</tr>
</tbody>
</table>

* = p < 0.05

Relationship of Age and Gender to Personality of Pre-Service Teachers and Choice of Teaching Level

The third objective of this study was to investigate how the demographic variables of age and gender are related to personal characteristics of pre-service teachers and their choice of teaching level. The results of t test procedures are reported in Table 4.9, showing the difference in means between levels, including t values and correlations with level. The mean age difference between the elementary and secondary level teachers was one year (E = 20.13, S = 21.15, p < 0.01). Correlations of age and gender by level
reveal a weaker relationship between age and level \( (r = 0.163, p < 0.01) \) while gender is more highly related \( (r = 0.335, p < 0.01) \). While age seems to be of little consequence as a variable predicting the teaching career decisions of this sample, the gender variable is the most important.

Table 4.9
Means and T Values for Age and Gender
by Level of Teaching

<table>
<thead>
<tr>
<th>Variable</th>
<th>Elem Level</th>
<th>Sec Level</th>
<th>t Value</th>
<th>p Value</th>
<th>r by Level</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20.13</td>
<td>21.15</td>
<td>-2.83</td>
<td>0.00</td>
<td>0.163</td>
<td>0.00</td>
</tr>
<tr>
<td>Gender</td>
<td>0.18</td>
<td>0.49</td>
<td>-6.13</td>
<td>0.00</td>
<td>0.335</td>
<td>0.00</td>
</tr>
</tbody>
</table>

The gender distribution by level is shown in Table 4.10. While females outnumber males at the elementary level almost five to one (125 females to 27 males), an almost equal distribution occurred at the secondary level (75 females to 73 males). A significantly greater number of women chose to teach at the elementary level (125) than at the secondary level (75); while almost three times as many men (73) select the secondary level over the elementary level (27). Gender is a more powerful determinant of teaching level for males, with 73% of them choosing the secondary level and 27% the elementary level. While for females, there is less difference; 62.5% choosing elementary and 37.5% the secondary level.
Table 4.10
Distribution of Gender by Level

<table>
<thead>
<tr>
<th>Gender</th>
<th>Elementary (%)</th>
<th>Secondary (%)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>125 (62.5%)</td>
<td>75 (37.5%)</td>
<td>200 (100%)</td>
</tr>
<tr>
<td></td>
<td>(82.2%)</td>
<td>(50.7%)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>27 (27.0%)</td>
<td>73 (73.0%)</td>
<td>100 (100%)</td>
</tr>
<tr>
<td></td>
<td>(17.8%)</td>
<td>(49.3%)</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>152 (100%)</td>
<td>148 (100%)</td>
<td>300 (100%)</td>
</tr>
</tbody>
</table>

Relationship of Gender to Personality of Pre-Service Teachers

Comparison of Female and Male Personality Scores

Table 4.11 presents the means by gender, standard deviations, effect size, and the t values and p values for each PRF scale. Males and females have significantly different means (p < 0.02) on 11 scales. The females (F) in the FEEP sample scored higher (p < 0.02) than the males (M) on Affiliation (F = 16.66, M = 15.7, p < 0.01); Change (F = 10.60, M = 9.72, p < 0.02); Harmavoidance (F = 10.40, M = 7.54, p < 0.01); Nurturance (F = 16.99, M = 14.95, p < 0.01); Order (F = 11.63, M = 10.23, p < 0.01); Sentience (F = 16.59, M = 15.59, p < 0.01); and Succorance (F = 12.68, M = 9.68, p < 0.01). Women were significantly higher than men on these seven scales. Men scored higher on the remaining four scales: Aggression (F = 6.50, M = 7.76, p < 0.01); Autonomy (F = 5.63, M = 7.96, p < 0.01); Defendence (F = 8.53, M = 9.52, p < 0.01); and Dominance (F = 11.18, M = 12.38, p < 0.01). The females in the sample would appear to
have needs for friendship, change, safety, opportunities for nurture, desire for order, aesthetic experiences, and support of others. Males need challenging, competitive opportunities; settings in which to exercise independent, unconstrained activity; will tend to be more defensive and self-protective; and seek to dominate and control others.

