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Personality features associated with junior and senior recreation majors at selected private colleges in the southeastern United States

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PERSONALITY FEATURES ASSOCIATED WITH JUNIOR AND SENIOR RECREATION MAJORS AT SELECTED PRIVATE COLLEGES IN THE SOUTHEASTERN UNITED STATES

by

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The purposes of this study were to identify personality features of recreation majors at selected private colleges in the southeastern United States and to contrast the current results with similar research conducted between 1966 and 1975. The personality assessment instruments used were Cattell's Sixteen Personality Factor Questionnaire (16 PF) and the Guilford-Zimmerman Temperance Survey (GZTS). The sample was comprised of one hundred fifty-eight junior and senior recreation majors. The response rate was 81 percent on the 16 PF and 71 percent on the GZTS. Descriptive statistics, multivariate tests of significance and analysis of variance were used to analyze the data from each inventory with regards to possible differences in groups, majors, institutions, gender and class status.

The results of the study were 1) that the 1992 recreation majors were less abstract-thinking and less skilled in personal relations, and more warm, conscientious, dominant, bold, suspicious, shrewd, apprehensive, critical, experimenting, likely to follow self-image, and tense than the students of the 1960s and 1970s; 2) that, in regard to students who seek different options within the major, a Sports Management major is statistically ($F = 2.71$, df

6:120, $p < .05$) more enthusiastic, spontaneous, expressive and cheerful than a General Recreation major; 3) that there was little difference in response pattern between gender or class rank on either assessment instrument, although three to four institutions were statistically different on two factors, C ($F = 2.96$, df 8;118, $p < .05$) and F ($F = 3.25$, df 8;118, $p < .05$) of the 16 PF, and two institutions were statistically different on the GZTS factor F ($F = 2.17$, df 8;102, $p < .04$); 4) that neither gender, class rank, or the institution attended statistically affected a tendency to fake towards the good in response pattern on the 16 PF; 5) that male recreation majors were statistically ($F = 12.88$, df 1;86, $p < .05$) more likely to fake responses towards the bad or negative than female majors; 6) that Commercial Recreation and Sports Management majors tended to fake more towards the bad than the five majors, while Church Recreation majors were the least likely to do so; and 7) that female recreation majors were the most variable in their changes over time, as compared with male recreation majors.

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CHAPTER I

INTRODUCTION AND OVERVIEW

The enrollment in departments of recreation and leisure studies changes size and form periodically, reflecting societal values and social expectations. The personality of each student will have a direct or indirect impact on the decision to choose recreation as an academic major and future profession. Understanding why a student selects recreation as an academic major would allow for greater latitude in departmental planning and programming and have implications for the recruitment and retention procedures of individual departments. Because of limited numbers of undergraduate students, a department's success depends on attracting successful majors. To begin to understand this issue, one needs to identify the personality features that are common to recreation majors.

Higher education faces a two-pronged, long-term issue: 1) there is a decline in the number of people who are attending colleges and universities, and 2) there is a decline in the academic quality of these new students (Astin, 1985). American students are losing ground in international academic excellence, and are not competitive in many basic academic skills (Mayhew, Ford, & Hubbard, 1990). There is also a shrinking pool of traditional students, in terms of numbers (Astin, 1985). This lack of

academic preparation and the decline in the number of people seeking higher education poses many problems for the administration of institutions of higher education. Within institutions, competition increases to attract quality undergraduates, as various departments vie for the attention of successful students. It is important to understand the features that influence the academic major choice of undergraduates, so as to address academic major selection and departmental recruitment and retention concerns. With the expansion of educational choices, a better understanding of academic major choice might result in a lowered attrition rate in colleges and universities and an increased level of student satisfaction with chosen educational and vocational careers (Goldschmid, 1967).

The enrollment pattern for the recreation and leisure service profession has declined or changed emphasis during the past decade (Bialeschki & McAllister, 1990). The long-term success of an academic department depends upon understanding program attraction to students and what they seek from an academic major. Further clarification of the relationship between academic major choice and personality features would enhance the development of student recruitment and selection procedures. Research involving the personalities of undergraduate recreation majors can update the knowledge base of the profession and also

contribute to a greater understanding of today's recreation majors, especially how personality influences their academic major choice.

Statement of the Problem

Higher education faces a reported shortfall of undergraduate students over the next decade (Astin, 1985). Colleges and universities are becoming highly competitive in both recruiting and retaining quality students. Public relations, marketing, and creative financing are emerging as new areas of emphasis within higher education settings. Schools are devising freshman assistance programs, which should ease transition into college and reduce the attrition rate. Departments are developing innovative ways to attract students into their programs and majors and retain them. The country is changing socially, economically, and politically, and some traditional majors are no longer as attractive or lucrative as they were before. Departments are developing, expanding, and revising their curricula and degree offerings in order to meet changing student interests and demands. It is against this backdrop that this particular area of research interest will be conducted.

Personality plays a major role in an undergraduate's the selection of an area of emphasis (Mossholder, 1981), and research on personality features of health, physical

education, and recreation majors received major attention from 1965 to 1975. Since 1975, however, this topic has not been addressed in the literature. Research on the subjects of academic major choice and recreation has declined, with the bulk of the research shifting to the personalities of athletes and coaches. Recreation enjoyed growth as an academic major, and as a profession, in the 1960s and 1970s, when the focus of the profession was on providing enough people to fill the demands of the growing field. However, the popularity of the profession as an academic major and future vocation tapered off in the 1980s (Bialeschki & McAllister, 1990), and academic departments of recreation are, in some institutions, fighting for their existence.

Exploring personality features exhibited in the recreation majors of today could provide a more thorough understanding of the students of 1992 and could have an impact on a student's major selection, recruitment procedures, and professor-to-student interaction patterns. This research could also have implications for classroom and course revision, and could contribute to marketing strategies. This study concerns the updating of information already known about recreation majors, with the hope that this information will lead to the improvement of procedures of selection, recruitment, program planning, and student retention in the major. Therefore, research must be undertaken to identify these personality features.

The Conceptual Base

This research focuses on personality features that characterize recreation majors. Students elect certain majors and their personality plays a large role in the decision process (Mossholder, 1981). They choose academic fields for a variety of reasons; perhaps they enjoy the literature or the interactions of their classmates in certain classes. Whatever the particular reason, it is clear that people elect the academic major that appeals to them and to their personalities.

Selection of an academic major has been found to be a form of active commitment to a vocational preference (Holland 1966, 1973, 1985; Apostal & Harper, 1972; Walsh, 1973). Some of the earliest work on theories of vocational choices included Ginzberg (1951), Super (1957), and Holland (1959). Holland conducted his research based on a theory of vocational choices in which the choice is a result of external forces and situations in the person's life. He felt that self-knowledge and evaluation were the cornerstones of vocational choice and ultimately would substantially contribute to both the recruitment and retention of new personnel. He believed that different personality types have different interests, competencies, and dispositions toward the work environment. He theorized

that there were six specific personality orientations that were indicative of vocational interest or preferences:

R - Realistic

I - Intellectual

S - Social

C - Conventional

E - Enterprising

A - Artistic.

Most people (Holland, 1966) can be categorized into one of the six personality dimensions, and these persons tend to seek out environmental work conditions which match their personality type and which allow them to express their attitudes, values, skills, and abilities (Wallace & Walker, 1988).

As early as 1932, researchers were studying the personality traits of college majors in physical education (Ragsdale). Duggan (1937) compared undergraduate women physical education majors and nonmajors with respect to certain personal traits. Espenschade (1948) also studied women physical education students, and Rieck (1961) compared teachers' response patterns on the MMPI with response patterns of selected nonteacher groups.

Timmermans (1967) attempted to replicate and update the findings of some of the previously mentioned studies. She administered the Guilford-Zimmerman Temperament Survey

(GTZS) to 212 women freshmen and sophomore education, physical education, and nonmajor students, testing for differences in personality traits among the groups. Her findings did not substantiate the conclusions of the previous studies, as she found significant differences among majors on only one of the ten tested personality traits. This was the trait of General Activity, where the physical education majors scored higher than the other two groups. She also compared the freshmen students to the sophomore students, finding freshmen to be significantly different (higher) from sophomores on the trait of Sociability. Also, she noted that there was an increase in college dropout rates after the freshman year as compared to the sophomore year. Overall, there was essentially no difference between the two groups in the factors of General Activity, Emotional Stability, Friendliness, Restraint, and Masculinity (p. 1090). "This study does not seem to confirm the conclusions made in the related studies that women physical education majors tend to be more dominant, less neurotic, and more extroverted" (p. 1090).

Widdop & Widdop (1975) also focused on women students when they used four personality inventories to compare the personality traits of female teacher education and physical education students. The physical education women displayed higher scores that were statistically significant on the

following descriptor categories, as opposed to the women education majors: outgoing, warmhearted; mental capacity; gay, enthusiastic; conscientious, persevering; venturesome; imaginative; shrewd, calculating; self-sufficient; self-image; exhibitionism; dominance; and social presence.

Batesky, Malacos, & Purcell (1980) compared personality characteristics of physical education and recreation majors and factors which affect career choice. They found both majors very similar in their personality characteristics, with recreation majors tending to be somewhat more artistic than physical education majors who were more enterprising (p. 1297).

The amount of research available on the subject of occupational choice and academic major in relation to recreation students is limited. Batesky, Malacos, & Purcell (1980) stated that they were drawn to conduct their study after reviewing over one thousand personality studies of the past 50 years and not finding one that compared physical education majors and recreation majors. Moreover, no detailed evidence was found for a personality profile for recreation majors (p. 1292). As of 1991, little research on this topic can be found. The available research (indicated previously) uses the larger group of health, physical education, and recreation majors; published material on recreation majors alone and their career choices was not found.

Statement of Purposes

The purposes of this study were to identify personality features of recreation majors at selected private colleges in the southeastern United States and to contrast the current results with similar research conducted between 1966 and 1975.

Research Questions

In order to address the purposes of this study, the following research questions were explored:

1. What personality features are common to recreation majors at private colleges?
2. Have these personality features changed significantly from those in data collected between 1965 and 1975?
3. Do personality feature differences exist among students who declare different options within the major?
4. Can a personality profile of today's recreation majors be developed from these data?

Significance of the Study

This research contributes to the general knowledge base of the field of recreation and leisure studies. As there has been little research in this area specific to recreation majors, it is important to add to the current body of knowledge. The research on hand is 20 years old and older.

It may be that the personality traits of recreation majors have changed significantly over 20 years.

The study is also important in its implications for private colleges. These institutions are facing severe shortages of students, and data on personality traits of recreation majors can address recruitment and retention issues, even if on a small scale. Knowing the general personality profiles of students and then incorporating this knowledge into marketing efforts and curricula can have an impact on attracting and retaining future students.

In summary, this study is an attempt to expand the knowledge base of the profession and develop a personality profile of recreation majors at selected private colleges.

CHAPTER II

REVIEW OF LITERATURE

The purposes of this study were to identify personality features of recreation majors at selected private colleges in the southeastern United States and to contrast the current results with similar research conducted between 1965 and 1975. The review of literature presented in this chapter addresses the following four areas: 1) personality theories and assessment; 2) personality assessment related to college students; 3) personality assessment of both college students and their choice of academic major; and 4) personality features related to health, physical education, and recreation majors. The conclusion of this chapter provides an overall summary of the information gathered from the presented literature.

Personality Theories and Assessment

Personality has been defined as "a composite of mental abilities, interests, attitudes, temperament, and other individual differences in thoughts, feelings, and behavior" (Aiken, 1991, p. 319). Theories of personality abound; some theorists advocate the nomothetic approach--the search for general laws of behavior and personality; others prefer the idiographic approach--where all persons are considered to be unique individuals in their own right. Theorists also

differ in regard to the effects of heredity or environment as molders of behavior, as well as whether people are internally or externally motivated (Aiken, 1991). There is no comprehensive theory of personality that is supported by all researchers.

One of the oldest approaches to personality is known as "type theory" (Aiken, 1991). Galen and Hippocrates maintained that there are four types of temperament corresponding to four body humors possessed by people. These four types--sanguine, choleric, melancholic, and phlegmatic--are based on excesses of a variety of fluids within each different body type.

Kretschmer (1925) followed this line of thought by concluding that different body builds--e.g., tall, thin; muscular; short, stout--could be associated with different types of personalities. Sheldon, Stevens, & Tucker (1940) and Sheldon & Stevens (1942) classified human physiques and temperaments according to the degree of endomorphy (fatness), mesomorphy (muscularity), and ectomorphy (thinness) displayed by each individual.

Problems are associated with using body-type theories to classify personality due to the many exceptions to the relationships between body type and personality, as well as the effect of different interpretations that can be given between the two (Aiken, 1991). Others object to type

theories because of the effect that labeling can have on people, causing behavior to occur to satisfy the label, a self-fulfilling prophecy.

Trait theories began when Allport listed the 17,953 words in the English language that refer to characteristics of personality and reduced them to a smaller list of trait names (Allport & Odbert, 1936). A trait was defined as a "neurophysic structure having the capacity to render many stimuli functionally equivalent, and to initiate and guide equivalent (meaningfully consistent) forms of adaptive and expressive behavior" (Allport, 1961, p. 347).

Other trait theorists include Cattell, Murray, Guilford, and Eysenck. Cattell (1957) classified traits in four ways: common versus unique, surface versus source, constitutional versus environmental-mold, and dynamic versus ability versus temperament (Aiken, 1991, p. 324). Common traits characterize all people, unique traits are unique to the individual. Surface traits can be observed and source traits can only be discovered by factor analysis. Constitutional traits are based on heredity and environmental-mold traits are environment-based. Dynamic traits are motivators towards a goal, ability traits determine the ability to achieve the goal, and temperament traits concern the emotional aspects of goal-directed activity (Aiken, 1991, p. 325). Trait theorists assess

personality via objective, self-report inventories. The data are then factor-analyzed to determine a variety of dimensions of personality.

Another attempt to define human personality is that of the psychoanalytic theory espoused by Freud and others. They feel that personality is composed of three components--id, ego, and superego--which all compete for supremacy within the individual. The id acts according to the pleasure principle, in direct opposition with the superego which acts according to the moral principle. The ego serves as the mediator between the two forces (Aiken, 1991). The assessment of personality via the psychoanalytical theory relies heavily on the clinical interpretation of self-reported data, a method which is highly subjective and open to criticism.

Carl Rogers and Abraham Maslow represent the phenomenological (humanistic or self) school of thought. These personality theorists believe that "trait theorists and others who attempt to analyze personality into a set of components do an injustice to the integrated, dynamic organization of personality" (Aiken, 1991, p. 327). Phenomenological theorists believe that the individual strives to attain a level of self-actualization, but that the effort can be inhibited in different ways. Phenomenological theorists usually avoid objective

psychological tests and procedures, favoring case studies and open, unstructured interviews for assessing personality. Usually the designers of instruments for assessing feelings and attitudes toward the self have followed a phenomenological theory of personality (Aiken, 1991, p. 328). Examples include the Tennessee Self-concept Scale, the Piers-Harris Children's Self-concept scale, and the Coopersmith Self-esteem Inventories (Aiken, 1991).

Type, trait, psychoanalytic, and phenomenological theories of personality are all attempts to describe why people behave in the ways that they do. Theories and research findings in the field of personality are constantly developing and changing. Awareness of the various theories of personality permits some frame of reference and some ideas about the bases of personality and behavior. Despite their shortcomings, these theories can serve as guides to the measurement and understanding of personality (Aiken, 1991).

Personality Assessment and College Students

Holland (1985) developed a psychological classification scheme for vocations and major fields, first published in 1966. He based much of his theory of vocational classification on the early work of Darley (1938), who first suggested the potential value of organizing knowledge

according to occupational stereotypes (p. 6). Darley was influenced by the writings of Adler, Fromm, and Jung (p. 6), all of whom believed in the possibility of classification by type. Holland credits Forer (1951) with providing the theorizing which led to the development of the Vocational Preference Inventory (VPI) in 1958. The VPI is a personality inventory composed entirely of occupational titles, where the scales were developed by hypothesizing that preferences for occupations are expressions of personality (p. 8).

Chaney & Owens (1964), Roe (1956), and Laurent (1951) all found that vocations attract and retain people with similar personalities. Astin & Holland (1961) found evidence that college students in vocational groups have similar personalities, that these groups will respond to situations and problems in similar ways, and that the groups will create interpersonal environments which are characteristic of their personality type.

O'Dowd and Beardslee (1960, 1967) demonstrated that occupations are perceived in much the same way by a number of different groups: high school students, college students, college faculty, and men versus women. They found that one's social status makes only a small difference in the perception of occupations, and that occupational

stereotypes may change only slightly during one's college years.

Other studies of college students and personality include Shannon & Houston (1979), who used Cattell's Sixteen Personality Factor Questionnaire (16PF) to compare two groups of college students: those enrolled in 1971-1972 and in 1977-1978. The two groups were similar in that they were attending the same university and had an expressed common career preference, as they all had applied to the college of education. Shannon & Houston reported an overall significant difference between the two groups on the combined factors, showing the 1977-1978 group to be more extroverted, better adjusted, less radical, less suspicious, less tense, more assertive, more enthusiastic, more venturesome, more conscientious, more self-assured, more secure, and more conservative than the 1971-1972 group of students.

German & Jacobs (1986) reviewed literature concerning the use of objective personality measures to determine the personality characteristics of undergraduate paraprofessionals who had been reported to be more effective at their job than their counterparts. The authors found that, regardless of the instrument employed in any study, no consistent pattern of personal attributes descriptive of more effective paraprofessionals had been found. They

indicated that small sample sizes and the focus on one particular group of students (i.e., residence hall counselors) could have affected prior research attempts regarding this topic.

Chiu (1990) compared responses to the Edwards Personal Preference Schedule (EPPS) by both Chinese and American college students. She administered a Chinese version of the EPPS to 249 Chinese college students, of which 103 were men and 146 were women. Their scores were compared with those of American students which were reported in a 1975 Murgatroyd and Gavurin study. Chiu found that Chinese college men were significantly higher on the scales of Deference, Order, Dominance, Abasement, and Endurance, and significantly lower on the scales of Exhibition, Intraception, Change, Heterosexuality, and Aggression than were American college men. Chinese and American college women differed similarly on the same scales as their male counterparts, with the exception of the scale Achievement, where the Chinese college women scored significantly higher than the American college women. Overall, Chiu reports significant cross-cultural differences on 10 of the 15 variables for both sexes.

Specific individual personality features have also been targeted for study with college students, usually as part of a research inquiry into several aspects germane to this

population. Critical thinking skills (Facione, 1990) were found to be related to academic major, as well as level of self-concept (Wallace & Walker, 1988; Senn & Parry, 1986).

York & Tinsley (1986) examined the relationships between Holland types and college student's cognitive styles. They administered the Group Embedded Figures Test, Inventory of Learning Processes, and the Assessment of Career Decision Making scale to 300 students. The student's choice of major served as a basis for assigning the students into one of six categories of the Holland Occupational Classification (HOC) system. Overall, the different groups of students were distinguishable from each other on each of the three instruments, indicating that the use of measures of cognitive style may be important for career guidance and selection.

Two points are clear from the preceding section: personality assessment has been, and still is, an ongoing area of research in regard to college students. Current methods of analysis allow for more in-depth questioning and interpretation of data than was ever possible in past research attempts. Personality inventories are being refined and streamlined, with reliability and validity coefficients becoming stronger and more concrete. The above factors of data analysis, personality inventories, and college students appear to allow for a stable area of research.

Personality Assessment, College Students and Academic Major

Personality assessments have been administered to wide varieties of people over the years, all in an attempt to better understand and predict future behavior. The vocationally undecided student has been the focus of increasing attention in the field of vocational psychology. The undecided student has been described as more anxious (Walsh and Lewis, 1972), more dependent (Ashby, Wall, & Osipow, 1966), and having lower self-esteem (Barrett & Tinsley, 1977; Resnick, Fauble, & Osipow, 1970). Smith (1981) found that sophomore students who are undecided about a major appear to be more timid, experimenting, less intelligent, and have less positive feelings about themselves than do decided sophomores. Barger & Barger (1989) concluded that a student's philosophical orientation is relevant to academic major choice, for example, that health, physical education, recreation majors score higher on the existential scale of their research instrument than do other groups of majors.

Rochester & McBride (1970) studied 483 senior college students to investigate (1) their level of satisfaction with their current college major; (2) the role of the advisor in making this choice of a major; (3) when this selection was made; (4) number of major changes prior to the declaration of this major; and (5) attitude at the time of the major

choice as compared to the current attitude (pp. 54-55). Fifty six percent (56%) of the respondents were in either education or business as majors.

Ninety percent (90%) of the students indicated that they were satisfied with their current choice of major, although 72% indicated that they would change their major if it would not affect their graduation date (pp. 55-56). The majority (27%) of the students had selected their major during their sophomore year, and it was shown that, aside from indicating the students themselves (38%), an influential college teacher (13%) was the second most influential person in terms of assisting the student to select the major. The academic advisor was chosen as the most influential by only 4.55% of the students. Fifty three percent (53%) had changed majors one or more times and 9% had changed at least three times (p. 57).

This study concluded that, at the time of the study, professional career counselors and also academic advisors have a minimal effect on the final major choice that most students make. The authors suggested further study on major satisfaction because "obviously, dissatisfied students cannot be as productive in the classroom setting nor in their jobs planned if full satisfaction has not been gained" (p. 60).

Other studies concerning the selection of an academic major and college students have concentrated on gender or race differences. Jackson & Holden (1984) found that male and female academic major profiles showed a marked tendency to be clustered similarly. Fassinger (1990) found that the career orientation and choices of college women are determined by a combination of ability, agentic personality characteristics, and sex role attitudes. More specifically, "high ability (as achievement-related variables), liberal sex role attitudes (related to both work and family roles), and instrumental personality tendencies (including the confidence to make decisions and engage in math tasks) predict high levels of career orientation (p. 243).

Clark & Pearson (1983) categorized 91 black and 109 white college students into the following three groups according to their college major: natural science, social science, or nonscience. They used the 16 PF, Bem Sex-Role Inventory and the Attitude Toward Women scale, in addition to other socioeconomic data collected to assess the differences in personality and social backgrounds of science and nonscience majors.

In terms of race, black natural science majors were more practical, toughminded, and from a higher social class than the other black majors. White natural science majors were more masculine sex role oriented and more sober than

the other white majors. Natural science majors in general were most often the first-born children in the family and were from a higher social class. Black and white science majors were more similar to each other than either of the other two sets of black and white majors (natural science and nonscience). Overall, there were more racial differences found than college major differences and black and white natural science majors were both similar and dissimilar.

Holland's personality-centered model of career choice has been the model receiving the most attention over the past 30 years. He presented a classification scheme for vocations and college major fields (1966), based on his years of research in psychology and vocational counseling. His scheme allows for the categorization of people into relatively homogeneous groupings. He maintains that the selection of a vocation is an expression of personality, that people with similar personality profiles will tend to cluster into particular vocational classifications.

Holland (1966) developed the Vocational Preference Inventory (VPI) to measure vocational personality. The VPI is composed entirely of occupational titles, which have been subdivided into six scales: Realistic, Intellectual, Social, Conventional, Enterprising and Artistic.

Two large samples of college freshmen (n = 11,660) were studied by Holland (1962; 1963; 1964), using the VPI, which provided the basic data with which he constructed his psychological classification scheme. Average profiles were calculated for each vocation included in the survey instrument, stratified by the highest average VPI scale reported for each respondent. Additional analyses were conducted to determine the VPI's discriminate ability, overall and by sex. The procedure for establishing an educational classification of fields of study followed the same format.

Average VPI profiles were calculated according to declared field of study, and these fields were assigned to the classification scheme according to their highest average VPI scale score (Holland, 1966). It was found that the classification for major fields was very similar to the earlier classification developed for vocations, with the majority of vocations and their related fields of training given either an identical classification, or differing only in subgroup association.

Rosen & Baggaley (1982) used the VPI and the Milwaukee Academic Interest Inventory (MAII) to provide construct validity for the two instruments. Also reported is further reinforcement for the theory of relationships between personality, academic interest, and vocational choice.

Goldschmid (1967) conducted a longitudinal study, administering the California Psychological Inventory, Minnesota Multiphasic Personality Inventory, Myers-Briggs Type Indicator, Omnibus Personality Inventory, and Strong Vocational Interest Blank to college freshmen in an attempt to predict future scores (at time of graduation) on continua of major fields. He hypothesized that significant personality traits would covary with choice of major, once the discipline was accurately located along the included continua (p. 302). The two continua were developed using 55 academic disciplines, one being oriented primarily toward science, the other toward humanities.

He found substantial correlation coefficients among each group of majors, all correlations being .90 or above. Further analysis revealed that the humanities were viewed as dealing primarily with people and abstraction, whereas science deals with theory, method, and least of all with people; science was seen as more potent and active, but less personal than the humanities; words of a 'masculine character' were rated as being closer to science, 'feminine character' was associated more with the scores of humanities. Overall, the data supported the assumption that similar personality characteristics correlated with each of the two provided continua of science and the humanities, and that students in a particular major share certain

personality traits which are significantly different from those in other majors (p. 307).

Apostal & Harper (1972) also studied college students and major field selection. The researchers used the Basic Interest Scales of the Strong Vocational Interest Blank to attempt to differentiate male college sophomores (n = 203) who had been classified into one of Holland's personality types. The college sophomores had scores on file from the Basic Interest Scales of the Strong Vocational Interest Blank, which had been administered to them as freshmen. The researchers classified the Basic Interest Scales and the major fields to be examined according to Holland's six personality types, creating a Realistic Basic Interest Scale, Intellectual Basic Interest Scale, Artistic Basic Interest Scale, etc. They hypothesized that there would be no significant difference among male college sophomores in Realistic, Intellectual, Artistic, Social, Enterprising, and Conventional major fields on the Realistic Basic Interest Scales, with five other hypotheses of equal weight pertaining to each of the other five personality types (Intellectual, Artistic, etc.).

The mean scores for all six individual Basic Interest Scales (Realistic, Intellectual, Artistic, Social, Enterprising, and Conventional) were calculated, using one-way analysis of variance to test the research hypotheses.

If any of the F tests were statistically significant (.05), then Scheffe's test of multiple comparisons was used to identify the location of significance (p. 168).

All of the groups of major fields on the Intellectual, Artistic, Social, Enterprising, and Conventional Basic Interest Scales were statistically significant at the .001 level; thus, the five research hypotheses were not supported. The Realistic Basic Interest Scale did reveal findings that were not statistically significant. The results of this study indicated that students classified into different personality types generally had significantly different interests in the choosing of a major field of study. "Thus, the study reveals the relationship that exists between interests and personality in the process of choosing a vocation" (p. 168).

Holland & Holland (1977) analyzed earlier data in an attempt to distinguish within a single field of study or occupation. They felt that users of aptitude tests and interest inventories need to know where their aptitudes and interests place them within a field (p. 226). They were able to demonstrate that different occupations include a variety of types and subtypes within them. The researchers conclude that students who have an occupational code which is atypical for that occupation, while still being strong enough to qualify for that occupation, should be able to

look into subtypes and offshoots of that occupational field to find a suitable, satisfying vocational choice.

Rosen (1981) administered the Milwaukee Academic Interest Inventory (MAII) and Vocational Preference Inventory (VPI) to 550 persons (334 female, 206 male) at a community college in New Jersey. The purpose of the study was to determine the extent to which seven MAII factorial variables would distinguish between six different personality (VPI) types and also to develop a classification system so that personality type could be predicted from MAII scores. He found highly significant discrimination among personality types, as well as significant classification accuracy for males on the Social type and females on the Investigative, Artistic, Social and Enterprising types. He concluded that there was significant ability of the seven MAII variables to distinguish among the personality types.

Jackson & Holden (1981) investigated the degree to which the vocational interest profiles of students in different academic major fields could be classified into cogent clusters. They administered the Jackson Vocational Interest Survey to 10,134 entering freshman, then conducted analyses on 8,610 students who had reached senior year status and declared an academic major (131 groups).

Their findings revealed that these 131 academic major groups representing mean vocational interests could be

represented by 17 clusters, sharing similar profile shapes and rendering gender homogeneity across the clusters. They recommended that further studies of educational and occupational classification include not only vocational interests, but also other bases for occupational choice, i.e. ability, personality, values, and perceived opportunity (p. 8).

Taylor (1982) investigated the relationships among fear of success, locus of control, and vocational indecision in college students and the extent to which these relationships were moderated by sex and ability (p. 318). She found that vocationally undecided college students are more external in their locus of control, are more fearful of success, and have lower ACT scores than decided students. Gender of the student figured highly in Taylor's results: locus of control and level of vocational indecision was positively and significantly related for male students; however, the overall multiple regression coefficient for this area of the study was not statistically significant. Females, conversely, displayed significant scores on both fear of success and locus of control, in that higher levels of fear of success and greater externality were related to higher levels of indecision among female undergraduates (p. 324).

Johnson (1983) studied the personality traits of students who chose special education or behavior disorders

as a teaching career choice, comparing these students to those students who chose elementary education as a major. Ninety-eight students responded to the Edward Personal Preference Schedule (EPPS), Strong Vocational Interest Blank - Male/Female (SVIB), and the Minnesota Teacher Attitude Inventory (MTAI).

On the Strong Vocational Interest Blank, the two groups differed significantly in their pattern of vocational interest. The subtests which tested teaching humanities and counseling and guidance of young people showed higher means for the special education group. The two subtests which showed higher means for elementary education trainees were more indicative of preference for teaching applied and more tangible subject matter (pp. 367-368). There were no significant differences between the two groups on the EPPS or the MTAI. The author concluded that there are interest patterns which clearly distinguish special education trainees from regular class trainees (p. 368).

Brown, White, & Gerstein (1989) examined 237 undergraduates to determine any association between self-monitoring and occupational preferences. They administered both Snyder & Gangestad's (1985) revised self-monitoring scale and Holland's 1977 version of the Vocational Preference Inventory. They found that men with low self-monitoring behavior preferred social occupations, such as

teaching or counseling. Men with higher self-monitoring tendencies preferred enterprising occupations, such as real estate sales, business, and buying (p. 186). High self-monitoring women, on the other hand, preferred artistic occupations, e.g., music, writing, acting.

The authors advocate that these results have implications for vocational counselors. Low self-monitors might profit from training in interviewing and job search skills. High self-monitors may prefer a career planning program which emphasizes information specific to certain occupational roles and activities (p. 188). Knowledge of a person's level of self-monitoring ability may be helpful to career counselors.

Nixon & Parsons (1989) examined the construct validity of Cloninger's Tridimensional Personality Questionnaire (TPQ) with a sample of 225 male and female college students. Cloninger theorizes that personality encompasses three independent traits: novelty seeking, harm avoidance, and reward dependence. Across all subjects, Nixon & Parsons found only one significant relationship: a correlation ($r = -0.13$, $P = 0.05$) of harm avoidance with novelty seeking. Regarding college major, engineers were significantly lower on the scale of social sensitivity than either College of Arts and Sciences majors or general University majors.

Additional research with only male students revealed the same conclusions.

Studies have also been conducted regarding specific majors and personality traits, i.e. business majors, physical education majors, etc. As physical education majors is discussed elsewhere in this document, the related literature pertaining to business majors and their personality traits is presented here.

Utz and Hartman (1978) conducted an analysis of the discriminatory power of Holland's types for business majors in three areas, using the Self-Directed Search Inventory. They were able to distinguish accountants from marketing and behavioral studies students for both males and females, although they were unable to replicate this finding with any other group. They concluded that there is a need for a more suitable occupational code which will discriminate the marketing students from the other two (p. 182).

Barnowe, Frost, & Jamal (1979) chose to explore the situational influences which affect career choice, instead of only personality factors. They maintained that many of the studies on personality and career choice, which are dependent on Holland's type-theory, suggest that situational influences or 'chance' factors are more powerful than

personality in vocational decisions. They studied business majors, administering the Strong-Campbell Interest Inventory and a questionnaire designed to assess environmental and organizational influences. Although the results were rather weak, the authors of the study concluded that they did find evidence that experiences and influences encountered in college play an important role in the narrowing of possible career selections, and that the students' patterns of orientation toward persons and things affect their reactions to those experiences and influences. They advocate further study of the interactions between individual, organizational, and environmental variables.

Martin and Bartol (1986) used the Myers-Briggs Type Indicator (MBTI) and the VPI in an attempt to predict vocational choice among students enrolled in a Master's of Business Administration program. Their findings: 1) support Holland's theory as a significant predictor of concentration area among MBA students; and 2) indicate weak support for the MBTI as a discriminating instrument between the groups, indicating that it is not as useful as an aid to vocational choice (p. 64).

A summary of the above section on personality assessment, college students, and academic major reveals that students of like personalities tend to cluster into similar academic majors; furthermore, Holland's theory of a

personality-centered approach to vocational choice appears to be the predominant theory in use for the research being conducted in this area. When using appropriate inventories to collect the data, it appears that it is possible to classify personality according to academic major or vocational choice. No study reviewed by this researcher, if measuring personality and college students, revealed negative results in regard to being able to categorize the students by academic major or vocational choice.

Personality Features of Health, Physical Education, and Recreation Majors

Several studies have been conducted regarding the personality traits of physical education majors, on both men (Ragsdale, 1932) and women (Duggan, 1937; Palmer, 1933), relating the findings to the selection of women into the profession (Espenschade, 1948; Kelley, 1941), and to the success of the future graduates (Rieck, 1961; Thorpe, 1958).

Timmermans (1967) studied 121 women college students: 22 freshman physical education majors, 22 sophomore physical education majors, and 77 freshman and sophomore nonmajors, in an attempt to dispel the portrait of the stereotyped woman physical education teacher, i.e. more sociable, outgoing, or masculine. This study also intended to address the issue of few studies being directly concerned with comparing physical education majors and nonmajors.

She administered the Guilford-Zimmerman Temperament Survey (GZTS) to all subjects, reporting the means and standard deviations found for both groups in each of the ten personality traits (p. 1089). The differences between means for each group, and for each trait, were further analyzed by means of the *t* test, using a .01 level of confidence as the criterion for rejection of the null hypothesis. The results of the data analysis are as follows:

There was a significant difference on only one of the ten personality traits tested for between physical education majors and nonmajors, that being the trait of General Activity. The physical education majors scored higher than the nonmajors, exhibiting the following qualities more than the nonmajors did: rapid pace of activities, energy and vitality, keeping in motion, production and efficiency, liking for speed, hurrying, quickness of action, and enthusiasm and liveliness. The majors were most like the nonmajors in the traits of Objectivity and Friendliness (p. 1090).

Comparing freshman majors and sophomore majors, Timmermans found a significant difference only in Sociability, with the freshman majors scoring higher. She also noted that the highest number of college dropouts occurs after the freshman year. There was essentially no difference between the two groups in General Activity,

Emotional Stability, Friendliness, Restraint, and Masculinity (p. 1090). She concluded that this study did not seem to confirm the conclusions made in the related literature that women physical education majors tend to be more dominant, less neurotic, and more extroverted (p. 1090).

It is interesting to note the use of freshman and sophomore majors and nonmajors in the Timmermans study. It is possible that her results might have been very different had she used an older, more stable population such as juniors and seniors, as it is hard to believe that many underclassmen retain their original academic major intention throughout their college years. A more interesting study would have been to compare the subjects in this study with an equal sample of upperclass majors and nonmajors. Upperclassmen in an academic major should be more strongly oriented to and socialized into the beliefs of that major. Many of the underclassmen in this study might not have had the internal set of beliefs necessary for embracing this major.

Another possible flaw in this study is the small sample size. A larger sample might have allowed for a wider range of results and possibly have significantly altered the findings. Timmermans used students in a large state university and should have had access to more students

within the department. Also, the subjects chosen were all enrolled in some form of a dance class offered within the department. This could have implications for the validity of the study, as students who voluntarily enroll in dance classes usually have some sort of interest in the subject; therefore, this common interest could be the reason behind the similarities between the groups. Additionally, it would be interesting to ask how many, if any, of the nonmajors in this study eventually graduated as physical education majors?

The studies Timmermans cited as contributing to her literature review contained samples made up mostly of women; therefore, she used only women in her sample. Overall, for the purpose of her study, that was an appropriate option. One has to wonder what other results could have been obtained or changed by the addition of men to the sample?