Table 4.11
Means by Gender for All PRF Scales

<table>
<thead>
<tr>
<th>Variable</th>
<th>Female SD</th>
<th>Male SD</th>
<th>Effect Size</th>
<th>t Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRF1 Ab</td>
<td>7.10</td>
<td>6.77</td>
<td>2.94</td>
<td>0.11</td>
<td>0.88</td>
</tr>
<tr>
<td>PRF2 Ac</td>
<td>12.98</td>
<td>12.93</td>
<td>3.59</td>
<td>0.02</td>
<td>0.11</td>
</tr>
<tr>
<td>PRF3 Af</td>
<td>16.66</td>
<td>15.70</td>
<td>3.20</td>
<td>0.33</td>
<td>2.57</td>
</tr>
<tr>
<td>PRF4 Ag</td>
<td>6.50</td>
<td>7.76</td>
<td>3.38</td>
<td>-0.38</td>
<td>-3.18</td>
</tr>
<tr>
<td>PRF5 Au</td>
<td>5.63</td>
<td>7.96</td>
<td>3.25</td>
<td>-0.77</td>
<td>-6.25</td>
</tr>
<tr>
<td>PRF6 Ch</td>
<td>10.60</td>
<td>9.72</td>
<td>3.16</td>
<td>0.29</td>
<td>2.35</td>
</tr>
<tr>
<td>PRF7 Cs</td>
<td>11.83</td>
<td>10.99</td>
<td>4.04</td>
<td>0.23</td>
<td>1.77</td>
</tr>
<tr>
<td>PRF8 De</td>
<td>8.53</td>
<td>9.52</td>
<td>3.37</td>
<td>-0.30</td>
<td>-2.49</td>
</tr>
<tr>
<td>PRF9 Do</td>
<td>11.18</td>
<td>12.38</td>
<td>3.87</td>
<td>-0.30</td>
<td>-2.47</td>
</tr>
<tr>
<td>PRF10 En</td>
<td>11.89</td>
<td>11.96</td>
<td>3.96</td>
<td>-0.02</td>
<td>-0.15</td>
</tr>
<tr>
<td>PRF11 Ex</td>
<td>11.58</td>
<td>12.22</td>
<td>3.89</td>
<td>-0.17</td>
<td>-1.36</td>
</tr>
<tr>
<td>PRF12 Ha</td>
<td>10.40</td>
<td>7.54</td>
<td>4.64</td>
<td>0.61</td>
<td>5.16</td>
</tr>
<tr>
<td>PRF13 Im</td>
<td>10.86</td>
<td>10.50</td>
<td>3.42</td>
<td>0.11</td>
<td>0.86</td>
</tr>
<tr>
<td>PRF14 Nu</td>
<td>16.99</td>
<td>14.95</td>
<td>3.08</td>
<td>0.68</td>
<td>5.81</td>
</tr>
<tr>
<td>PRF15 Or</td>
<td>11.63</td>
<td>10.23</td>
<td>4.64</td>
<td>0.31</td>
<td>2.55</td>
</tr>
<tr>
<td>PRF16 Pl</td>
<td>14.06</td>
<td>13.84</td>
<td>3.35</td>
<td>0.07</td>
<td>0.57</td>
</tr>
<tr>
<td>PRF17 Se</td>
<td>16.59</td>
<td>15.59</td>
<td>2.83</td>
<td>0.34</td>
<td>2.79</td>
</tr>
<tr>
<td>PRF18 Sr</td>
<td>12.02</td>
<td>11.24</td>
<td>3.79</td>
<td>0.22</td>
<td>1.80</td>
</tr>
<tr>
<td>PRF19 Su</td>
<td>12.68</td>
<td>9.68</td>
<td>3.05</td>
<td>0.81</td>
<td>7.14</td>
</tr>
<tr>
<td>PRF20 Un</td>
<td>11.80</td>
<td>11.44</td>
<td>3.24</td>
<td>0.11</td>
<td>0.92</td>
</tr>
</tbody>
</table>

Table 4.12 shows the means by gender, standard deviation, effect size, t values, and p values for each VPI scale. Significant differences between male and female occurred on three scales (p <0.01). Females scored higher
than males on Social type \((F = 9.41, M = 6.09, p < 0.01)\);
while males were higher on Realistic \((F = 1.7, M = 4.66, p < 0.01)\) and Investigative \((F = 3.38, M = 4.78, p < 0.01)\).

Effect sizes are greatest for the Realistic type \((-0.96)\), suggesting the males have tendencies toward practical-mindedness and mechanical skills (Holland, 1985). They would not be as likely as females to have skills in interpersonal relations, be as aware of their own feelings, or have sensitivity for the arts. The effect size in the Social type \((0.71)\) emphasizes the females’ strength for close interpersonal relations, greater acceptance of feminine roles, and inclination toward the teaching role (Holland, 1985). Lastly, the effect size for Investigative \((-0.41)\) points out the males’ propensity for science and mathematics, and for thinking through scientific and aesthetic problems.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Female SD</th>
<th>Male SD</th>
<th>Effect Size</th>
<th>t Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VPI1 (R)</td>
<td>1.70</td>
<td>4.66</td>
<td>-0.96</td>
<td>-7.08</td>
<td>0.00</td>
</tr>
<tr>
<td>VPI2 (I)</td>
<td>3.38</td>
<td>4.78</td>
<td>-0.41</td>
<td>-3.18</td>
<td>0.00</td>
</tr>
<tr>
<td>VPI3 (A)</td>
<td>6.08</td>
<td>5.55</td>
<td>0.12</td>
<td>0.99</td>
<td>0.32</td>
</tr>
<tr>
<td>VPI4 (S)</td>
<td>9.41</td>
<td>6.93</td>
<td>0.71</td>
<td>6.09</td>
<td>0.00</td>
</tr>
<tr>
<td>VPI5 (E)</td>
<td>5.27</td>
<td>4.71</td>
<td>0.16</td>
<td>1.31</td>
<td>0.19</td>
</tr>
<tr>
<td>VPI6 (C)</td>
<td>1.58</td>
<td>1.97</td>
<td>-0.15</td>
<td>-1.20</td>
<td>0.23</td>
</tr>
</tbody>
</table>

Profiles for FEEP Females and Males Compared with Jackson’s North American Norms for College Students
Table 4.13 compares the mean scores for all PRF scales for female and male FEEP students to normative scale scores of female and male college students at U.S. colleges (Jackson, 1984). Comparing scale score mean differences of greater magnitude, the FEEP females scored higher than the norm group on Cognitive Structures, Defendence, Dominance, Endurance, Exhibition, Nurturance, Play, and Succorance. FEEP females were lower than the norm group on Autonomy, Change, and Understanding; and only slightly lower on Abasement. FEEP males recorded scores of higher magnitude than the norm group on Dominance, Endurance, Exhibition, Nurturance, Play, and Succorance; while much lower on Change.
Table 4.13
PRF Scale Scores for Female and Male FEEP Students
Compared With Normative Data for College Students