Timmermans (1967) provides an interesting study with controversial results. There are problems with her sample and its makeup, in addition to her use of only one personality inventory for the collection of data. The GZTS is expected to be more reliable and valid today than in 1968. The addition of another inventory might also have provided different results. This is one of the studies that the current research project uses as a guide, although this study avoids the above-mentioned flaws by using a more

diverse sample and sample size, different methods of data analysis, and adds one additional personality inventory.

Turner (1968) compared the personality features of health, physical education, and recreation majors at two large universities (n = 158, n = 68), using a group (n = 117) of nonmajors as a control group. She used Form A of the 16PF by Cattell and The Adjustment Inventory by Bell as personality inventories, as well as two forms of a personal data questionnaire designed to obtain demographic information about the subjects.

The data generated from the administration of The Adjustment Inventory were examined by means of a coefficient of reliability, determined by correlating the odd-even items and applying the Spearman-Brown prophecy formula (p. 52). Four of the scales on the Adjustment Inventory (Submissivessness; Emotionality; Hostility; Masculinity - femininity) were investigated for construct validity by correlating the scales with relevant scores from other personality and adjustment inventories, and all four of the scales resulted in significant correlations.

The 11 null hypotheses associated with this study maintained that "when the sixteen personality factors measured by the 16PF are considered simultaneously and when the six personality factors measured by the Adjustment Inventory are considered simultaneously but separately from

those of the 16PF, the eleven paired groups cannot be significantly differentiated by the Cattell Coefficient of Pattern Similarity, r_p method of analysis" (p. 55). The eleven paired groups are the following:

1. senior majors and non-majors
2. men majors and women majors
3. freshman majors and sophomore majors
4. freshman majors and junior majors
5. freshman majors and senior majors
6. sophomore majors and junior majors
7. sophomore majors and senior majors
8. junior majors and senior majors
9. majors with coaching interests and majors with teaching interest
10. majors from a state university and majors from a church-related university
11. married majors and single majors (pp. 55-56).

Turner used Cattell's Coefficient of Pattern Similarity, r_p because it determines whether two groups of subjects can be distinguished from each other when several variables are considered simultaneously. Results from the two inventories were treated separately because the statistical procedure used assumes that all factors are independent (p. 56).

The results of Turner's 1968 work indicate the following:

1) senior majors could be distinguished from nonmajors, as the senior majors were more emotionally stable, tough-minded, group-dependent, practical, and placid;
2) senior women majors could be distinguished from women nonmajors, in that senior women majors were more group-dependent, tough-minded, practical, emotionally stable, and forthright than the women nonmajors;
3) men majors can be distinguished from women majors, in that the men are more assertive, tough-minded, suspicious, and casual;
4) freshman majors could not be distinguished from sophomore or junior majors, except at the .05 level for freshman women majors and junior women majors, where the freshmen majors were less shy, submissive, conservative, and trusting;
5) freshman majors could be partially distinguished from senior majors at the .01 level of confidence, for the total group, and between sexes; the freshman scored significantly on more casual, apprehensive, affected by feelings, imaginative,

happy-go-lucky, assertive, expedient, self-sufficient, experimenting, and suspicious;

6) sophomore majors could not be distinguished from junior majors or senior majors;

7) in only the women, could junior majors and senior majors be distinguished from each other, that at the .05 level; the junior majors were more conforming, self-sufficient, shy, and tender-minded;

8) majors with coaching interest could be distinguished from majors with teaching interest, in that majors with coaching interest were more suspicious, assertive, tough-minded, reserved, casual, and practical, and they were less intelligent and conscientious;

9) majors from a state university and majors from a church-related university could be distinguished from each other, as the state university majors were more relaxed, group-dependent; happy-go-lucky, and practical;

10) women majors from a state university differed significantly from women majors at a church-related university, as the state university women were more relaxed, practical, emotionally stable, group-dependent, and venturesome;

11) married majors differed significantly from single majors, in that the married majors' scores indicated that they were more sober, conscientious, socially precise, emotionally secure, friendly, and that they had a more satisfactory home adjustment (Turner, 1968).

Overall, it appears that Turner was able to significantly differentiate among all men and women majors until the senior year; between freshmen and seniors in all groupings; between majors having teaching or coaching orientations; and between married and single majors.

With all of the statistical analysis Turner conducted, one might wonder why she did not go ahead and take the next logical step, that of testing the personalities of the majors by declared discipline. That option was neglected by Turner, and could have been a valuable addition to the study. There was no test of whether the personalities were significantly different among the health majors, physical education majors, and recreation majors? This is the only glaring negative associated with this study. The statistical procedures are sound, she used enough variation within groups, and she presented the results of the data in a readable fashion. If she had gone one step further, it would have been an even more illuminating study.

Widdop and Widdop (1975) also compared the personality traits of female physical education majors (N = 123) with those of female teacher education majors (N = 128), using a battery of tests. The personality inventories administered were "the four most often quoted in the literature" (p. 275) of the time: 1) Form 'C' of the 16 Personality Questionnaire (16PF), 2) The Edwards Personal Preference Schedule (EPPS), 3) The I.P.A.T. Anxiety Scale, and 4) The California Psychological Inventory (CPI). The resulting data were analyzed by means of a discriminant function analysis program to determine whether the two groups could be distinguished from one another on the basis of the entire profile rather than by the analysis of profile components separately (p. 276). The I.P.A.T. scale data were treated by means of a $\underline{t}$ test computer program (p. 276).

The results were that the physical education majors scored significantly higher than the teacher education majors on the following traits: outgoing, warm-hearted; mental capacity; gay, enthusiastic; conscientious, preservering; venturesome; imaginative; shrewd, calculating; self-sufficient; self-image; exhibitionism; dominance; social presence. Teacher educators scored significantly higher than the physical education majors on order; affiliation; appreciative; and patient. Overall differences in three of the inventories were as follows: 16PF = .03.;

E.P.P.S. = .004; C.P.I. = .21. The I.P.A.T. Anxiety Scale revealed no significant differences between the two groups tested on the Overt, Covert, or Total scores (p. 276).

Widdop & Widdop's results strongly suggest that significant differences in personality do exist between women teacher education students and women physical education students. One of the strengths of this study was in their choice of using four inventories to collect their data for analysis. This strengthens their results and makes their recommendations more valid and concise.

As in the Timmermans study (1967), the Widdop and Widdop (1975) study did not intend to examine male students, and while appropriate for the study, this again could be a research flaw. The subjects were women from all four years of the college program. The question must be raised concerning the possible changes or congruencies in the results presented, had there been male students included. It also would be interesting to follow up and determine how many students in the sample actually graduated in their originally stated major. Another possible study which could evolve from these data would be to test the personality profiles over time, to see what, if any, changes occur.

Ruffer (1976a) reported on three studies of personality conducted with undergraduates in physical education. Study I compared 85 male undergraduate physical education majors

to the norms of the 1962 16PF test. Study II (1969) had 50 similar subjects, and Study III (1969) had 39 similar female subjects. Ruffer used the 16PF (Form A) as the personality inventory, reporting the means, standard deviations, Z ratios, and centile rank for each trait in each study. The group means for each trait were converted first to Sten scores, and then to centiles (p. 673).

The results of Study I show statistically significant differences on seven personality traits: ego strength, dominance, practical, naive, self-assured, and group-dependency. Study II revealed statistically significant scores on four traits, with the major being lower in intelligence, higher in superego strength, practical, and controlled (p. 673). These findings did not completely support or reject any of the prior research attempts in this area, as it had mixed evidence for several traits.

Study III revealed five significantly different traits in that the women appeared to be reserved, of lower intelligence, tough-minded, practical, and conservative. These findings allowed for more congruence between this study and previous research in this area, as many of the earlier studies had found similar results.

Ruffer maintained that these findings may have implications for the teaching profession, as the identified traits suggest that physical education majors might not be

suited for teaching children at all. He backs up this line of thought by relying on his more advanced statistical manipulation of the data, thus allowing for more precise trait definition, the overall trait definition being that physical education majors appear to be very authoritarian, controlled, dominant, reserved, and tough-minded.

One possible flaw in his process could be that by using such a stringent method of analysis, he managed to obscure other traits which could have been working together to provide a better balance for the personality. It is hard to believe that physical education majors do not have any more sterling qualities. This researcher agrees that individual physical education majors could fit this profile easily, but not as an overall group.

There also is a flaw in the small sample sizes used in the studies. The data were not combined into a Study IV, with a larger sample size, which might have made the data more valid. Perhaps Ruffer found a pocket of atypical undergraduates? In addition, the male-to-female ratio was 3:1 in this overall presentation. The overrepresentation of males could have influenced the trait scores.

As a third flaw, Ruffer could have used more than one inventory in his data collection. He chose the 16PF on purpose, as it was the instrument most widely used in the studies he referenced, which was acceptable. However, the

other studies also had made use of other instruments, in addition to the 16PF, which might have influenced their conclusions. Ruffer could have strengthened his allegations regarding his findings by using more than one instrument.

One last item to mention in regard to Ruffer's findings on the 16PF is that the inventory underwent extensive refining, changes, and validity construction during the 1960s and 1970s. Perhaps it was not as flexible or reliable an instrument as it became during the late 1970s through the 1980s. Using a relatively new instrument (which the 16PF was in the 1960s) means that the results may not be as valid or reliable as desired.

Ruffer (1976b) also analyzed the data to determine four second-stratum traits for seven groups of physical education students. The original data revealed the second-stratum factors to be low versus high anxiety, introversion versus extraversion, tenderminded emotionality versus alert poise, and subdued versus independent. He reported these students to be lower than the general population on anxiety, and higher than the general population on extraversion and independence. "The female physical education students scored very high on the trait of alert poise" (p. 1198). Obviously, conducting second-order analyses reveals more positive attributes for physical education students in relation to the general population.

Ruffer (1976c) also conducted multivariate analyses on the original data revealing that "in spite of the statistically significant differences previously reported when specific and second-stratum traits were explored, the subject group profiles do not differ in any meaningful way from general population profiles nor from one another. These physical education student groups are very similar in over-all personality structure to adults generally" (p. 1242).

These studies of Ruffer's confirm that the validity of the results of a study can rest on the type of analysis conducted on the data. Different data analyses could reveal different results and using a variety of analyses allows the researcher to examine the data from a variety of perspectives.

Batesky, Malacos, & Purcell (1980) compared personality characteristics of physical education and recreation majors, and factors which affect career choice. They reported two reasons for their interest in this area of research: 1) reviewing over one thousand personality studies, they found none to compare the two groups; 2) they cite Turner's 1969 suggestion that future research in physical education and recreation needs to be conducted between career choice and personality characteristics (p. 1292). In addition, the

authors stated that there was no detailed evidence found for a personality profile for recreation majors (p. 1292).

The subjects in this study were 49 physical education and recreation majors (n = 24, recreation; n = 25, physical education), evenly represented by both sexes (males = 23, females = 26), and enrolled at two midwestern colleges. Also provided were a control group of 24 nonmajors in physical education or recreation randomly selected from the general student population. The subjects took Holland's Self-Directed Search personality inventory, which allows for self-reporting behavior.

They analyzed their results via a 2 X 3 fixed factorial design (sex by major), using sex as an independent variable because the researchers predicted sex to provide significantly different results. The control group provided the level 3 (p. 1294). The data were analyzed using pairwise chi-squared tests of independence and simple t test comparisons of the differences between the means (p. 1294).

The results revealed the following:

1) female physical education and recreation majors had identical profiles; male physical education majors were more enterprising than the male recreation majors, although male recreation majors were more artistically oriented than the male physical education majors; (Batesky, et al.

asserted that this could possibly explain why physical education majors prefer teaching as an occupation, and recreation majors prefer the creative avenue allowed in the recreation profession.)

2) males and females in both professions were socially oriented and could be described as enjoying activities which involved helping people; (Batesky et al. believe this reveals their choice of major is a function of their personality and environment.)

3) male majors were more realistically oriented than female majors, indicating that the males preferred doing more physical, mechanical, manual, and outdoor activities (in contrast with the non-major control group);

4) the overall profiles, across groups without regard to sex, revealed that physical education majors were coded Social-Enterprising-Realistic, while recreation majors were coded Social-Artistic-Enterprising; these findings were supported by the earlier findings of physical education majors scoring as more enterprising, and recreation majors scoring as more artistic (p. 1295).

Batesky et al. concluded the majors were similar in personality, although more research was needed to identify the obvious more secondary, less dominant traits (p. 1297).

The sample size presents a problem in this study, as more data may have revealed more, or different types of traits or characteristics. The use of different or additional inventories also could have provided more validity to the results. The statistical procedure appears to be appropriate, as does the sample mix of subjects.

Summary

Personality assessments of college students have been conducted since the early 1930s and continue into today. There is ample research available on physical education majors and some on health majors, but very little to be found which allows for a focus on recreation majors. It appears that majors in the related disciplines are tough-minded, shrewd, practical, artistic, enthusiastic, imaginative, controlled, self-sufficient, suspicious, and adventuresome; there are inconclusive results in the areas of intelligence, naivety, conservativeness, and superego strength. All studies reviewed recommend further research into personality characteristics and career choice, and several mention the dearth of attention that recreation majors have received as an individual group. The current study addresses the issue.

CHAPTER III

METHODOLOGY

Population

The population for this study consisted of junior and senior students at private colleges in the southeastern United States that offer bachelor's degrees in the field of recreation. These colleges were identified from a list of institutions accredited by the Southern Association of Colleges and Schools (SACS). This SACS publication lists all accredited institutions, indicates private or public governance, the full-time enrollment, and highest degree offered at each institution:

Level I: Associates Degree as the highest degree

Level II: Bachelor's Degree as the highest degree

Level III: Master's Degree as the highest degree

Level IV: Master's Degree and Education Specialist degree as the highest degree

Level V: Three or fewer Doctor's degrees as the highest degrees

Level VI: Four or more Doctor's degrees as the highest degrees (Southern Association of Colleges and Schools, 1991).

The Level-II designated institutions were chosen for this study as being representative of small institutions.

The SACS list of accredited private colleges, together with Peterson's Guide to College Majors, allowed the identification of schools that offer a Bachelor's degree in Recreation and/or Leisure Studies (N = 11, Table 1).

Table 1

Private Colleges Offering Bachelor's Degrees in the Field of Recreation: Spring 1991

Institution	Departmental Enrollment
Georgia	
Morris Brown College, Atlanta	10
Shorter College, Rome	22
Kentucky	
Asbury College, Wilmore	10
North Carolina	
Belmont Abbey College, Belmont	28
High Point College, High Point	10
Mars Hill College, Mars Hill	20
South Carolina	
Benedict College, Columbia	25
Morris College, Sumter	15
Tennessee	
Maryville College, Maryville	3
Virginia	
Emory and Henry, Emory	5
Virginia Wesleyan College, Norfolk	30

Subjects

The subjects in this study were junior and senior recreation majors enrolled at the above identified private colleges in the southeastern United States.

Instruments

One instrument selected for use in this study was R. B. Cattell and H. W. Eber's "Cattell's Sixteen Personality Factor Questionnaire" (16 PF) (1970). Because of its use in numerous earlier studies on this topic, this instrument allowed for comparison of two generations of recreation majors on the same instrument and scales, thus addressing research question number 2 of this study.

The 16PF test, a self-descriptive questionnaire, is available in three forms: Forms A and B, each containing 187 items, and a shorter form C, with 105 items. This study used Form A, consisting of a total of 187 items. This form requires 45 to 60 minutes to complete. Each scale is on a continuum, with high and low scores representing opposite characteristics; thus, the scales are labeled so as to read from a low-score response to a high-score response.

The personality factors measured by the 16PF are the following:

reserved versus outgoing

less intelligent versus more intelligent

affected by feelings versus emotionally stable

humble versus assertive

sober versus happy-go-lucky

expedient versus conscientious

shy versus venturesome

tough-minded versus tender-minded

trusting versus suspicious

practical versus imaginative

forthright versus shrewd

placid versus apprehensive

conservative versus experimenting

group-dependent versus self-sufficient

casual versus controlled

relaxed versus tense.

"The 16PF scale measures 15 separate (independent) source trait dimensions, an abstract reasoning (intelligence) factor, and several second-order factor traits, four of which seem well enough defined for practical use: Q1 (Introversion-Extraversion), Q2 (Anxiety), Q3 (Cortical Alertness), and Q4 (Independence)" (Butcher, 1985).

Raw data obtained on the 16PF can be converted into standard scores (or "stens"), which range from 1 to 10. These scores have a mean of 5.5 and a standard deviation of 2. Thus, a sten score of 1 or 10 is considered quite extreme, with 2, 3, 8, or 9 being significantly deviant, and

5 or 6 as an average score. (Sten is defined by Meyer, 1983, as a shortening of the phrase "standard ten", as in converting raw data into standard scores.) To convert raw data into sten scores, it is necessary to use the appropriate Tabular Supplement, which is provided for such groups as college students, general population, and high school juniors and seniors (Meyer, 1983).

Three different validity scales have been developed by the test author: measuring random responding, faking good responses, and allowing for predicting attempts to give a bad impression. Additional adaptations of this test have been published and promoted for use in marriage counseling, career counseling, and for the assessment of managers (Hood & Johnson, 1991).

Test-retest reliability coefficients tend to range from .60 to .85, with Hood & Johnson theorizing that this is somewhat low because "the scales are made up of relatively few items" (p. 161). A wide variety of validity data are available, including the prediction of academic grades and mean profiles for many groups such as delinquents, neurotics, and for persons in a variety of different occupations (p. 161).

In regard to the 16 PF's findings and the analysis of these findings, Zuckerman (1985) asserted: "There is an impressive amount of data in the form of mean scores of

various occupational and clinical groups and equations derived from multiple regression of the subscale scores in the prediction of some criterion like academic achievement, creativity, or membership in some particular group. The primary method of individual or group comparison is the use of a quantitative index of profile similarity" (p. 1391).

Norms supplements are available for each form and for Forms A and B combined, for American college students by sex. The Handbook Supplement for Form C presents general population and college student norms for each gender. Butcher (1985) stated in his summary: "The 16 PF, developed as a research instrument for assessing source traits, seems to be gaining in application for normal range assessment situations in recent years. The 16 PF is most valuable as a personality measure in settings such as personnel selection, guidance counseling, or personality research, where assessment of "normal range" personality traits is important. The 16 PF provides substantial normative scores on relevant normal populations" (p. 1392).