<table>
<thead>
<tr>
<th>PRF Scale</th>
<th>Females FEEP</th>
<th>SD</th>
<th>Females Norm</th>
<th>SD</th>
<th>Males FEEP</th>
<th>SD</th>
<th>Males Norm</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRF 1 Ab</td>
<td>7.10</td>
<td>3.11</td>
<td>7.27</td>
<td>3.07</td>
<td>6.77</td>
<td>2.94</td>
<td>6.22</td>
<td>2.92</td>
</tr>
<tr>
<td>PRF 2 Ac</td>
<td>12.98</td>
<td>3.36</td>
<td>12.29</td>
<td>3.41</td>
<td>12.93</td>
<td>3.59</td>
<td>12.58</td>
<td>3.73</td>
</tr>
<tr>
<td>PRF 3 Af</td>
<td>16.66</td>
<td>2.68</td>
<td>16.15</td>
<td>3.18</td>
<td>15.70</td>
<td>3.20</td>
<td>14.98</td>
<td>3.28</td>
</tr>
<tr>
<td>PRF 4 Ag</td>
<td>6.50</td>
<td>3.16</td>
<td>5.86</td>
<td>3.23</td>
<td>7.76</td>
<td>3.38</td>
<td>7.93</td>
<td>3.78</td>
</tr>
<tr>
<td>PRF 5 Au</td>
<td>5.63</td>
<td>2.58</td>
<td>7.08</td>
<td>3.43</td>
<td>7.96</td>
<td>3.25</td>
<td>8.62</td>
<td>3.12</td>
</tr>
<tr>
<td>PRF 6 Ch</td>
<td>10.60</td>
<td>2.99</td>
<td>12.31</td>
<td>3.18</td>
<td>9.72</td>
<td>3.16</td>
<td>11.74</td>
<td>3.20</td>
</tr>
<tr>
<td>PRF 7 Cs</td>
<td>11.83</td>
<td>3.41</td>
<td>10.65</td>
<td>3.71</td>
<td>10.99</td>
<td>4.04</td>
<td>10.90</td>
<td>3.69</td>
</tr>
<tr>
<td>PRF 8 De</td>
<td>8.53</td>
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<td>12.38</td>
<td>3.87</td>
<td>11.07</td>
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<td>11.96</td>
<td>3.96</td>
<td>10.67</td>
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<td>3.84</td>
<td>9.74</td>
<td>3.92</td>
<td>12.22</td>
<td>3.89</td>
<td>10.83</td>
<td>3.87</td>
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<td>3.41</td>
<td>10.30</td>
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<td>10.50</td>
<td>3.42</td>
<td>9.78</td>
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<td>2.74</td>
<td>15.45</td>
<td>2.97</td>
<td>14.95</td>
<td>3.08</td>
<td>12.68</td>
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<tr>
<td>PRF 15 Or</td>
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<td>4.39</td>
<td>10.66</td>
<td>4.38</td>
<td>10.23</td>
<td>4.64</td>
<td>10.81</td>
<td>4.33</td>
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<td>PRF 16 Pl</td>
<td>14.06</td>
<td>2.78</td>
<td>12.00</td>
<td>3.36</td>
<td>13.84</td>
<td>3.35</td>
<td>12.13</td>
<td>3.42</td>
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<td>2.97</td>
<td>16.48</td>
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<td>15.59</td>
<td>2.83</td>
<td>15.24</td>
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<td>11.32</td>
<td>3.73</td>
<td>11.24</td>
<td>3.79</td>
<td>11.90</td>
<td>3.96</td>
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<td>7.88</td>
<td>3.50</td>
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<td>12.78</td>
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<td>11.44</td>
<td>3.24</td>
<td>12.46</td>
<td>3.33</td>
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</table>

Logistic Regression Analysis

The forward stepwise logistical regression summary includes the seven statistically significant variables which explain the variance in the dependent variable - the level of teaching of the FEEP sample (presented in Table 4.14). This first table includes the variable Gender, while the one that follows (Table 4.15) does not.
The first three variables entered into the model explain the greatest amount of the variance in the dependent variable; Gender - 40.6%, PRF 5 (Autonomy) - an additional 28.4%; and PRF 2 (Achievement) - an additional 4.5%. Steps 4 through 7 add little to the predictive power of the model.

Consistent with the findings shown in Table 4-10 of the distribution of males, in particular, on level of teaching, gender appears to be the most powerful predictor. Autonomy had the greatest effect size (-0.62; reported in Table 4-7) with the secondary level scoring higher than elementary level pre-service teachers. Autonomy also had the second highest effect size (-0.77) on Table 4-11, discriminating males from females (F = 5.63, M = 7.96, p < 0.01). It will be shown below that secondary level males score higher in Autonomy. Finally, Achievement discriminates levels with secondary level pre-service teachers scoring higher, consistent with the findings reported in Table 4-7 where the effect size increased slightly with adjusted means (from -0.36 to -0.43).

Table 4.14

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable Entered</th>
<th>Concordant</th>
<th>Improvement</th>
<th>Discordant</th>
<th>Ties</th>
<th>Final Chi Sq</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td>40.6%</td>
<td>40.6%</td>
<td>9.0%</td>
<td>50.4%</td>
<td>33.61</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>PRF 5</td>
<td>69.0%</td>
<td>28.4%</td>
<td>25.7%</td>
<td>5.3%</td>
<td>14.19</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>PRF 2</td>
<td>73.5%</td>
<td>4.5%</td>
<td>25.7%</td>
<td>0.8%</td>
<td>10.79</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>PRF 14</td>
<td>75.3%</td>
<td>1.8%</td>
<td>24.5%</td>
<td>0.2%</td>
<td>6.39</td>
<td>0.01</td>
</tr>
<tr>
<td>5</td>
<td>VPI 3</td>
<td>76.8%</td>
<td>1.5%</td>
<td>23.0%</td>
<td>0.2%</td>
<td>5.20</td>
<td>0.02</td>
</tr>
<tr>
<td>6</td>
<td>VPI 4</td>
<td>77.7%</td>
<td>0.9%</td>
<td>22.1%</td>
<td>0.2%</td>
<td>5.59</td>
<td>0.02</td>
</tr>
<tr>
<td>7</td>
<td>PRF 9</td>
<td>78.6%</td>
<td>0.9%</td>
<td>21.2%</td>
<td>0.2%</td>
<td>4.51</td>
<td>0.03</td>
</tr>
</tbody>
</table>
Table 4.15 reveals the most predictive variables when gender is removed from the model. The PRF 5 scale (Autonomy) appears to be the most powerful variable explaining the variance of the dependent variable (62.5%), consistent with the findings in Table 4-14 where its ranked just below gender. The VPI 1 scale (Realistic) appears in the second step, adding 7.1% to the equation. Since VPI 1 did not appear in the first regression model it may be a surrogate for Gender. This is similar the results shown in Table 4-8 comparing the means by level of teaching on VPI scales. The effect size on VPI 1 Realistic was the highest (-0.54), with secondary level subjects showing a higher mean (E = 1.86, S = 3.53, p < 0.01). The PRF 2 (Achievement) is at the third step, adding 3.2% to the equation (the same position it held in the first model).

Table 4.15
Forward Stepwise Logistic Regression Without Gender

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable</th>
<th>Entered</th>
<th>Concor</th>
<th>Improve</th>
<th>Discor</th>
<th>Final</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRF 5 Au</td>
<td>62.5%</td>
<td>62.5%</td>
<td>28.3%</td>
<td>9.2%</td>
<td>29.01</td>
<td>0.00</td>
</tr>
<tr>
<td>2</td>
<td>VPI 1 R</td>
<td>69.6%</td>
<td>71%</td>
<td>29.0%</td>
<td>1.4%</td>
<td>12.10</td>
<td>0.00</td>
</tr>
<tr>
<td>3</td>
<td>PRF 2 Ac</td>
<td>72.8%</td>
<td>3.2%</td>
<td>26.9%</td>
<td>0.3%</td>
<td>8.90</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>VPI 4 S</td>
<td>74.5%</td>
<td>1.7%</td>
<td>25.2%</td>
<td>0.2%</td>
<td>11.22</td>
<td>0.00</td>
</tr>
<tr>
<td>5</td>
<td>PRF14 Nu</td>
<td>76.2%</td>
<td>1.7%</td>
<td>23.6%</td>
<td>0.2%</td>
<td>7.11</td>
<td>0.01</td>
</tr>
<tr>
<td>6</td>
<td>PRF 9 Do</td>
<td>77.1%</td>
<td>0.9%</td>
<td>22.7%</td>
<td>0.2%</td>
<td>4.34</td>
<td>0.04</td>
</tr>
<tr>
<td>7</td>
<td>VPI 3 A</td>
<td>77.9%</td>
<td>0.8%</td>
<td>21.9%</td>
<td>0.2%</td>
<td>4.05</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Table 4.16 reports the results of the forward stepwise logistic regression analysis for females identifying the independent variables that explain the variance of the
dependent variable - teaching level. Over half of the variance is explained by the VPI scale (Realistic), which, as noted above discriminates between teaching levels (secondary level scores higher, Table 4-7). In the second step PRF 9, Dominance, explains an additional 15.1% of the variance, also consistent with findings in Table 4-7 (secondary level scores higher). At the third step PRF 14, Nurturance, an additional 2.4% is explained. Unadjusted means by level (Table 4-7) indicates elementary level teachers scoring higher than secondary level on Nurturance (E = 16.91, S = 15.72. p < 0.01).

Table 4.16

Forward Stepwise Logistic Regression Summary

For Females

<table>
<thead>
<tr>
<th>Step</th>
<th>Variable Entered</th>
<th>Concordant</th>
<th>Improvement</th>
<th>Discordant</th>
<th>Ties</th>
<th>Final Chi Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>VPI 1 Re</td>
<td>52.8%</td>
<td>52.8%</td>
<td>28.0%</td>
<td>19.2%</td>
<td>38.19</td>
</tr>
<tr>
<td>2</td>
<td>PRF 9 Do</td>
<td>67.9%</td>
<td>15.1%</td>
<td>30.8%</td>
<td>1.3%</td>
<td>33.96</td>
</tr>
<tr>
<td>3</td>
<td>PRF14 Nu</td>
<td>70.3%</td>
<td>2.4%</td>
<td>29.2%</td>
<td>0.5%</td>
<td>28.22</td>
</tr>
</tbody>
</table>

Table 4.17 reports the forward stepwise logistic regression summary of findings for males discriminating them by teaching level. Only two variables were significant in the model: Achievement and Autonomy. Achievement explains 74.2% of the variance in the dependent variable, considerably greater power than when it held the third position in the above tables 4-14 and 4-15. Higher scores in Achievement identify secondary level (Table 4-7). Autonomy,
in second place, adds 10.2% improvement, consistent with higher scores for secondary level (Table 4-7) and males (Table 4-11).

Table 4.17
Forward Stepwise Logistic Regression Summary
For Males

<table>
<thead>
<tr>
<th>Step Entered</th>
<th>Variable</th>
<th>Concor</th>
<th>Improve</th>
<th>Discor</th>
<th>Final Chi Sq</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRF 2</td>
<td>74.2%</td>
<td>74.2%</td>
<td>20.1%</td>
<td>5.7% 28.38</td>
</tr>
<tr>
<td>2</td>
<td>PRF 5</td>
<td>84.4%</td>
<td>10.2%</td>
<td>14.7%</td>
<td>0.9% 18.29</td>
</tr>
</tbody>
</table>

Intercorrelation Matrix

Table 4.18 reports the intercorrelation matrix for all significant variables in the logistic regression model. Intercorrelations between Age and all other variables were insignificant; with the highest being Age and Gender ($r = 0.20, p < 0.01$), Age and PRF 16 (Play) ($r = -0.22, p < 0.01$), and Age and PRF 19 (Succorance) ($r = -0.23, p < 0.01$). From these intercorrelations it would not appear that age is a variable with any predictive value in the data from this sample. The highest and strongest intercorrelations occur in the VPI 1 and PRF 5 relationships. The VPI 1 (Realistic) scale is associated with Gender ($r = 0.46, p < 0.01$) with males scoring significantly higher than females ($X = 1.70$, females; and $X = 4.66$, males; $p < 0.01$). This scale had the greatest effect size, or "Difference" of all VPI scales ($D = -0.96$). The VPI 1 also intercorrelated highly
with four other personality scales: the VPI 2 (Investigative) \( r = 0.53, \ p < 0.01 \), VPI 6 (Conventional) \( r = 0.31, \ p < 0.01 \), PRF 5 (Autonomy) \( r = 0.30, \ p < 0.01 \), and PRF 12 (Harmavoidance) \( r = -0.37, \ p < 0.01 \). There is at least some question prompted by these high intercorrelations that the VPI Realistic scale does not measure a different type but has considerable overlap in trait and type measures. The VPI 1 appeared on the second logistic regression as a possible surrogate for Gender.