The Guilford-Zimmerman Temperament Survey (GZTS) was the additional instrument chosen for use in this study. It also was chosen for its ability to allow the researcher to attempt to replicate earlier findings of studies in this general area: physical education, recreation, and/or education majors. The GZTS is a one-form inventory,

consisting of 300 items (10 scales with 30 statements pertaining to each scale) and takes 45 minutes to complete.

The GZTS measures 10 personality factors derived from factor analysis. These factors will subdivide into four second-order factors to further simplify test interpretation: 1) Social Activity, 2) Introversion-Extroversion, 3) Emotional Stability, and 4) Paranoid Disposition (Hood & Johnson, 1991). The GZTS is an example of a personality inventory designed to assess multiple facets of personality (Gormly, 1985). The 10 factors that the GZTS measures are the following:

general activity
restraint
ascendance
sociability
emotional stability
objectivity
friendliness
thoughtfulness
personal relations
masculinity.

These factors will also subdivide into more specific measures, as reported before, and these subscales aid in interpretation of scale scores (Hood & Johnson, 1991). Gormly stated: "More than 500 studies have been published

which have included the GZTS; consequently, much is known about the reliability and validity of the scales as well as the relationships between the GZTS and other measures of performance. The measures of internal consistency for the 10 scales have reasonable values, with consistency of scores of adults yielding correlation coefficients of approximately .67, .54, and .51, respectively. These stability coefficients are surprisingly low, and it is entirely possible that the surprise comes from our intuitive overestimation of the stability of personality" (p. 640).

In regard to developing a personality profile of the test-takers, the raw score obtained on each scale is converted to a new score that will range between 1 and 10. Each converted score describes behavioral characteristics of people who score at that particular level on the test. Such a system efficiently yields a literate psychological description of the testee. This interpretation system is likely to produce a more accurate description of the testee from GZTS scores than the examiner could from GZTS scores (Gormly, 1985, p. 640).

Procedure

The department chairs of each school represented in Table 1 were contacted by telephone and invited to

participate in the study, therein agreeing to allow their students to be given personality tests for the accumulation of data. After obtaining verbal agreement from each department chair, the researcher sent a follow-up letter of explanation and intent to each chair. The department chair agreed to be responsible (as outlined in the initial letter) for obtaining the enrollment data of the department, stratified by class and option if applicable, and to forward this information to the researcher.

After the researcher's dissertation committee approved the proposal, the chair of each department involved received the necessary testing materials and instrument instructions by United Parcel Service. This was in March, 1992. The department chairs arranged for the instruments to be administered to all junior and senior recreation majors enrolled in classes in the Spring 1992 semester. The administration of the two instruments took approximately one hour each of subject time. The subjects were told why they were being requested to participate in this study and given the opportunity to volunteer. Those who wished to participate were asked to respond anonymously to the two objective personality inventories.

Following administration of the instruments, the chairs from the respective departments returned the instruments and answer sheets to the researcher by way of prepaid United

Parcel Service. The researcher began the analysis of data after all instruments and answer sheets were returned.

Data Analysis

This was a descriptive study, designed to address the four research questions raised in Chapter I:

1. What personality features are common to recreation majors at private colleges?
2. Have these personality features changed significantly from data collected between 1965 and 1975?
3. Do personality feature differences exist among students who declare different options within the major?
4. Can a personality profile of today's recreation majors be developed from these data?

The standard measures of central tendency were calculated for each scale on each inventory. The two inventories were then compared by means of converting their scale scores into Z scores, represented on a graph.

Limitations

Limitations for this study include the following:

1. Lack of researcher control over the administration of the testing instruments to the subjects

2. Lack of researcher control over the testing conditions utilized by the test administrators
3. Lack of researcher control over the truthfulness of subject response to the instruments' questions
4. Lack of researcher control over the return of the answer sheets, in usable condition
5. Lack of researcher control over the numbers of answer sheets actually returned

CHAPTER IV

RESULTS AND INTERPRETATION

The purposes of this study were to identify personality features of recreation majors at selected private colleges in the southeastern United States and to contrast the current results with similar research conducted between 1965 and 1975. This chapter will present the overall results of the data obtained and then will examine each research question separately. A summary concludes the chapter.

Overall Findings

Of the ten identified institutions, nine ultimately agreed to participate, allowing a total number of 156 available students (Table 2). Data were obtained on 127 students for the 16 PF (81 percent) (Table 3), and 110 for the GZTS (71 percent) (Table 4). The demographic information is presented in Table 5.

On the basis of the data obtained by the study, the following research questions were examined:

1. What personality features are common to recreation majors at private colleges?
2. Have these personality features changed significantly from data collected between 1965 and 1976?

Table 2

Private Colleges Offering Bachelor's Degrees in the Field of Recreation: Spring 1992

Institution	Departmental Enrollment
Asbury College	12
Belmont Abbey College	28
Benedict College	20
High Point College	7
Mars Hill College	23
Maryville College	3
Morris College	15
Morris Brown College	15
Shorter College	20
Va. Wesleyan College	25
Total	168

Table 3

Actual Response Rate of Participating Colleges to Sixteen Personality Factor Questionnaire

Institution	Departmental Enrollment	Number of Responses	Percentage
Benedict College	20	11	0.55
Belmont Abbey College	28	27	0.96
High Point College	7	6	0.86
Mars Hill College	23	17	0.74
Maryville College	3	1	0.33
Morris College	15	13	0.87
Morris Brown College	15	14	0.93
Shorter College	20	19	0.95
Va. Wesleyan College	25	19	0.76
Totals	156	127	0.81

Table 4

Actual Response Rate of Participating Colleges to Guilford-Zimmerman Temperament Survey

Institution	Departmental Enrollment	Number of Responses	Percentage
Belmont Abbey College	28	28	100.00
Benedict College	20	6	0.30
High Point College	7	6	0.86
Mars Hill College	23	5	0.22
Maryville College	3	1	0.33
Morris College	15	13	0.87
Morris Brown College	15	14	0.93
Shorter College	20	19	0.95
Va. Wesleyan College	25	18	0.72
Totals	156	110	0.71

Table 5

Subjects' Demographics

	16 PF	GZTS
Total Responses:	127 (81%)	110 (71%)
Class Rank:		
Juniors	56 (44.8%)	43 (52.6%)
Seniors	69 (55.2%)	64 (59.8%)
(Not Reported)	2	3
Gender:		
Male	44 (50%)	40 (52.6%)
Female	44 (50%)	36 (47.4%)
(Not Reported)	39	34
Mean GPA:	2.61	2.57
Mean Age:	22.25 years	22.3 years

3. Do personality feature differences exist among students who declare different options within the major?
4. Can a personality profile of today's recreation majors be developed from these data?

The responses to these research questions will be presented for each inventory; an overall interpretation will follow.

Research Question 1: What personality features are common to recreation majors at private colleges?

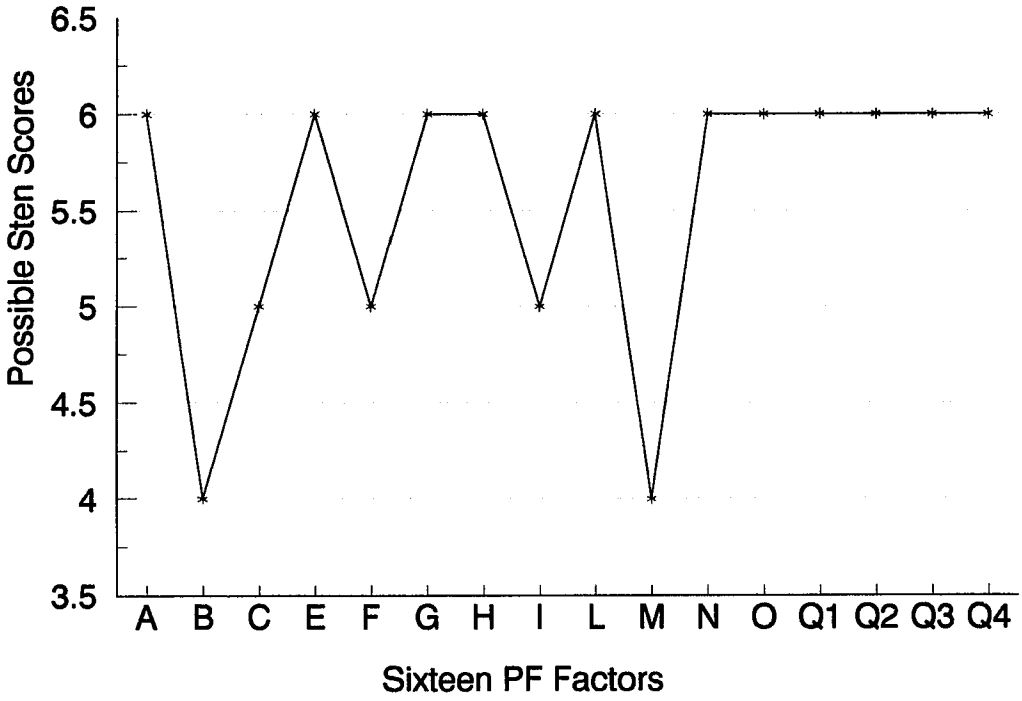
On the 16 PF, means for each factor (A - Q4) were calculated from the raw data and converted to sten scores

using the norm table #22 provided by the test publisher. The range of "average" sten scores fall between 4 and 7, while scores of above 7 or below 4 indicate a "departing from the average" (Cattell et al., 1970, p. 63). The group means on each factor of the 16 PF convert to the following sten scores: A-6, B-4, C-5, E-6, F-5, G-6, H-6, I-5, L-6, M-4, N-6, O-6, Q1-6, Q2-6, Q3-6, Q4-6. A graph of sten scores for each factor are provided in Figure 1. The calculated sten scores for both the Faking Good (5) and Faking Bad (6) scales were within normal ranges.

Interpretation of the above findings would indicate that this group of recreation majors, overall, did not differ significantly from the college students used to make the norming tables. The lowest 'normal' score was a 4 on factor B, which could indicate that recreation majors may be somewhat less abstract-thinking than the norm group. The recreation majors appear to be on the 'high-normal' side of several factors (A, E, G, H, L, N, O, Q1, Q2, Q3, and Q4). This could be interpreted to mean that recreation majors are slightly higher in warmth, dominance, conscientiousness, boldness, suspiciousness, shrewdness, apprehensiveness, experimentation, self-sufficiency, following self-image, and tenseness than the norm group.

Figure 1.

Sten Scores on Each Factor of the Sixteen Personality Factor Questionnaire



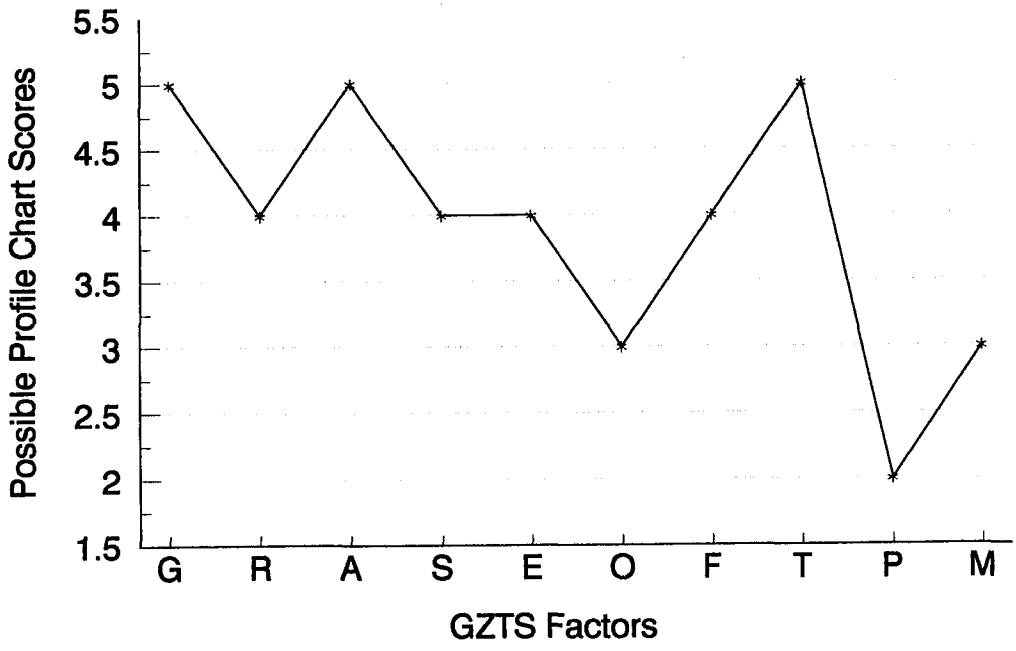
On the GZTS, the means for the overall group were converted to C scores for purposes of comparison with the norming Profile Chart. Scores of lower than 3 or higher than 7 indicate a score of more than one standard deviation on the T score distribution scale. The group means on each factor of the GZTS convert to the following profile chart scores: G-5, R-4, A-5, S-4, E-4, O-3, F-4, T-5, P-2, and M-3. A graph of the profile chart scores is provided in Figure 2. Comparing the profile chart scores to the T-score distribution, a score of 5 has a T score of 50, a score of 4 has a T score of 45, a score of 3 has a T score of 40, and a score of 2 has a T score of 35.

It appears that the recreation majors did not deviate from the norm group on any factor except factor P, personal relations. A 'low-normal' score of 2 on factor P indicated that recreation majors may be more conservative, intolerant, critical, and outspoken than the norming group. The remaining GZTS scores appear to be average. The raw data means on both instruments were converted to Z scores for purposes of comparison of like factors (7) between the two inventories:

16 PF Factor	GZTS Factor
E (submissive/dominant)	A (ascendance)
C (affected by feelings/ emotionally stable)	E (emotional stability)
F (sober/enthusiastic)	R (restraint)

Figure 2.

Profile Chart Scores for Each Factor on the Guilford-Zimmerman Temperance Survey



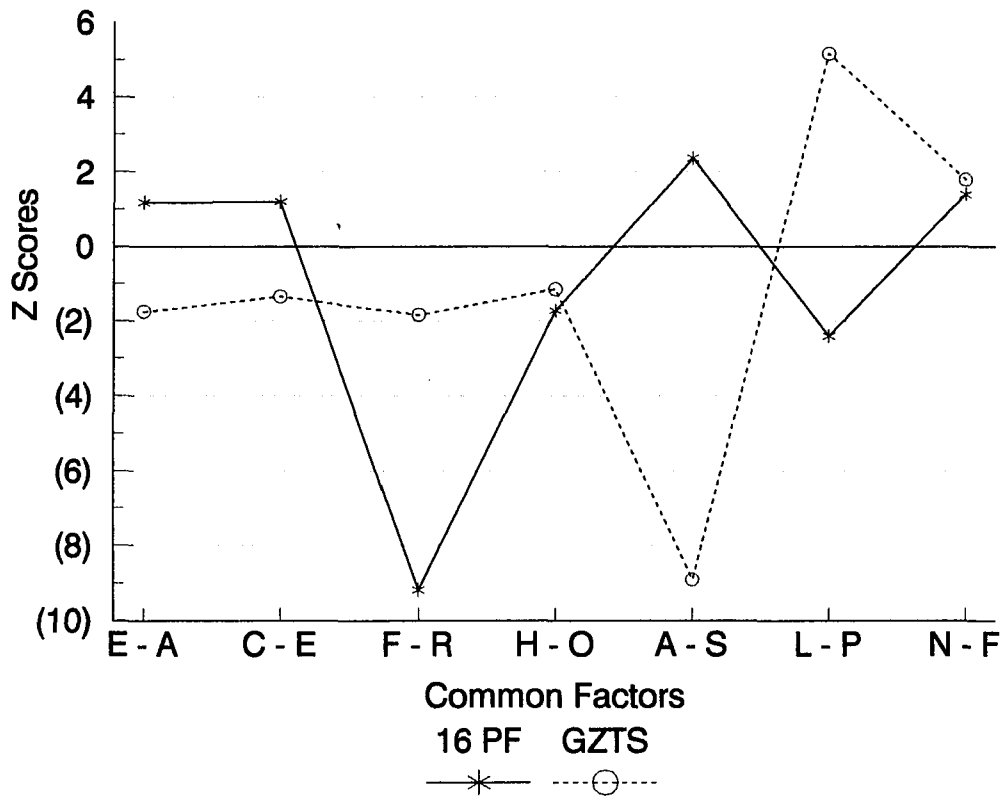
H (shy/bold)
A (cool/warm)
L (trusting/suspicious)
N (forthright/shrewd)
O (objectivity)
S (sociability)
P (personal relations)
F (friendliness).

The above characteristics have similar descriptions and interpretations on both inventories. A comparison of the Z scores of each similar characteristic (Figure 3) revealed that the recreation majors were not consistent across the two inventories. Of the seven common factors, only factor H-O (shy/bold and objectivity) and factor N-F (forthright/shrewd and friendliness) were not significant at the $p < .05$ level. This finding supports the literature (Guilford et al, 1976) that although both the 16 PF and the GZTS are both factor-based, they actually have a very limited number of similar characteristics (p. 35). The authors of the Handbook (Cattell, Eber, & Tatsuoka, 1988) do suggest that several pairings of 16 PF factors and GZTS factors are compatible (A-S, C-E, E-A, F-R, H-A, and L-P) although they are complex and do not produce significant correlations consistently.

In concluding this question, the data revealed that recreation majors scored (on the 16 PF) slightly higher in warmth, dominance, conscientiousness, boldness, shrewdness, suspiciousness, apprehensiveness, experimentation, self-sufficiency, following self-image, and tenseness, and scored

Figure 3.

Z Scores on the Common Factors Between the 16 PF and the GZTS



higher on the GZTS scales of being conservative, intolerant, critical, and outspoken than the groups of students studied between 1965 and 1975.

Research Question 2: Have these personality features changed significantly from data collected between 1965 and 1976?