The other highly intercorrelated variable was PRF 5 (Autonomy) which related to Gender \( r = 0.36, \ p < 0.01 \), Teaching Level \( r = 0.31, \ p < 0.01 \), VPI 1 (Realistic) \( r = 0.30, \ p < 0.01 \), PRF 7 (Defendence) \( r = -0.30, \ p < 0.01 \), PRF 12 (Harmavoidance) \( r = 0.38, \ p < 0.01 \), PRF 18 (Social Recognition) \( r = -0.38, \ p < 0.01 \), and PRF 19 (Succorance) \( r = -0.65, \ p < 0.01 \). Since this PRF Autonomy variable occupies a strong position in the regression model, its intercorrelations may be of consequence in the predictability of the model. While Autonomy is a higher score for secondary level teachers it does not discriminate between genders. Its ability to measure distinctly different traits may be in doubt as speculated for the VPI 1 above.
### Table 4.18

**Intercorrelation Matrix**

<table>
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<tr>
<th></th>
<th>AGE</th>
<th>SEX</th>
<th>LEVEL</th>
<th>VPI</th>
<th>VPI</th>
<th>VPI</th>
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<th>PRF</th>
<th>PRF</th>
<th>PRF</th>
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</tr>
<tr>
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<td>.31</td>
<td>.30</td>
<td>-.20</td>
<td>1.0</td>
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<td>.26</td>
<td>.26</td>
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</tr>
</tbody>
</table>

p < 0.01 (dash = r < 0.20)
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The specific purpose of this study was to investigate the relationships of pre-service teacher personalities and their decision to teach and to teach at the elementary or secondary level. The influence of age and gender on these decisions was also examined. Additionally, the study tested the ability of the personality assessment instruments to discriminate between the teaching levels.

Summary of the Study

Although the systematic study of teacher personality characteristics has received relatively limited attention in recent years, the research during this century is extensive. Early research focused on the identification and measurement of teacher personality, while more recently teacher skill behaviors and pupil outcomes have received attention. The widely varied conceptual base of teacher personality research and the use of an equally varied range of instruments poses difficulty in identifying a commonly
reported personality profile for teachers. More recent studies of teacher characteristics that relate to personality have included attitude, motivation, and self-concept.

Teachers are influenced in their career decision by positive relationships with their own teachers and successful undergraduate experiences. Research findings agree that teachers are friendly, nurturing, and orderly. Other personality characteristics frequently identified are: enthusiasm, imagination, and warm-heartedness.

In relation specifically to this study is the research demonstrating differences between elementary and secondary levels of teaching. At the elementary level teachers tend to be more caring, conforming, cooperative, conscientious, nurturing, responsible, self-disciplined, and rule-bound than the secondary level. The latter group is more inclined to be more assertive, dominant, independent, and subject-oriented than elementary teachers. It has also been shown that gender is a significant predictor in the choice of teaching level, with females tending more often to chose the elementary level, and males, the secondary level.

Theoretical Basis for This Study

The needs-press or trait theory of personality (Murray, 1938) which organizes perception, cognition, and motivation forms the foundation for the Personality Research Form which is used in this investigation. Additionally, John Holland’s
six personality types, and person - environment fit form the basis for the Vocational Preference Inventory, the other measure used in the study.

Sample

A random sample of 300 students enrolled in the Ohio State University Freshman Early Experience Program during a three-year period (1992 - 1994) was chosen for the study. All subjects completed the Jackson Personality Research Form (PRF) (Jackson, 1984) and the Holland Vocational Preference Inventory (VPI) (Holland, 1985). The subjects' age, gender, and the 26 personality scales of the PRF and VPI were the independent variables. The choice of teaching level was the dependent variable.

Two thirds of the subjects were female (200) and one third male (100). A relatively young group, almost 75% of the sample were in the 19 to 21 age group, and 90% were under 24 years old.

The sample was almost equally distributed by level, 51% to 49% at the elementary and secondary levels. A one year difference in age was found between levels: 20 to 21 years for the elementary and secondary levels. Over 80% of the elementary teachers were female, while under 20% were male. A virtually equal gender distribution (51% to 49%) occurred at the secondary level. Most females chose the
elementary level over secondary (62% to 38%), while 73% of the males chose the secondary level.

**Subject Personality Profiles and Types**

A stated objective of the study was to describe the personality characteristics of the pre-service teachers enrolled in the Freshman Early Experience Program at The Ohio State University. The significant results show a FEEP student profile characterized by striving toward the accomplishment of challenging tasks, driven by high standards, and competitiveness. This personality also enjoys social contacts, close personal relationships; and displays caring, comforting, and sympathetic behaviors. Playful and fun-loving, the profile includes inclinations toward spontaneous, carefree, and lighthearted behaviors. Comfort with feminine traits, being guided by feelings more than thinking in problem solving, an enjoyment of the arts, music, and expressive sensitivity also characterizes this type. Finally, dominant, adventurous, and cheerful, this type prefers more ambiguous to routine tasks, and leading and being in control. Lastly, the findings suggest the enjoyment of physical and sensuousness experiences, aesthetics, and an awareness of the environment.

**Personality Differences by Level of Teaching**

The second stated objective of the study was to test
the ability of the PRF and VPI to separate pre-service teachers into groups based upon the chosen level of teaching - elementary or secondary.

The results suggest that the elementary teacher is more concerned for the welfare and personal safety of the student; tends to be more nurturing, supportive, and comforting; and seeks more support and reassurance than the secondary level teacher. The elementary teacher is strongly attracted to the profession of teaching, tends to form close relationships, has a strong sense of social responsibility, and moral values. These seem to be inclinations that are appropriate for teachers of younger children who are concerned with their overall development and well-being. They also suggest that the teacher having this profile would not tend to be assertive or take a leadership role in working toward system change.

The secondary level teachers profile suggests tendencies to be more competitive and goal-directed; aggressive and antagonistic; independent and nonconforming; defensive and rationalizing; domineering and controlling; and relentless and patient than the elementary level teachers. At the secondary level the prominent types tend to favor mechanical over social skills, be practical-minded, problem solve more by thinking than by feeling, and display masculine traits. This is in direct contrast to the socially-oriented elementary teacher who tends to use
feelings in problem solving, and have greater comfort with feminine roles. The secondary teacher also has literary and artistic interests; is imaginative, expressive, original, and feminine. This artistic type varies from the practical-minded type and may be explained by the almost equal distribution of male and female subjects in the sample at the secondary level. Another predominate type at the secondary level tends to favor science, mathematics, rationality, scholarship; over sociability.

These types are consistent with the subject orientation at the secondary level, and in contrast to the student orientation of the elementary level. This appears appropriate as the secondary level student is more likely than the elementary level to have social needs met in the peer group and be better prepared to attend to the subject matter at hand. The teacher's concern for student welfare and willingness to provide support and guidance is therefore not as necessary for the older student.

The differences on the scores between the levels of teaching were not as great when statistically adjusted for gender. The decrease suggests a strong interaction between the personality and gender variables, with gender playing a very important role in explaining the variance on the dependent variable - choice of teaching level. The results do provide confidence that the PRF and VPI discriminate the levels of teaching.
The results of two of the logistic regression analyses revealed the independent variables which had the greatest predictive power to determine the dependent variable - teaching level. When all variables were entered in the regression equation, gender was the most powerful predictor (40% of the variance in the dependent variable). As noted, the majority of females choose the elementary level, while the reverse is true for males. Gender was followed by Autonomy/independence (an additional 30%); the secondary level pre-service teacher functions more independently than the elementary level. At the third step Achievement / goal-directed (added just 4.5% to the model) as the secondary level teachers were more goal-directed than the elementary level. These findings strengthen the assertion that gender and the personality traits of goal-directed and independence predict the pre-service teacher's decision to teach at the secondary level.

When the gender variable is held out of the model, independence (Autonomy) is the most powerful predictor, explaining over 60% of the dependent variable. The practical-minded (Realistic) characteristic at the second step added only 7% explanatory power. A probable surrogate for gender, practical-minded was a significantly higher score for the secondary level. At the third step, goal-directed (Achievement) returned to add just 3% to the model. This is also a powerful equation, explaining almost 80% of
the variance. Quite similar to the first model, this second one, without gender, reinforces the contention that the personality traits of Achievement and Autonomy are reliable determinants of the pre-service teacher's teaching level decision. Additionally, the Realistic type appears to emerge as another strong predictor of teaching level.

**Relationship of Age and Gender to Personality and Level**

The third objective of this study was to investigate how the demographic variables of age and gender are related to personal characteristics of pre-service teachers and their choice of teaching level. While there was a modest one-year difference between the elementary and the older secondary level teachers, age was not correlated with any other variables. Age does not appear to be a factor in this sample with regard to personality traits or the decision to teach or to teach at the elementary or secondary levels.

Gender distributions reported above revealed the predominance of females at the elementary level, but a gender balance at the secondary level. Significantly more females choose to teach at the elementary level, while the reverse is true for males who prefer the secondary level.

The significant differences in personality between genders suggest that the women in this sample would appear to have greater needs for friendship and social involvement, changes in routine and environment, personal safety and low-
risk activity, and opportunities to care and comfort others. Additionally, these women would desire systematic organization in their environment, appreciate sensory experiences, and require the support and reassurance of others. The women were more sociable, warm, and tending to form close, personal relationships than the males by a large magnitude.

The males in this sample require challenging and competitive opportunities, are independent and self-reliant, tend to be defensive and suspicious, and desire to lead or be in control and dominate others. Males were also more hardheaded and practical-minded than females by a large magnitude, and more scientifically inclined and reserved than the females by a narrower margin.

The last two logistic regression tests built separate models for females and males to determine the most predictive variables for each gender. The predictive variables for females were practical-minded (Realistic), Dominance, and Nurturance; to explain just over 70% of the variance of the dependent variable. The practical-minded and domineering pre-service student (female, in this case) tends to choose the secondary level, while the more nurturing (female) chooses the elementary level. Considering women separately, these are the predictors which determine their choice of teaching level.
The males in the sample had only two steps in the logistic regression equation of significance. In the first step goal-directed (Achievement) explained over 74% of the variance of the dependent variable - level of teaching, while independence (Autonomy) added 10% for a total of 84% explained variance. This is a very powerful model although it has only two variables. Males scoring high in these traits tend to choose the secondary level; they tend to strive to accomplish difficult tasks, and prefer to be unconfined by externally imposed restrictions.

Findings

Significant differences were found on FEEP pre-service teacher personality variables between level of teaching and gender.

1) The general teacher profile is oriented toward achievement, friendship and social activity, caring and nurture, play and spontaneity, artistic interests and feminine qualities, adventurous activity, and the need for support and reassurance. These characteristics would appear to prevail in a population of teachers.