Timmermans (1967) conducted a study using the GZTS to investigate possible differences between female physical education majors (n=44) and female nonmajors (n=77). She found only one significant difference between the two groups, that being the trait of general activity which had a C score of 5 (T score of 50). The majors were more active, liking speed and hurrying, etc. than were the nonmajors. The female recreation majors (n=37) participating in the current research had a C score of 5.5 (T score of 55) on the trait of general activity. The two studies also have the same C scores on the emotional stability (E), thoughtfulness (T), sociability (S), and masculinity/femininity (M) factors. On the factors of friendliness (F) and personal relations (P), the current recreation majors scored at least one T-score deviation lower than the subjects in Timmermans' study. Ascendance (A) was the only factor in which the current female recreation majors scored one T score deviation higher than the female physical education majors

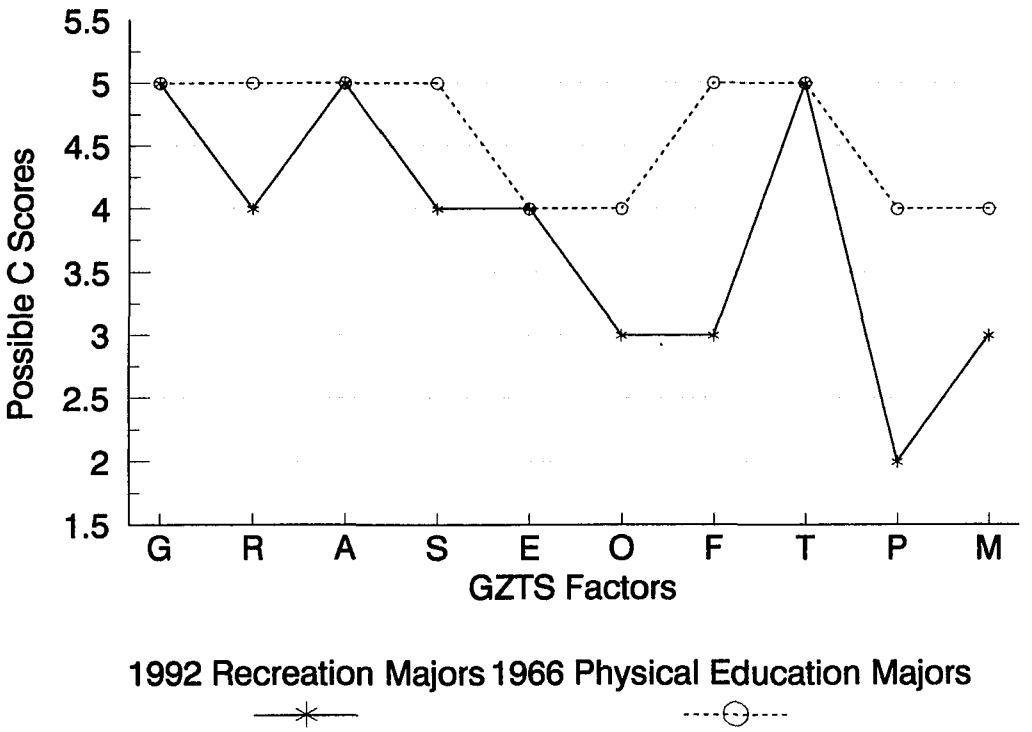
of 1966 (Figure 4). It can thus be concluded that the female recreation majors of 1992 are little different than the physical education majors of 1966: slightly lower in friendliness and personal relations, and slightly higher in ascendence or seriousness. (The possible flaws in Timmermans' research are explored in Chapter II).

Turner (1968) used the 16 PF and one additional instrument to conduct research investigating the differences between HPER (Health, Physical Education and Recreation) majors at a large state university and a smaller church-related school. Of the two hypotheses pertinent to the current study, (1) Turner found no significant differences between the classes of junior and senior majors; the current research also supported this finding; (2) Turner also tested for any differences in institutional profiles, as a whole. She found significant ($p < .01$) differences between the two institutions on factors Q1 (conservatism), Q4 (relaxed), F (enthusiastic), and M (imaginative). The recreation majors of 1992 also revealed institutional differences on factor F, as well as factor C (emotionally stable). These differences will be discussed later in the chapter.

Widdop & Widdop (1975) investigated the personality profiles of women training to be physical educators (n=128) and women training to be classroom teachers (n=123). They used four inventories to establish the profile, the 16 PF

Figure 4.

A Comparison of C Scores Between the 1992 Recreation Majors and the 1966 Physical Education Majors on Each Factor of the GZTS



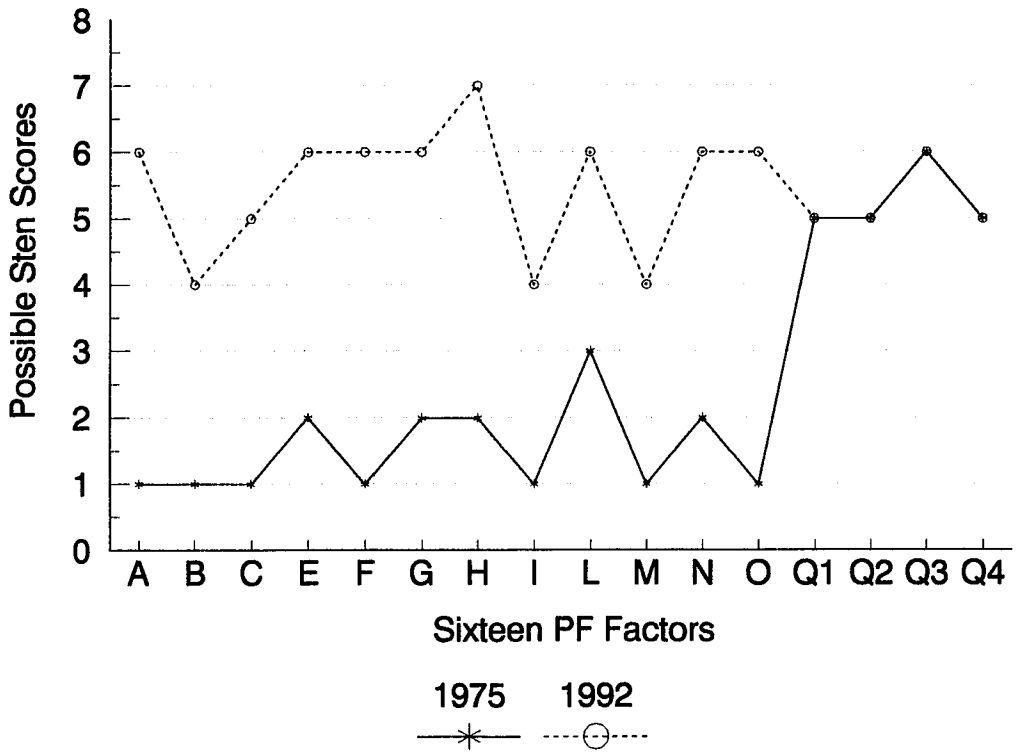
being one. Using a discriminant function analysis program, they found the student physical education teachers to be high on warm-heartedness (A), mental capacity (B), enthusiasm (F), perseverance (C), venturesomeness (H), imagination (M), shrewdness (N), self-sufficiency (Q2), self-image (Q3), exhibitionism (G), dominance (E), and social presence (Q1).

The current research results indicate that the 1992 female recreation majors (n=44) (based on sten values obtained in the publishers norm table #7) scored three sten score units higher than the 1975 female physical education majors on factors B (abstract-thinking), I (sensitive), L (suspicious), and M (imaginative); four sten score units higher on the factors C (emotionally stable), E (dominant), G (conscientious), and N (shrewd); and five sten score units higher on factors A (warmth), F (enthusiasm), H (bold), and O (apprehensive). The two groups had the same sten scores on the remaining factors of Q1 (experimenting), Q2 (self-sufficiency), Q3 (following self-image) and Q4 (tenseness) (Figure 5). It could be concluded that the 1992 female recreation majors are different from their 1975 counterparts on 12 of 16 personality factors measured by the 16 PF.

Ruffer (1976a) used the 16 PF to investigate the personality traits of male undergraduate physical education students (n=85). He found the group to be very

Figure 5.

A Comparison of Sten Scores: 1975 Female Physical Education Majors and 1992 Female Recreation Majors

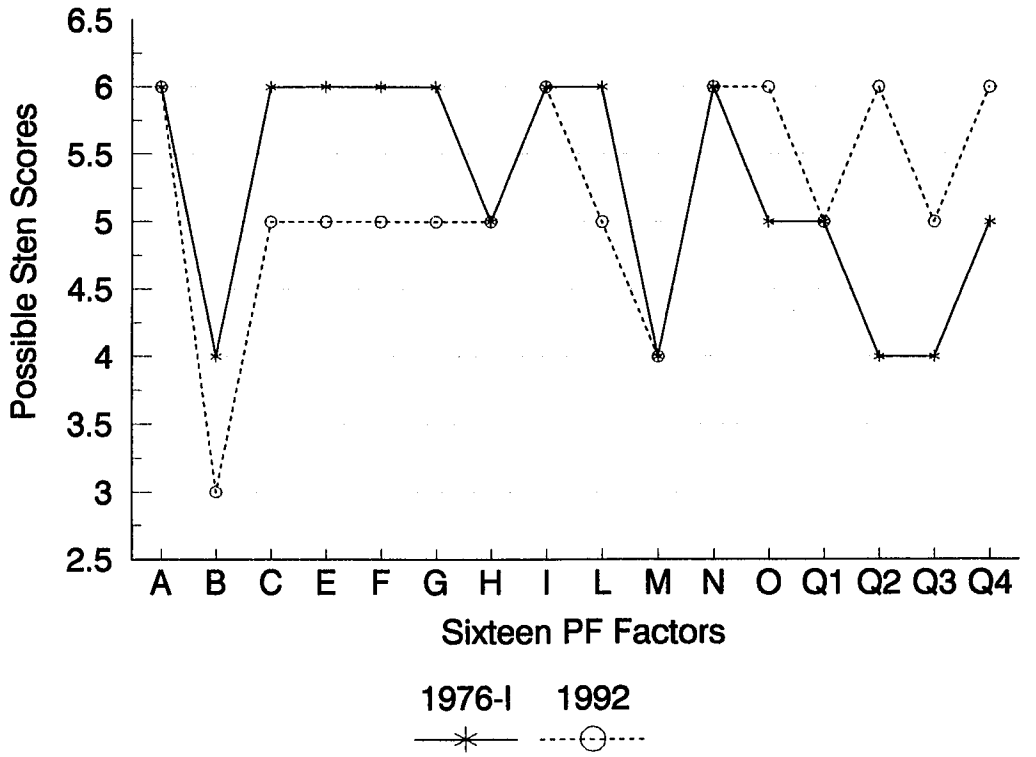


enthusiastic, naive, and practical. Using the norm table (#10) provided by the test publisher, the current research revealed the 1992 male recreation majors (n=44), compared with the 1976 male physical education majors, to be even on sten score units of factors A (reserved), H (timid), I (sensitive), M (imaginative), N (shrewd), and Q1 (conservative); one sten score unit higher on factors O (self-assured), Q3 (controlled), and Q4 (tense); one sten score unit lower on factors B (abstract-thinking), C (ego strength), E (dominance), F (enthusiasm), G (conscientious), and L (suspicious); and two sten score units higher on the factor of Q2 (self-sufficiency) (Figure 6). It could be concluded that the 1992 male recreation majors are similar to the 1976 male physical education majors on most factors although slightly more self-sufficient.

Ruffer (1976b) used the 16 PF to test another group of male physical education majors (n=50), finding these students to be very high in ego strength, practicality, and controlledness. The 1992 male recreation majors (using the same norm table #10) compare to this second group of male physical education majors as even on factors C (ego strength), I (sensitive), L (suspicious), M (imaginative), N (shrewd), O (apprehensive), and Q1 (conservative); one sten score unit lower on factors B (abstract-thinking), E (dominance), F (enthusiastic), G (conscientious), H (timid),

Figure 6.

A Comparison of Sten Scores: 1976a Male Physical Education Majors and 1992 Male Recreation Majors



and Q3 (controlled); and one sten score unit higher on factors A (warmth), Q2 (self-sufficiency), and Q4 (tense) (Figure 7). It can be concluded that the 1992 male recreation majors are similar to the second group of 1976 physical education majors on most of the 16 factors.

Ruffer (1976c) used the 16 PF to investigate the personality features of female physical education majors (n=39), finding the group to be very reserved, tough-minded, dominant, and controlled. Based on the norm table #7 provided by the test publisher, the 1992 female recreation major compares to the 1976 female physical education major as having even sten scores on factors B (abstract-thinking), C (ego strength), E (dominance), F (enthusiasm), G (conscientious), I (sensitive), L (suspicious), O (apprehensive), Q1 (conservative), Q2 (self-sufficiency), and Q3 (controlled); scoring one sten score lower on factors M (imaginative), N (shrewd), and Q4 (tense); scoring one sten score higher on factor H (adventurous); and scoring two sten scores higher on factor A (warmth) (Figure 8). It could be concluded that the 1992 female recreation major is similar to the 1976 female physical education major, although having slightly more warmth.

In concluding research question 2, it appears that the male recreation majors differ very slightly, if at all, from the male physical education major of 1976. The 1992 male

Figure 7.

A Comparison of Sten Scores: 1976b Male Physical Education Majors and 1992 Male Recreation Majors

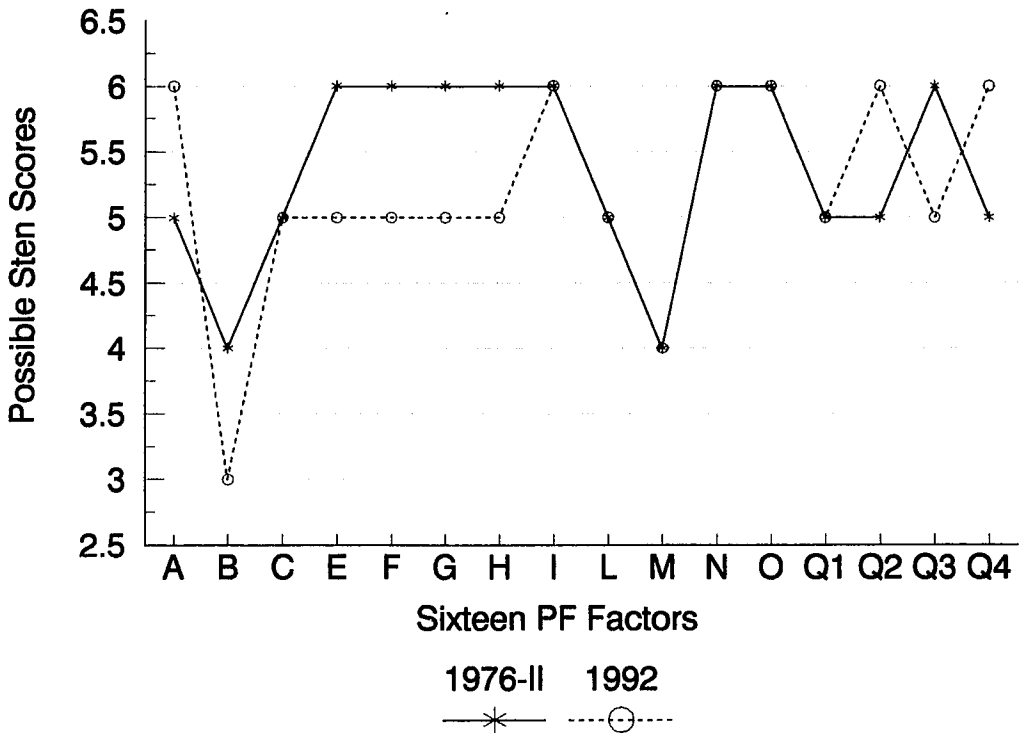
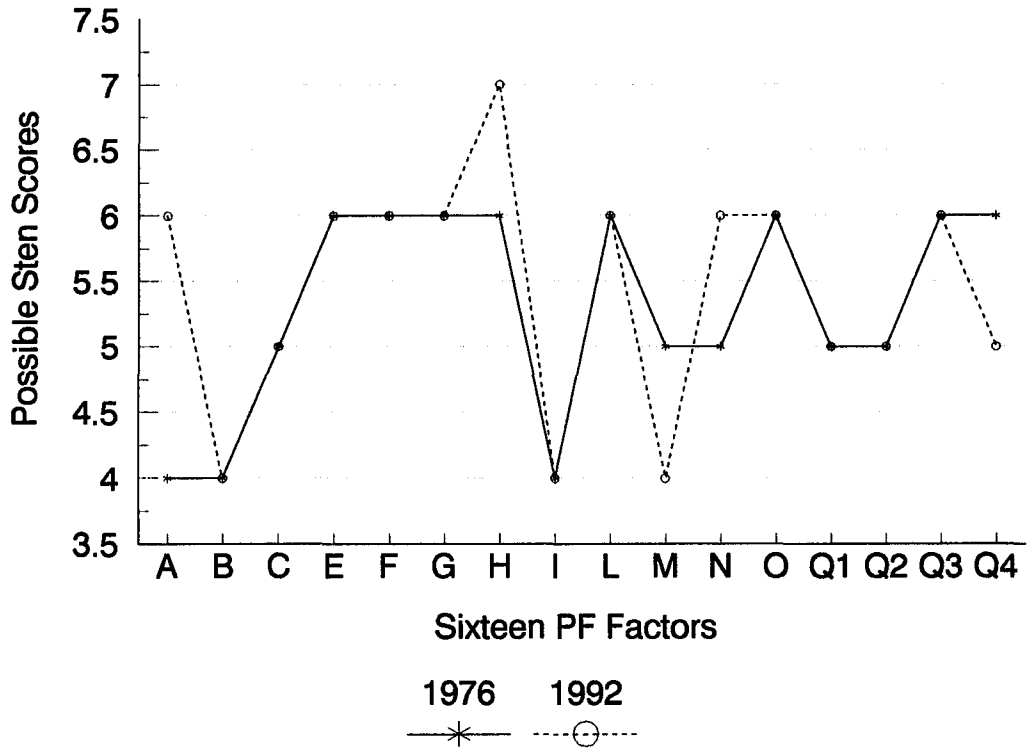


Figure 8.

A Comparison of Sten Scores: 1976 Female Physical Education Majors and 1992 Female Recreation Majors



recreation major appears to be somewhat more outgoing and self-sufficient than the 1976 male physical education majors.