2) At the elementary level the pre-service teacher tends to be safety conscious, nurturing, and requiring support. Pre-service teachers who display these traits are more likely to be student-oriented and to choose to teach at the elementary level.

The predominance of women at the elementary level
demonstrates the overlap of gender and level traits outlined above; especially the caring, safety concerns, social skills, and need for support. Women are more likely to choose to teach at the elementary level as well as have these traits.

3) The secondary level teacher requires challenge, is aggressive, independent, defensive, domineering, and persevering. The secondary level is gender balanced and more diverse with characteristics of the achievement drive, aggressivity, independence, defensiveness, dominance, and perseverance. These qualities tend to be consistent with the subject orientation of the secondary level teacher. Subject-oriented teachers with these traits will tend to teach at the secondary level.

4) Gender is the most powerful predictor of teaching level. Women who are caring, safety conscious, and need support tend to choose the elementary level, while women who are practical-minded and dominant tend to choose the secondary level. Males who are low on achievement orientation and independence tend to choose the elementary level while males with strengths in those areas tend to choose the secondary level.
Discussion of the Findings

The general profile of the pre-service teacher in this sample is consistent with several previous studies. The personality type VPI code was Social, Artistic, and Enterprising (SAE). The findings of the SAE personality type are consistent with other studies of teacher personality. Early Childhood Education majors from a college sample were predominately SAE type (Harrington, Feller, and O’Shea, 1993); and an all female sample of elementary education majors were also SAE (Miller, Newell, Springer, and Wells, 1992). High Enterprising and Social types were found to be "effective social studies teachers" by Weslander and Arnsdorf (1982). A sample of EMR teachers scored high in SAR in an earlier study by Wiggins (1976). A group of English teachers investigated by Wiggins (1982) had the ASE type.

These findings are also generally consistent with the findings of Mitchell (1965) who showed that the child-oriented teacher trainee at the elementary level was more "sociable and warm-hearted". Using the PRF, Wosley-George (1990) also reported similar results in her study of pre-service and experienced teachers. Elementary level teachers scored higher in Harmavoidance, Nurturance, and Succorance; and secondary level scored higher in Aggression, Autonomy, Defendence, and Dominance in Wosley-George's research as well.
Conclusions

It is apparent that gender plays the major role in determining teaching level. While personality factors do appear significant, they may be more manifestations of culture or, or more importantly, gender role socialization patterns. The feminine or masculine characteristics may be more a result of upbringing or experience than differences of sex. While having comparatively less power, personality does make a significant contribution to the predictability of teaching level choice.

The female pre-service teachers in this sample display a strong tendency to choose to teach at the elementary level. Consistent with the findings of Mitchell (1965), elementary teachers are more child-centered, caring, and safety conscious than secondary teachers. This suggests that these women are socialized to have greater concerns for the well-being of others and they invest themselves in relationships, more than subject concerns. They appear to be less independent and assertive than the secondary teacher, suggesting that they would be less inclined to question authority, or to take leadership in working toward system change.

While there are fewer women at the secondary level than the elementary level, they are in equal number to the males at the secondary level. The subject-oriented, secondary
teachers are more assertive, independent, and strongly goal-directed. A competitive group, they would tend to be less concerned with preserving relationships than seeking promotion to a position of leadership or authority. This also seems appropriate since the secondary student is more independent and less in need of the protection and guidance provided to the elementary student.

Females specifically at the secondary level are more practical-minded and dominant, but less nurturing that their counterparts at the elementary level. Males at the secondary level are more independent and achievement oriented than males at the elementary level. At the gender balanced secondary level these personality characteristics appear to have greater predictive value.

Limitations of the Study

The sample was drawn from the Freshman Early Experience Program at The Ohio State University and results may be most confidently generalized to that population during the period of time from which the data was taken. It may also be possible, although with less confidence, to generalize findings to FEEP students during other periods of time. There is greater risk in applying results to education students at OSU.

The possibility of multicollinearity suggests that some
personality scales measure similar traits. Other samples drawn from this population could lead to the discovery that other traits have the potential to emerge as predictor variables. The VPI does not appear to be as vulnerable as the PRF to sample effects. The PRF Autonomy and Nurturance scales are highly intercorrelated with several other scales, suggesting that if additional samples were drawn from this frame, different scales may emerge as significant in place of, or in addition to Autonomy and Nurturance.

Recommendations

Additional samples should be drawn from the frame used in this study to investigate the problem of multicollinearity as well as to compare outcomes.

This investigation should be replicated with other samples of The Ohio State University FEEP population to confirm or disconfirm these relationships between personality and career choice.

Other pre-service teacher programs similar to the OSU FEEP program may provide sites for replication as well as benefit from these findings in providing opportunities to explore teaching careers.

The results of this study may have implications for career counselors, academic advisors, and teacher educators working with university students who are considering career choices in education. Having a better understanding of
personality variables in the choice of teaching level pre-service teachers may be more effectively helped in their preparation for teaching.