The female major comparisons reveal much more variability, with one study showing the 1992 female recreation major to be significantly different from the 1975 female physical education majors on 12 of the 16 factors. A comparison with Ruffer's (1976c) published study shows 11 identical sten scores, indicating little differences between the two groups.

Research Question 3: Do personality feature differences exist among students who declare different options within the major?

The students were given a choice of eight major options from which to indicate their major (see Table 6). One option, Travel and Tourism, was not selected by any student in the population and the students were widely distributed among the remaining seven choices. Two of the majors, Commercial Recreation and Church Recreation, were deleted from the analysis of the results on this inventory because of small n values.

Table 6

Student Distribution on Major Options

Major Option	16 PF	GZTS
Administration	14 (11%)	9 (8%)
General Rec.	29 (22.8%)	27 (24.5%)
Sports Mgmt.	21 (16.5%)	23 (20.9%)
Outdoor	8 (6.3%)	10 (9%)
Therapeutic	50 (39.4%)	39 (35.4)
Commercial	2 (1.6%)	1 (0.9%)
Church	3 (2.4)	1 (0.9%)
Travel/Tourism	0 (0.0%)	0 (0.0%)

On the 16 PF, the scale scores obtained from the raw data were converted to Z scores using the SAS program's standardized population mean of 1 and a standard deviation of 0. The Z scores for each group of majors are displayed in Figures 9 and 10. All but one of the calculated Z scores fall within +/- 0.5 standard deviations from the mean; the only exception was Outdoor Recreation majors. This group had a Z score of -1.12 on factor A, which was not a statistically significant deviation from the group.

Hoetellings - T test of significance with multivariate data revealed that there were differences among the majors (F of 1.35; $p < .02$). A one-way ANOVA was conducted on the groups of majors and revealed a significant F value of 2.71 (df 6;120). Further analysis using Tukey's Studentized Range Test on factor F revealed statistically significant

Figure 9.

Z Scores for Two Groups of Majors on Each Factor of the Sixteen Personality Factor Questionnaire

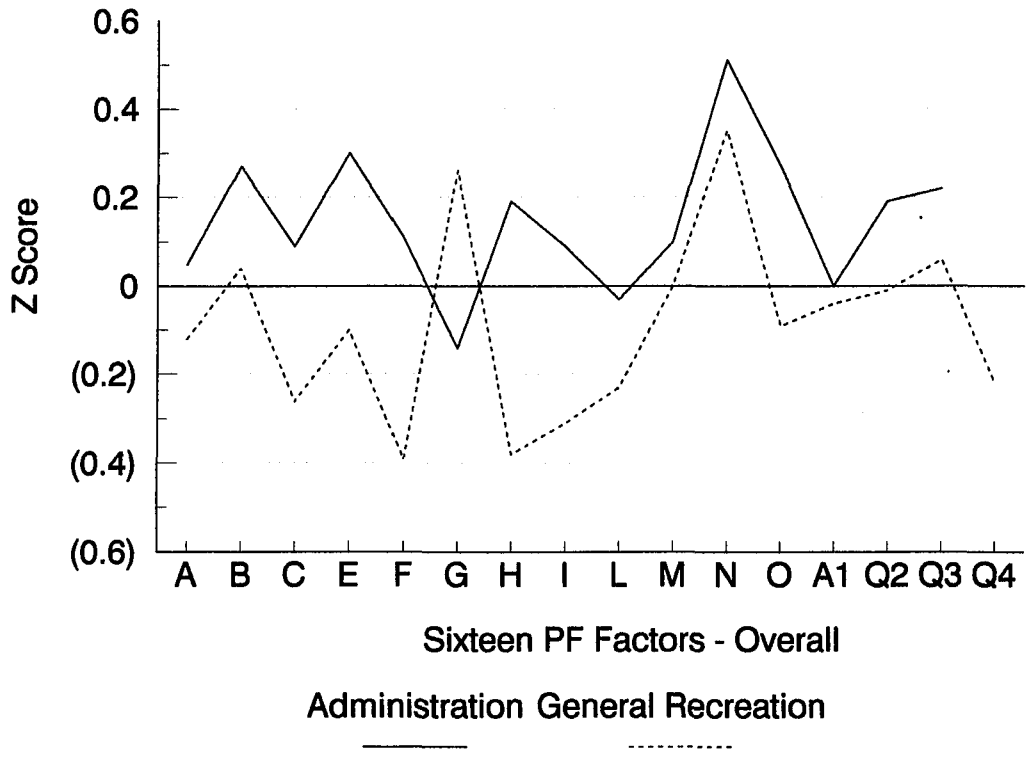
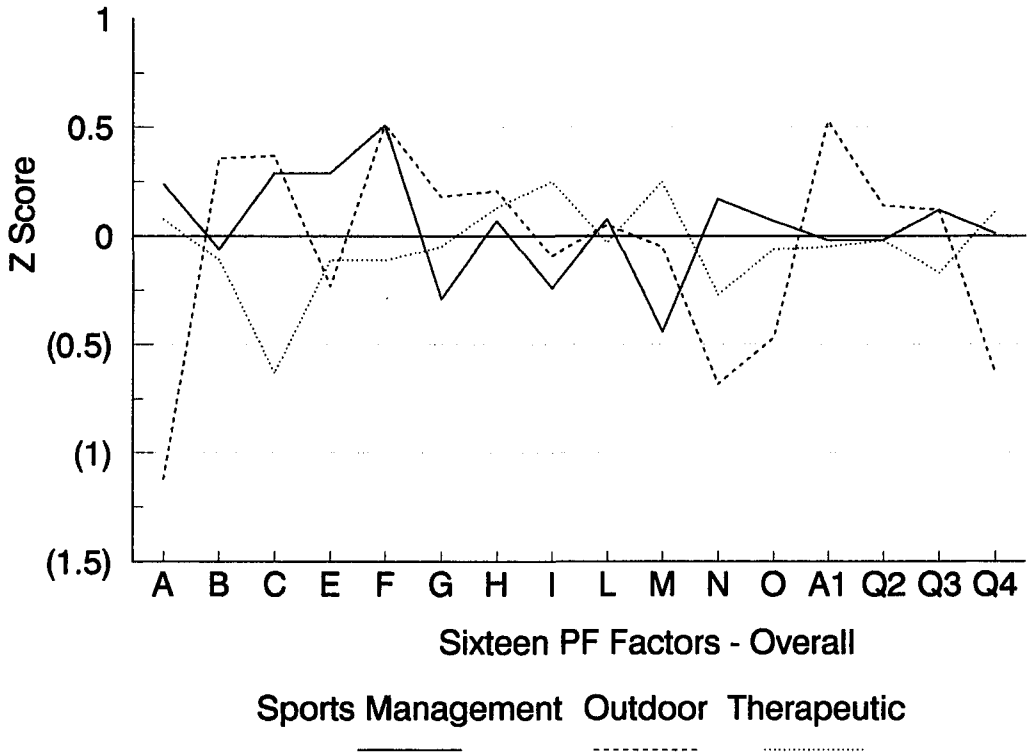


Figure 10.

Z Scores for Three Groups of Majors on Each Factor of the Sixteen Personality Factor Questionnaire



differences between the majors General Recreation and Sports Management at the $p < .05$ level. Additional Tukey's Tests were run for factors S and R, revealing no statistically significant differences among the groups of majors.

On the GZTS, all of the groups of majors fell within +/- 0.4 standard deviations from the mean (Figures 11 and 12). Again, Commercial and Church recreation majors were deleted from the sample due to small n values. A one-way ANOVA was conducted on the data for the major groups, using the SAS statistical package, revealing a nonsignificant F value of 1.32 (df 8;102).

In summary, there appear to be no significant differences between the personality characteristics of different groups of recreation majors. The 16 PF found a significant difference between General Recreation and Sports Management majors, which is understandable due to the difference in the focus of the curricula for the two groups.

Research Question 4: Can a personality profile of today's recreation majors be developed from these data?

As shown in question 1, the recreation major of 1992 appeared to be similar to the average college student on the traits measured by the 16 PF, differing in lower abstract-thinking skills and higher warmth, dominance, conscientiousness, boldness, suspiciousness, shrewdness,

Figure 11.

Z Scores for Two Groups of Majors on Each Factor of the Guilford-Zimmerman Temperance Survey

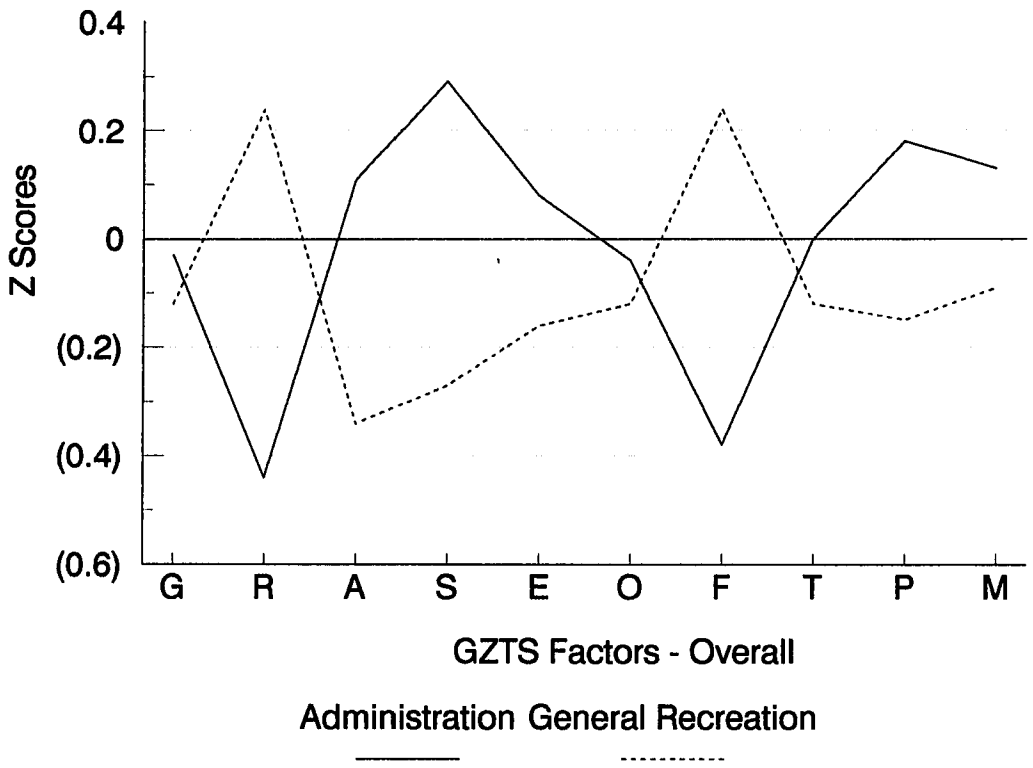
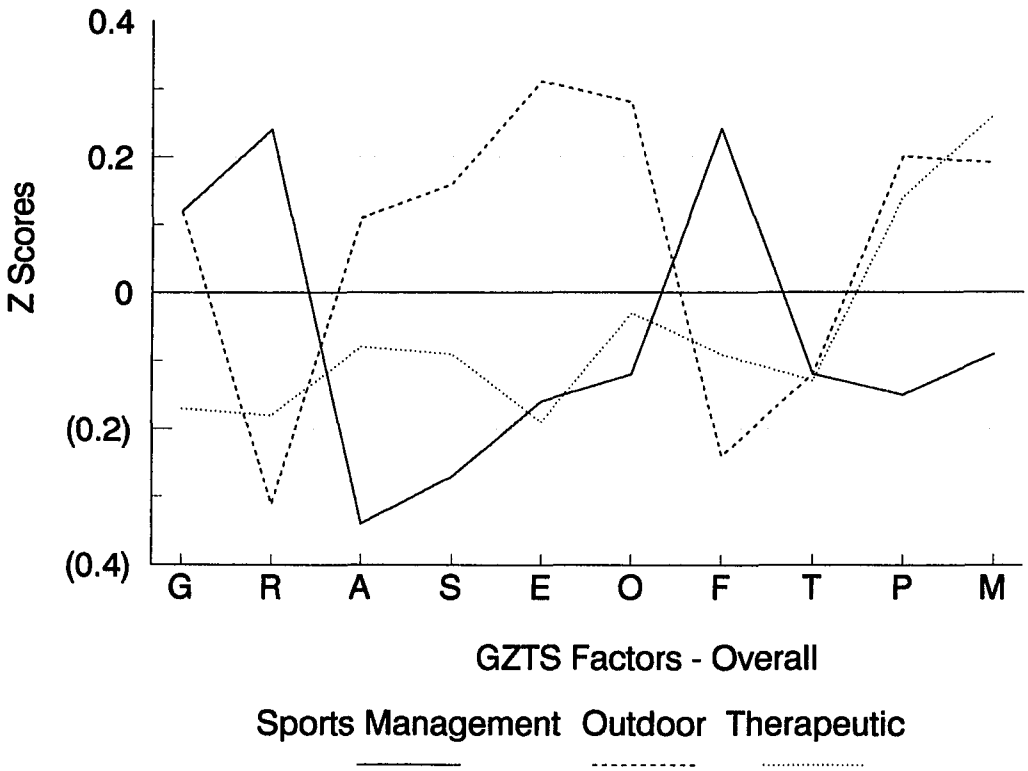


Figure 12.

Z Scores for Three Groups of Majors on Each Factor of the Guilford-Zimmerman Temperance Survey



apprehensiveness, experimentation, self-sufficiency, following self-image, and tenseness. Other attributes of the current group of students were explored using the 16 PF, factors: possible institutional, gender, or class difference in responses, as well as examining the factors of Faking Good and Faking Bad in terms of institution, gender, class, and major response differences. These findings will be presented below.

Z scores were calculated for each institution, gender, and class on each factor of the 16 PF. The institutional profile revealed similar patterns across the institutions, with 99 percent of the scores within +/- 1 standard deviation of the mean (Figures 13 and 14). Hoetellings' - T test of significance with multivariate data revealed that there were differences among the institutions (F 1.40; $p < .003$). In regard to the institutional scores on each individual factor, there appeared to be the most variability with factors C and F. An ANOVA on factor C revealed an F value of 2.96 (df 8;118) and an ANOVA on factor F reveals an F value of 3.25 (df 8;118). Both F values are statistically significant at the .05 level or lower. Tukey's Studentized Range (HSD) Test shows that there were significant differences (at the .05 level) among the response patterns of Mars Hill College, Morris College, and High Point College on factor C. On factor F, Tukey's Test showed significant

Figure 13.

Z Scores for Four Institutions on Each Factor of the Sixteen Personality Factor Qestionnaire

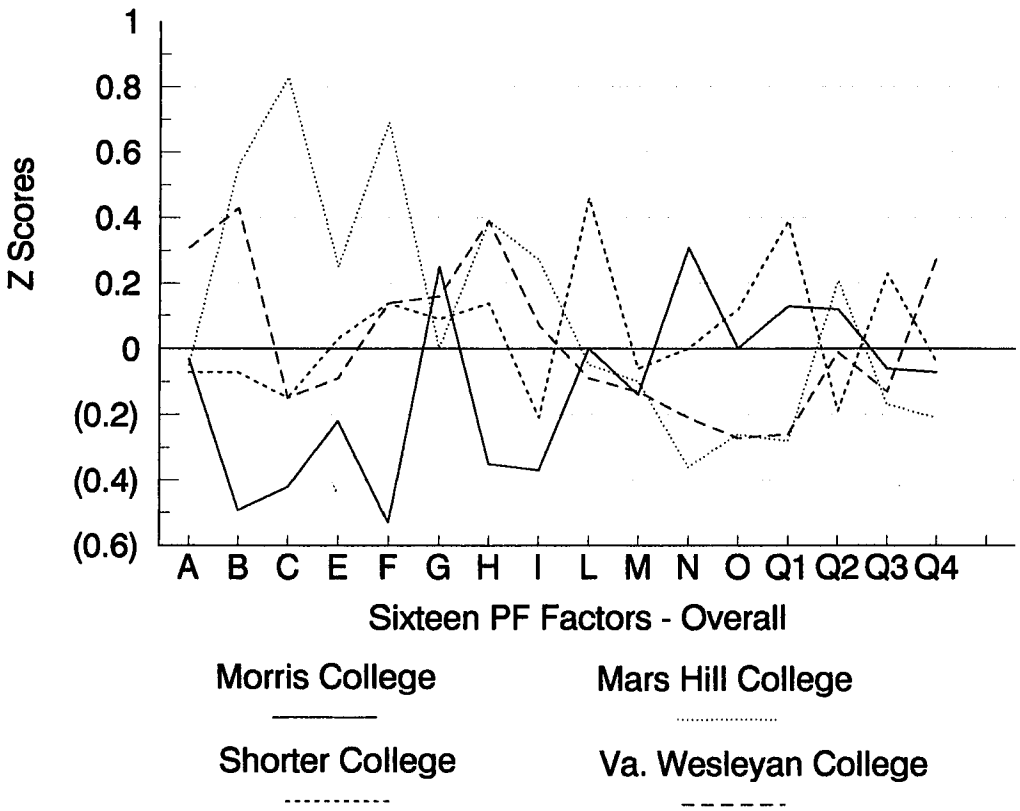
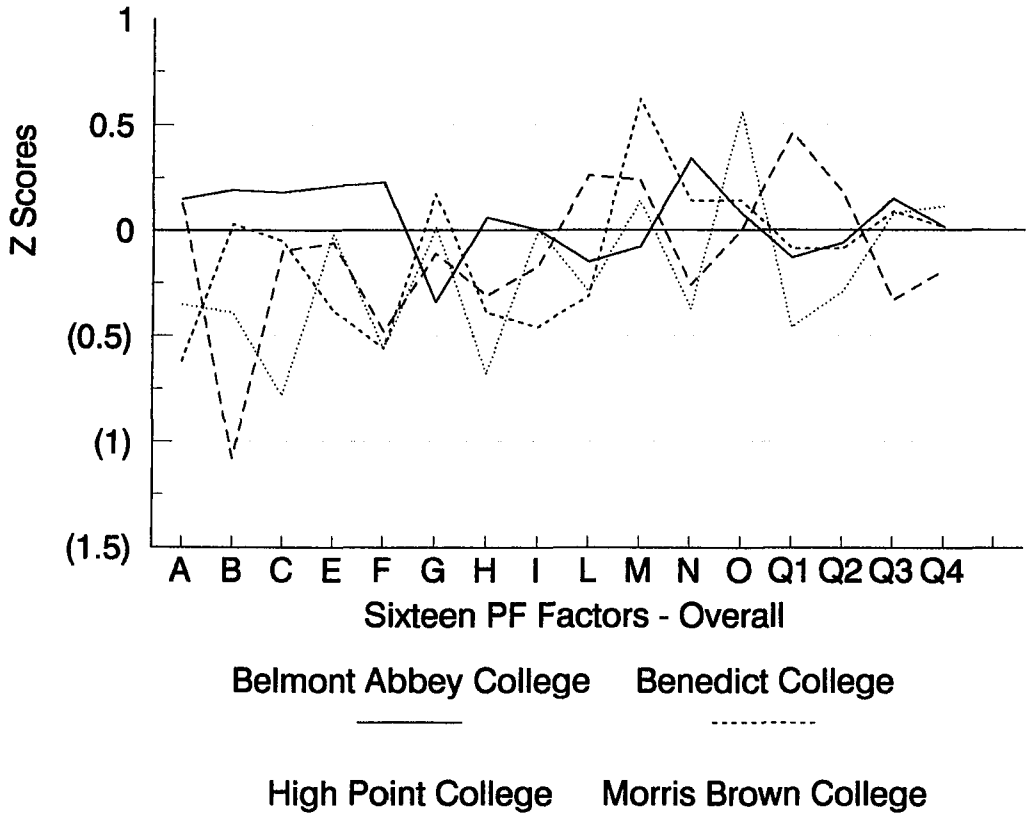


Figure 14.

Z Scores for Four Institutions on Each Factor of the Sixteen Personality Factor Questionnaire



(.05 level) differences among Mars Hill College, Morris Brown College, Morris College, and Benedict College. This finding revealed that, although the overall student response pattern was similar, there were differences in the response patterns of the students taken as a group and examined by institution.

The gender response pattern on the 16 PF reveals all Z scores to be within +/- 0.5 standard deviations from the group mean, although there were slight differences on factors A, G, I, and Q1 (Figure 15). This could indicate that female recreation majors may be more warm, conscientious, and tender-minded than their male counterparts, while being less experimenting.

The Z scores for each class (junior and senior) on each factor of the 16 PF showed virtually no difference in response pattern, with all of the scores within +/- 0.15 standard deviations of the mean (Figure 16). This response pattern was to be expected, as upperclassmen should be more alike than dissimilar in terms of professional indoctrination and ideology.

The 16 PF provides Faking Good and Faking Bad scales to search for motivation and conformity issues. These scales enable the researcher to detect sabotage or distortion in responses. Sabotage is seen as a deliberate attempt by an uncooperative subject to make the test useless; distortion

Figure 15.

Z Scores for Each Gender on Each Factor of the Sixteen Personality Factor Questionnaire

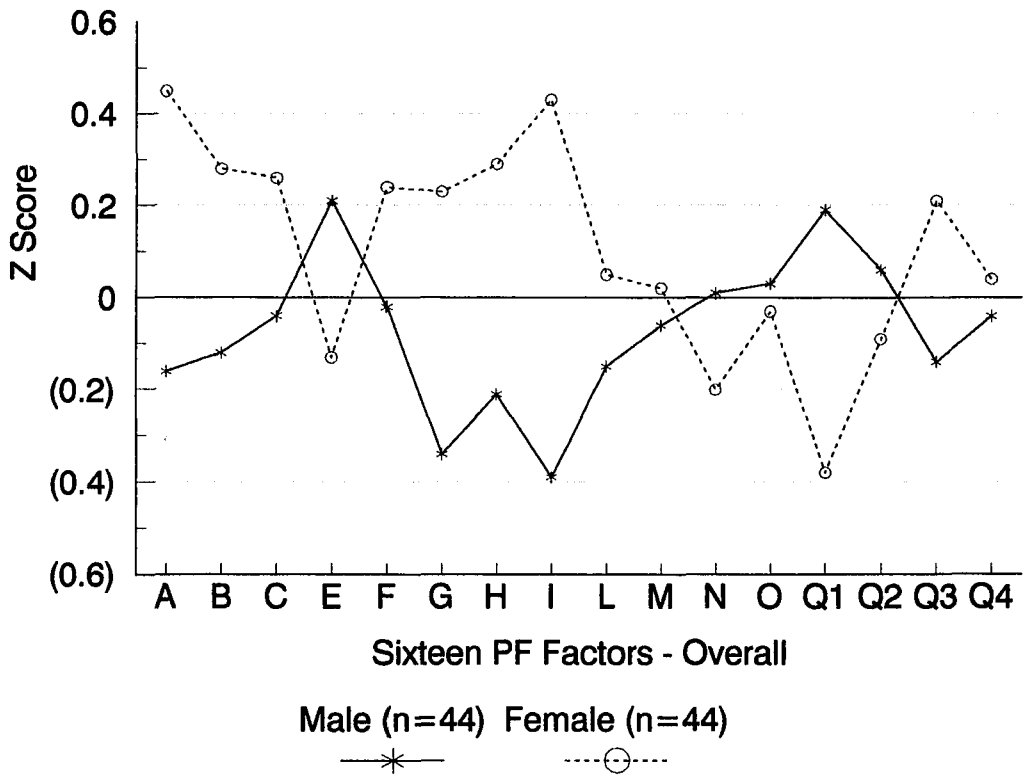
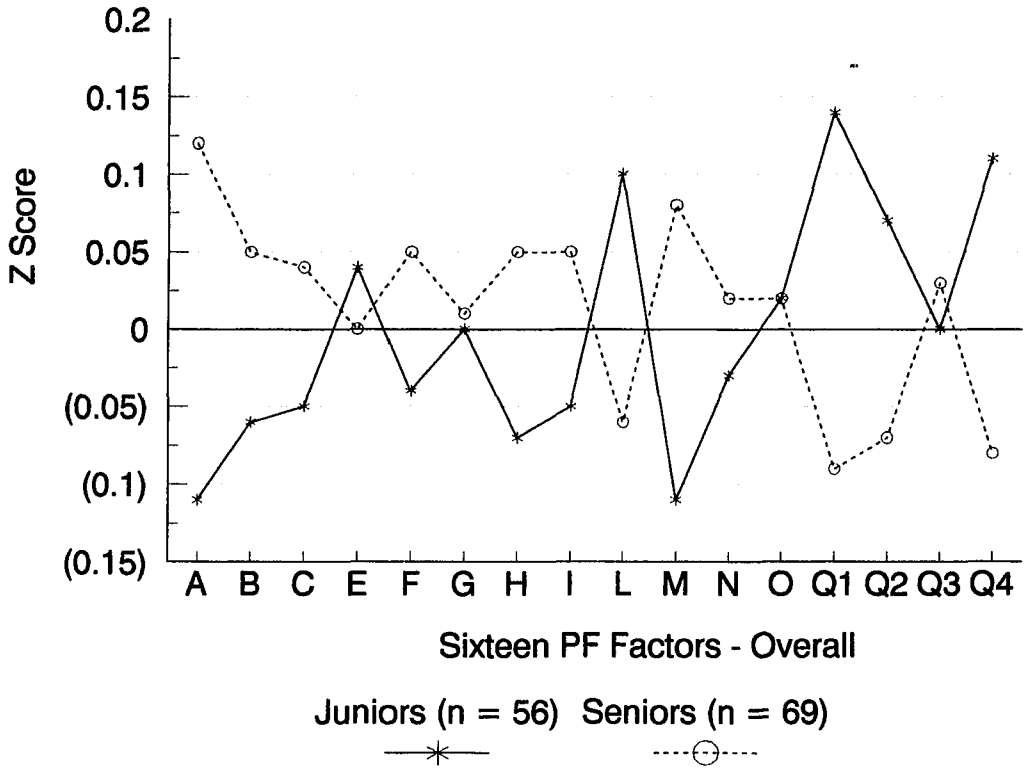


Figure 16.

Z Scores for Each Class on Each Factor of the Sixteen Personality Factor Questionnaire



is a motivational role response in which the subject either consciously or unconsciously gives a distorted picture of his or her own personality (Cattell et al, 1970, p. 28). The Faking Good (FG) and Faking Bad (FB) scales are made ofraw scores converted to sten scores. Again, a sten score of below 4 or above 7 indicated a departure from the average (Cattell et al., 1970, p. 63). These scales were examined for institutional, gender, class, and major differences.

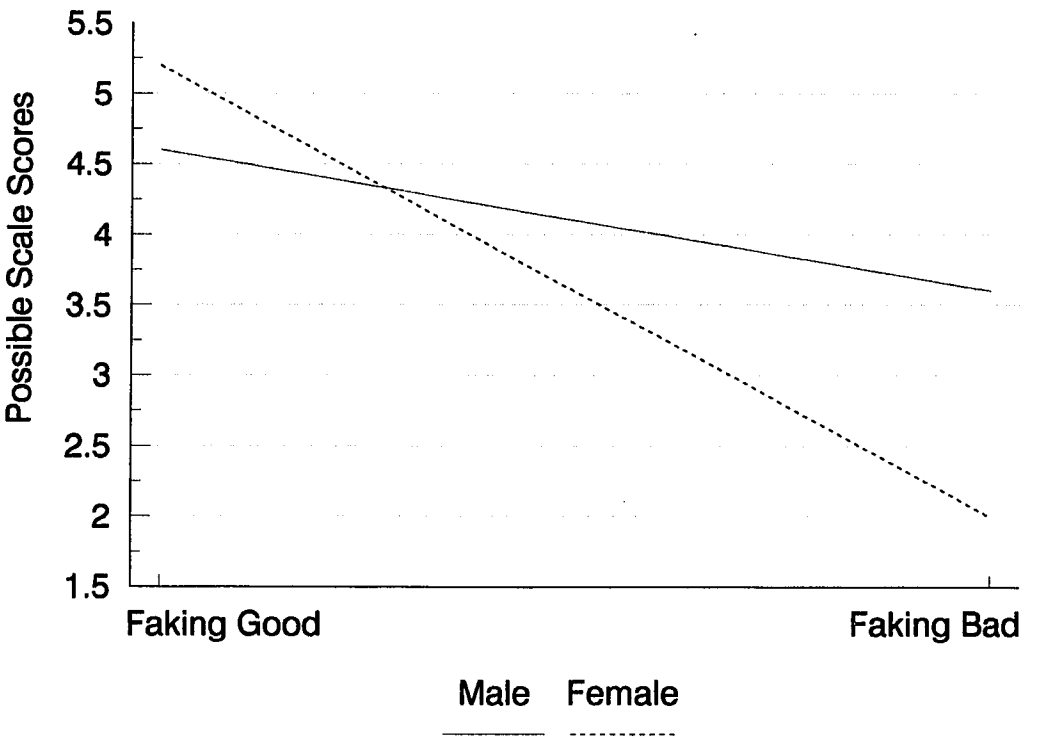
On the FG scale, seven of the eight institutions were within normal limits, with sten scores of 4 to 5.5. Only Morris College had a below average sten score of 3 on scale FG. All of the institutions were within normal limits on the FB scale, with sten scores of 5 to 7.

In terms of gender, there were few differences between males and females on the FG scale, with an overall sten score of 5. However, an ANOVA of the FB data revealed an F value of 12.88 (df 1;86). This F value indicated significant differences between males and females on the FB scale, with males tending to 'fake bad' significantly more than females (Figure 17).

Class differences on the FG and FB scales revealed that both juniors and seniors had a sten score of 4 on FG and a sten score of 6 on FB. None of these four sten scores is significantly different from the average college student FG and FB sten scores.

Figure 17.

Faking Good/Faking Bad Scores by Gender on the Sixteen Personality Factor Questionnaire



There also appeared to be little difference between majors when faking good or faking bad. All seven majors generated sten scores of 4 or 5 on the FG scale, with the lowest value being that of the General Recreation major, indicating that this group of majors might be less likely to fake towards the good. The FB sten scores ranged from 5 to 6.5, with the lowest value for this scale being that of the Church Recreation major, and the highest value of 6.5 being the Sports Management and Commercial Recreation majors, separately. This implies that these two groups of majors might be more likely to fake towards the bad than the other groups of majors, and that the Church Recreation majors are the least likely to 'fake bad'.

To summarize the data regarding the 16 PF and research question 4, it appeared that:

1. there were significant differences between several institutions and scores on personality factors C and F

2. overall gender response patterns indicated that males and females were similar in personality factors, although females could be more warm, conscientious, and tenderhearted, in addition to being less experimenting

3. there was little difference between junior or senior class standing and personality factor response patterns

4. the institutions were all within normal ranges on both the Faking Good and Faking Bad scales

5. the two genders were both within normal range on the Faking Good scale

6. males had a significant tendency to 'fake bad' while females did not

7. there were no significant class differences on the Faking Good or Faking Bad scales

8. most of the seven major options showed little difference on either of the Faking scales, although Sports Management and Commercial Recreation majors may be the most likely and Church Recreation majors the least likely to 'fake bad'

Also as shown in question 1, the recreation major of 1992 appeared to be similar to the average college student on the factors measured by the GZTS, differing only on the factor P, personal relations. A low score on this factor indicated that recreation majors may be more conservative, intolerant, critical, and outspoken than the norming group. Other attributes of the current group of students were explored using the GZTS also, including possible institutional, gender, or class difference in response patterns. These findings are presented below.

Z scores were calculated for each institution on each factor of the GZTS. This profile revealed similar patterns across the institutions, with 100 percent of the scores falling within +/- 1 standard deviation of the mean (Figures 18 and 19). Hoetellings - T test of significance with multivariate data revealed that there were differences among the institutions (F 1.33; $p < .03$). An ANOVA on factor F revealed an F value of 2.17 (df 8;102). This F value is statistically significant at the .05 level or lower.

Figure 18.

Z Scores for Four Institutions on Each Factor of the Guilford-Zimmerman Temperance Survey

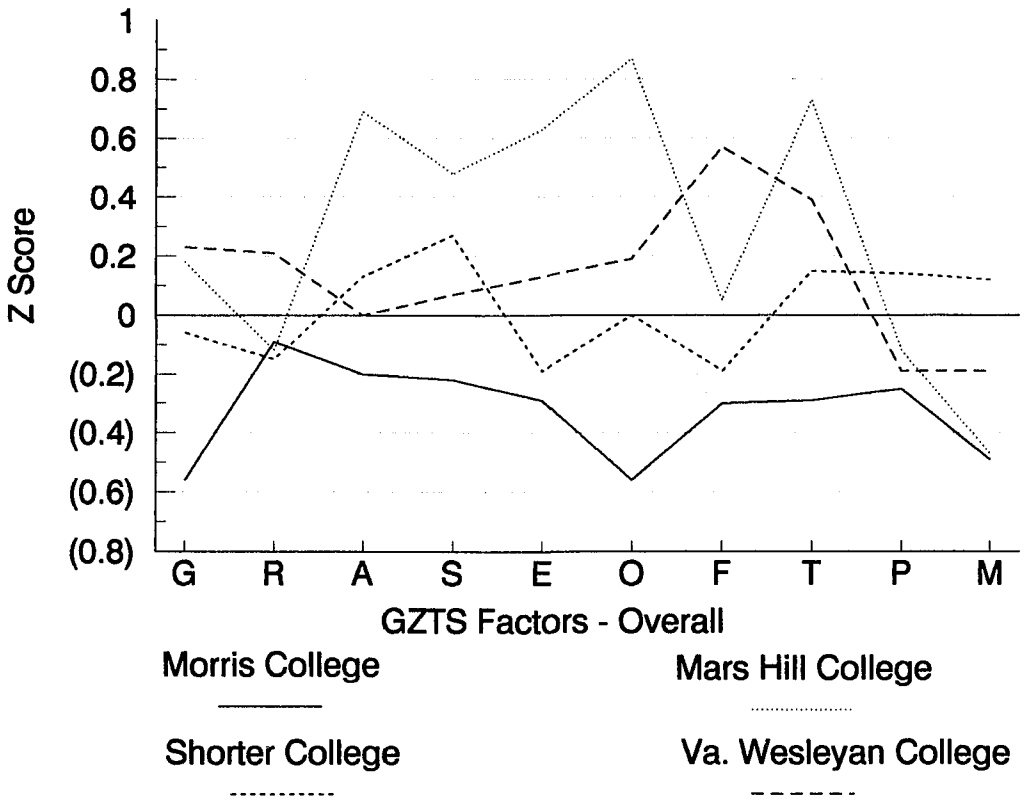
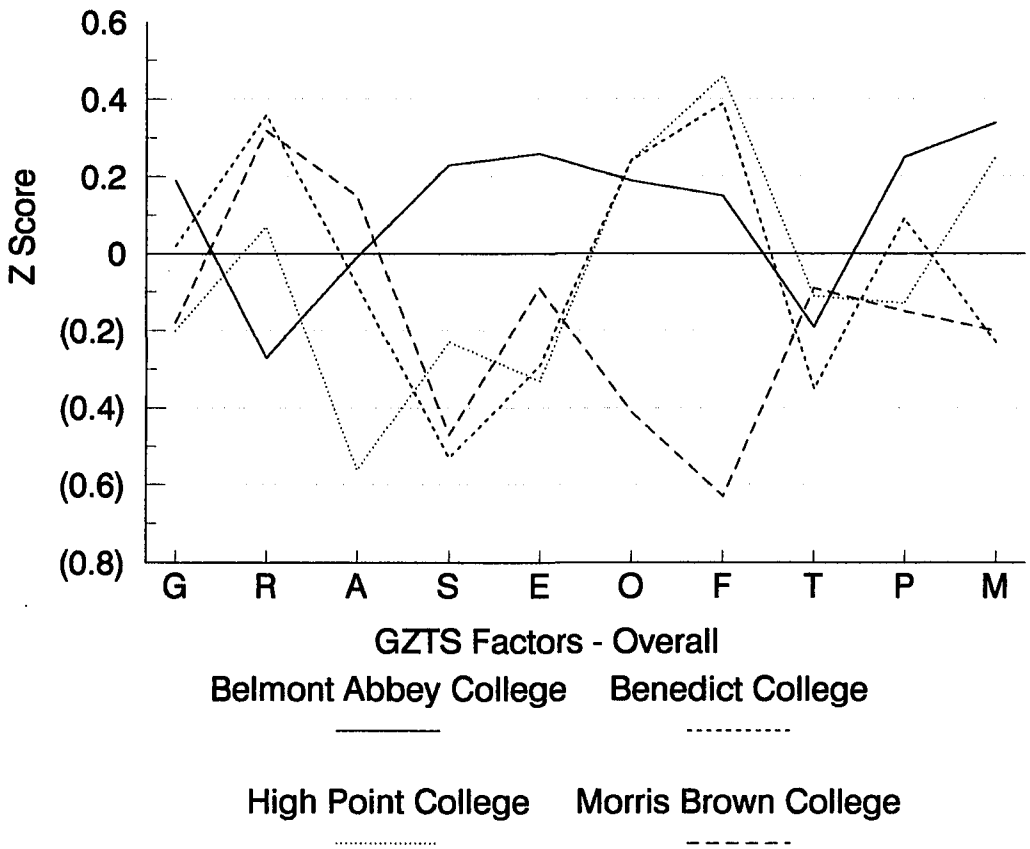


Figure 19.