While this study was not designed to investigate the personality characteristics of successful teachers it suggests that any effort which increases the understanding of teacher personality may find a relationship with teaching effectiveness. Future research may productively investigate the characteristics of in-service teachers to compare those traits to those found in this sample.
## APPENDIX

### PERSONALITY RESEARCH FORM SCALE DESCRIPTIONS

<table>
<thead>
<tr>
<th>SCALE</th>
<th>DESCRIPTION OF HIGH SCORER</th>
<th>DEFINING TRAIT ADJECTIVE</th>
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<tr>
<td>Abasement</td>
<td>Shows a high degree of humility; accepts blame and criticism even when not deserved; willing to accept an inferior position; tends to be self-effacing.</td>
<td>meek, self-accusing; self-blaming; obsequious, self-belittling, surrendering, resigned self-critical, humble, apologizing, subservient, obedient, yielding, deferential.</td>
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<tr>
<td>Achievement</td>
<td>Aspires to accomplish difficult tasks; maintains high standards and is willing to work toward distant goals; responds positively to competition; willing to put forth effort to attain excellence.</td>
<td>striving, accomplishing, capable, purposeful, attaining, industrious, achieving, aspiring, enterprising self-improving, productive, driving, ambitious, resourceful competitive.</td>
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<tr>
<td>Affiliation</td>
<td>Enjoys being with friends and people in general; accepts people readily; makes efforts to win friendships and maintain associations with people.</td>
<td>neighborly, loyal, warm, amicable, good-natured, friendly, companionable, genial, affable, cooperative, gregarious, hospitable sociable, affiliative good-willed.</td>
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<tr>
<td>Aggression</td>
<td>Enjoys combat and argument; easily annoyed; sometimes willing to hurt people to get own way; may seek to &quot;get even&quot; with people perceived as causing harm.</td>
<td>aggressive, quarrelsome, irritable, argumentative, threatening attacking, antagonistic, pushy, hot-tempered, easily-angered, hostile, revengeful, belligerent, blunt, retaliative.</td>
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<td>Autonomy</td>
<td>Tries to break away from restraints, confinement, or restrictions of any kind; enjoys being unattached, free, not tied to people, places, or obligations; may be rebellious when faced with restraints.</td>
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<td>unmanageable, free, self-reliant, independent, autonomous, rebellious, unconstrained, individualistic, ungovernable, self-determined, nonconforming, uncompliant, undominated, resistant, lone-wolf.</td>
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<td>Change</td>
<td>Likes new and different experiences; dislikes routine and avoids it; may readily change opinions or values in different circumstances; adapts readily to changes in environment.</td>
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<td>inconsistent, fickle, flexible, unpredictable, wavering, mutable, adaptable, changeable, irregular, variable, capricious, innovative, flighty, vacillating, inconstant.</td>
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<tr>
<td>Cognitive Structure</td>
<td>Does not like ambiguity or uncertainty in information; wants all questions answered completely; desires to make decisions based upon definite knowledge, rather than upon guesses or probabilities.</td>
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<td>precise, exacting, definite, seeks certainty, meticulous, perfectionistic, clarifying, explicit accurate, rigorous, literal, avoids ambiguity, defining, rigid, needs structure.</td>
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<td>Defence</td>
<td>Ready to defend self against real or imagined harm from other people; takes offense easily; does not accept criticism readily.</td>
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<td>self-protective, justifying, denying, defensive, self-condoning, suspicious, secretive, has a &quot;chip on the shoulder,&quot; resists inquiries, protesting, wary, self excusing, rationalizing, guarded, touchy.</td>
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<td>Dominance</td>
<td>Attempts to control environment, and to influence or direct other people; expresses opinions forcefully; enjoys the role of leader and may assume it spontaneously.</td>
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<td>governing, controlling commanding, domineering, influential, persuasive, forceful, ascendant, leading, directing, dominant, assertive, authoritative powerful, supervising.</td>
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</table>
Endurance: Willing to work long hours; doesn't give up quickly on a problem; persevering, even in the face of great difficulty; patient and unrelenting in work habits.  

Exhibition: Wants to be the center of attention; enjoys having an audience; engages in behavior which wins the notice of others; may enjoy being dramatic or witty.  

Harm-avoidance: Does not enjoy exciting activities; especially if danger is involved; avoids risk of bodily harm; seeks to maximize personal safety.  

Impulsivity: Tends to act on the "spur of the moment" and without deliberation; gives vent readily to feelings and wishes; speaks freely; may be volatile in emotional expression.  

Nurturance: Gives sympathy and comfort; assists others whenever possible, interested in caring for children, the disabled or infirm; offers a "helping hand" to those in need; readily performs favors for others.
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<th>Order</th>
<th>Concerned with keeping personal effects and surroundings neat and organized; dislikes clutter, confusion, lack of organization; interested in developing methods for keeping materials methodically organized.</th>
<th>neat, organized, tidy, systematic, well-ordered, disciplined, prompt, consistent, orderly, clean, methodical, scheduled, planful, unvarying, deliberate.</th>
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<td>Play</td>
<td>Does many things &quot;just for fun;&quot; spends a good deal of time participating in games, sports, social activities, and other amusements; enjoys jokes and funny stories; maintains a light-hearted, easy-going attitude toward life.</td>
<td>playful, jovial, jolly pleasure-seeking, merry, laughter-loving, joking, frivolous, prankish, sportive, mirthful, fun-loving, gleeful, care-free, blithe.</td>
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<tr>
<td>Sentience</td>
<td>Notices smells, sounds, sights, tastes, and the way things feel; remembers these sensations and believes that they are an important part of life; is sensitive to many forms of experience may maintain an essentially hedonistic or aesthetic view of life.</td>
<td>aesthetic, enjoys physical sensations, observant, earthy, aware, notices environment, feeling, sensitive, sensuous, open to experience, perceptive, responsive, noticing, discriminating, alive to impressions.</td>
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<tr>
<td>Social Recognition</td>
<td>Desires to be held in high esteem by acquaintances; concerned about reputation and what other people think; works for the approval and recognition of others.</td>
<td>approval-seeking, proper, well-behaved seeks recognition, courteous, makes good impression, seeks respectability, accommodating, socially proper, seeks admiration, obliging, agreeable, socially sensitive, desirous of credit, behaves appropriately.</td>
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<td>Succorance</td>
<td>Understanding</td>
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<td>Frequently seeks the sympathy, protection, love, advice, and reassurance of other people; may feel insecure or helpless without such support; confides difficulties readily to a receptive person.</td>
<td>Wants to understand many areas of knowledge; values synthesis of ideas, verifiable generalization, logical thought, particularly when directed at satisfying intellectual.</td>
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