Z Scores for Four Institutions on Each Factor of the Guilford-Zimmerman Temperance Survey



Tukey's Studentized Range (HSD) Test shows that there were seignificant differences (at the .05 level) among the response patterns of of students at Virginia Wesleyan College and Morris Brown College. This finding revealed that, although the overall student response pattern was similar, there were differences in the response patterns of the students taken as a group and examined by institution.

Gender response patterns for each factor of the GZTS indicated both genders had Z scores within +1.2 and -0.8 standard deviations from the group mean (Figure 20). This suggested that there were small differences between the genders on any personality factor measured by the GZTS.

The Z scores for each class (junior and senior) on each factor of the GZTS also revealed there was little difference between the classes' response patterns, with 100 percent of the scores within +0.15 and -0.4 standard deviations from the mean (Figure 21). It is interesting to note that the seniors scored slightly higher on every factor except the factors of P and M.

To summarize the results of the GZTS data and research question 4, it appeared that there was a difference among the response patterns of two institutions on the factor F, although no other differences were found among gender, or class.

Figure 20.

Z Scores for Each Gender on Each Factor of the Guilford-Zimmerman Temperance Survey

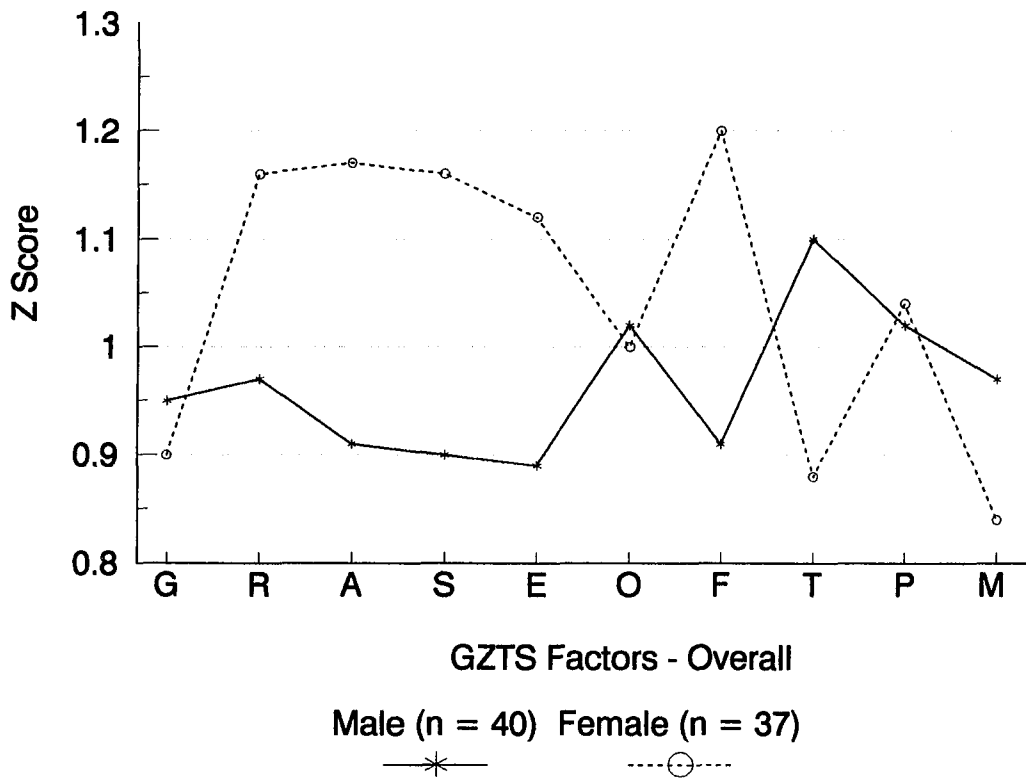
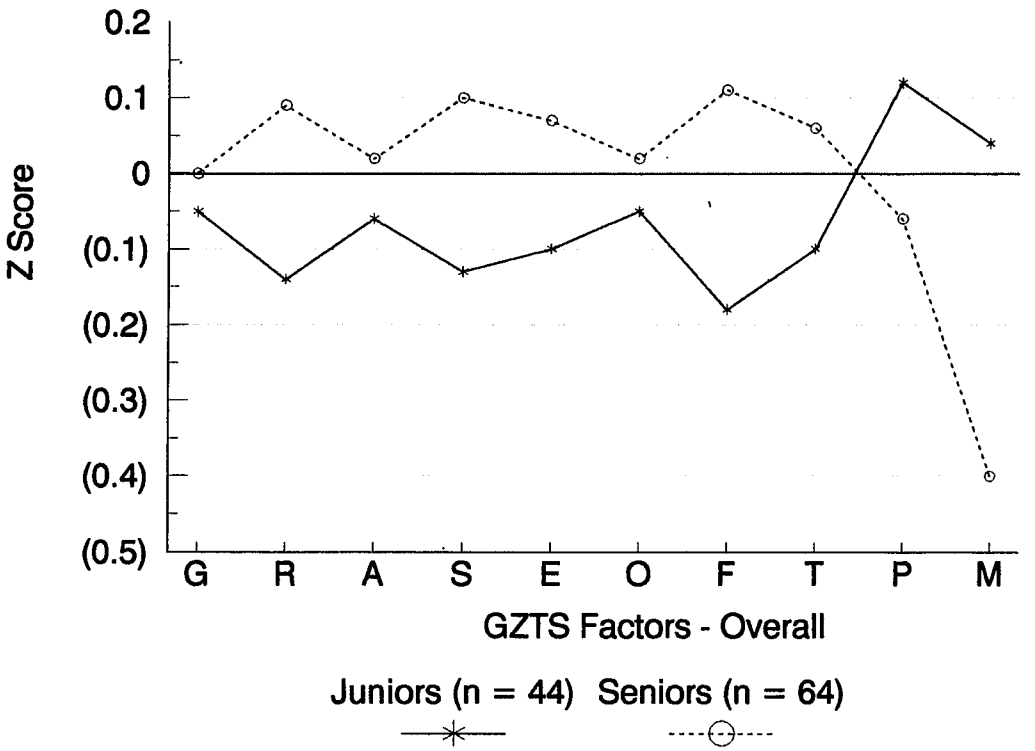


Figure 21.

Z Scores for Each Class on Each Factor of the Guilford-Zimmerman Temperance Survey



Summary

Research question 1 explored personality features common to recreation majors at private colleges, based on sten scores and profile chart scores. It appeared that recreation majors were slightly higher in warmth, dominance, conscientiousness, boldness, suspiciousness, shrewdness, apprehensiveness, experimentation, self-sufficiency, following self-image, tenseness, conservativeness, intolerance, criticalness, and outspokenness than the groups used for the original norming tables of each inventory. They appeared to be lower than the norming group on only one of the 26 total factors of the two inventories, that being the 16 PF factor of abstract-thinking ability.

Research question 2 addressed whether personality features currently exhibited by the recreation major of today have significantly changed from the data collected between 1967 and 1976. Examination of the results suggested that the male recreation major of today appeared to have changed little from the physical education major of the late 1960s and mid-1970s, although the 1992 male recreation major could be said to be slightly more outgoing and self-sufficient of the two groups.

The female recreation major changes, if any, are more controversial. Comparison of results from one 1975 study show today's female recreation major to be vastly different

from the 1975 female physical education major on 12 of 16 factors of the 16 PF; comparison of results from a 1976 study with the same instrument, however, showed 11 identical sten scores, indicating few differences between the two groups.

Research question 3 explored personality differences among students who pursue different options within the major, finding a significant difference only with the 16 PF factor F and the majors Sports Management and General Recreation. The GZTS data response patterns revealed no differences among the majors.

Research question 4 addressed the compilation of a current recreation major personality profile, using the 16 PF and the GZTS. On the 16 PF, the recreation major of today scored higher in warmth, dominance, conscientiousness, boldness, suspiciousness, shrewdness, apprehensiveness, experimentation, self-sufficiency, following self-image, and tenseness than the college students represented in the norming tables. The recreation majors were also less abstract-thinking than the 16 PF norming group. The GZTS data indicated that recreation majors were more conservative, intolerant, critical and outspoken than the GZTS norming table students.

The data collected by the 16 PF revealed significant institutional differences in factors C and F, slight gender

differences in factors A, G, I, and Q1, and no significant differences in class response pattern. There were little or no differences in the Faking Good or Faking Bad scales in institutional, major, or class responses. However, the male recreation major did differ significantly from the female recreation major on the Faking Bad scale, scoring higher.

The data collected by the GZTS revealed that there were differences between the response patterns of the students at two of the institutions on the factor F only. There were no other significant differences found between gender or class, in regard to student response pattern.

In conclusion, the recreation majors of 1992 were different from 1965-1968 college students in general, and somewhat different from the similar discipline majors, of the 1960s and 1970s. Using norming tables established on college students in 1968, today's recreation major scored higher on all but one of the 16 factors in the 16 PF. This indicated that the 1992 recreation major has different personality traits than the general college population of the 1960s. There were some trait differences indicated among groups: females differed from the earlier study results more than males; Sports Management majors were friendlier than General Recreation majors; recreation majors as a whole scored higher in warmth, dominance, conscientiousness, boldness, suspiciousness, shrewdness,

apprehensiveness, experimentation, self-sufficiency, following self-image, tenseness, conservatism, intolerance, criticalness, and outspokenness, and lower in abstract-thinking skills than the college students used to build the norm tables.

On the 16 PF, differences were found among several institutions on two personality factors, and gender differences were found on four factors. The 16 PF also indicated that male recreation majors are statistically more likely to 'fake bad' than any other group. The GZTS found only one significant differences among institutions, and none on gender, or class response patterns.

Today's recreation major is a different type of college student, with a somewhat different personality, seeking education and potential employment in the allied disciplines of health, physical education, and recreation. The profession needs to be aware of these subtle shifts and changes; these are not the same type of people who traditionally sought this line of work, especially the female majors. They are the students of the 1990s, reflecting a different generation's values and emphases. Higher education, and the profession, need to adjust their expectations and perceptions accordingly.

CHAPTER V

DISCUSSION AND CONCLUSIONS

Introduction

This study investigated the personality features of recreation majors currently enrolled at nine selected private colleges in the southeastern United States and contrasted the results with similar studies conducted in the 1960s and 1970s. One hundred fifty six declared recreation majors at these selected southern private colleges agreed to participate in the study, completing two published personality inventories: Cattell's Sixteen Personality Factor Questionnaire (16 PF) and Guilford et al.'s Guilford-Zimmerman Temperance Survey (GZTS). These two inventories were chosen for use in this study because they were the two most widely used inventories in the similar studies conducted in the 1960s and 1970s. Once collected, the data were examined for descriptive patterns.

Discussion

In terms of the overall descriptive information obtained, it was interesting to note which major options attract the largest percentage of students at these institutions. The Therapeutic Recreation option was the option most cited as the current major (16 PF - 39.4 percent; GZTS - 35.4 percent), supporting Bialeschki's 1992

research into the status of undergraduate recreation education. General Recreation was the second most cited major (22.8 percent; 24.5 percent), indicating a possible return to the service-oriented roots of the recreation profession. The relatively new major of Sports Management ranked third in enrollment (16.5 percent; 20.9 percent), reflecting the 1980s trend of combining business education and opportunities with other college majors.

The majors with the least enrollment also upheld Bialeschki's 1992 research findings. Travel and Tourism, and Commercial Recreation are both new majors within the recreation field, and this is reflected in the slight enrollment in these programs at these particular institutions. As these students are at small, private institutions, it is quite possible that these schools are too small to offer many of these new degree programs at this time. Church Recreation is not necessarily a new program within the field, but it has not traditionally been an option with high enrollment, and in fact is only offered as a major at one of the institutions in this study.

It was also interesting to note that the average age of the junior and senior respondents was 22.3 years. Several of the response sheets revealed ages in the mid- to late 30s, usually in the Therapeutic Recreation major. This finding reflected several trends in higher education: 1)

private institutions are beginning to diversify their major program offerings, tailoring them to meet the needs of older, nontraditional students; 2) more older, non-traditional students are either going back to college for more or different education, or are beginning their college careers for the first time; and 3) Therapeutic Recreation is seen as a viable career by older students who usually have had some exposure to the medical career field.

Research questions 1 and 2 explored overall personality features and changes in these features from the physical education/recreation major of 1965-1975 and the recreation major of 1992 by comparing the current study results to results of research published in the aforementioned decade. The two inventories used in this study were both used in the main published research of this area of personality and college major from the years of 1965 and 1975. The known norms for the 16 PF were established in the 1960s, and the profile chart standard scores for the GZTS were established in 1955. Neither of the two methods of standardizing scores has been significantly revised or updated since that time. It is quite possible that any discrepancies in the data from the current research compared with the earlier studies would stem almost directly from the datedness of the two inventories. However, one of the primary objectives of this study was to explore any personality factor changes in the

two groups of students: this was the rationale for using the more dated instruments.

Overall, it appeared that the current 1992 students do not differ much from the college students used to norm the two inventories. Combining the results from both inventories, it appeared that today's recreation major is less abstract-thinking, and less skilled in personal relations than the earlier majors. Two possible explanations may account for these differences. One is that being less abstract-thinking could be a result of the different educational systems being represented by the two groups. College students in the 1960-1970s were educated under different elementary and secondary school systems than exist today. The approach to educational processes and subject matter was different in the 1950-1970s. The 1970s saw the results of the baby-boomers beginning to have children, vastly increasing the numbers of students in the classrooms. School systems were integrating, consolidating, growing, presumably affecting teaching and learning. Elementary and secondary schools were structured differently for the 1992 college major than for the 1965-1975 college major, and fewer abstract-thinking skills could be simply a reflection of the changes in the educational system, overall. The other explanation is that both lower abstract-thinking skills and lower personal relation skills could be

a function of test dated-ness. The construct validity for the items measuring these two factors could have become less accurate than was previously reported, as neither of the inventories has been substantially revised since 1980. Interpretations of test item meaning changes over time; perhaps some of the items need to be reevaluated and revised.

The current group of recreation majors did score higher on a number of items than the groups from the 1960s and 1970s did. The current group scored higher than the previous groups in warmth, conscientiousness, dominance, boldness, suspiciousness, shrewdness, apprehensiveness, criticalness, experimentation, following self-image, and tenseness. Again, several possible explanations for these changes exist: 1) being tense, suspicious, apprehensive and shrewd, etc. could reflect the fact that this group of students was raised in the 1970s and 1980s, when society as a whole changed. It is a reflection of the current status of society, not just a reflection of the personalities of today's recreation major. There are several different groups of students being compared in this study: college students and allied discipline majors of the 1960s and 1970s as well as recreation majors of 1992 and the findings are indicative of the overall characteristics of each population; 2) these changes could also reflect different

test-taking behaviors on the part of the current students. There could have been varying levels of resentment or boredom with having to take the two tests. Participation was voluntary, but most instructors gave the tests as part of class assignments, or extra credit resulting in a less than 100 percent willingness to put in the time and effort required to produce valid scores. Several comments were recorded about having to take two inventories, when perhaps one would have been more valid; 3) again, the changes could have been due to test dated-ness. The majority of the differences in the overall characteristics of the groups of students could be explained by 1) test-taking behavioral differences, 2) test dated-ness, 3) different educational environments, and 4) being raised in different societal climates and norms.

Research question 3 explored the data for any possible difference in personality features among students who chose different options within the recreation majors. The only statistically significant difference was found in the 16 PF inventory factor F (enthusiasm) among the majors General Recreation and Sports Management. It appears that, although recreation majors as a whole may be somewhat different from the average college student of the 1960s and of the 1970s, there was no significant difference in personality

characteristics among people who opt for different areas within the major.

Research question 4 addressed the compilation of a comprehensive personality profile for this group of students. Apparently the recreation majors of 1992 at selected private colleges in the southeastern United States revealed the following profile:

1. Less abstract-thinking and less skilled in personal relations than the students of the 1960s and 1970s

2. More warm, conscientious, dominant, bold, suspicious, shrewd, apprehensive, critical, experimenting, likely to follow self-image, and tense than the students of the 1960s and 1970s

3. A Sports Management major is statistically more enthusiastic, spontaneous, expressive and cheerful than a General Recreation major

4. Little difference in response pattern between gender or class rank, although three to four institutions were different on two factors (C and F) of the 16 PF and one factor (F) on the GZTS

5. Neither gender, class rank, or institution attended statistically affected a tendency to fake towards the good in response pattern

6. Males were more likely to fake responses towards the bad or negative than female majors

7. Commercial Recreation and Sports Management majors tended to fake more towards the bad than the other majors, while Church Recreation majors were the least likely to do so

The first three of the above features were discussed in the earlier sections of this chapter; the remaining four will be addressed below.

The response patterns were examined for differences on both inventories, with the areas of interest being gender, class rank, and institution attended. Both inventories revealed that gender had no significant impact on response pattern. Males and females tended to be very similar in scores obtained on each personality factor, although females did differ slightly on some individual factors. Considering the scope of the inventories, it was rather surprising that there were no significant differences between the genders. Recreation majors were a rather homogeneous group of students, in terms of gender response pattern.

Class rank was not found to be different in regard to response patterns on either inventory. This result was expected, as there should not be a large difference between the classes of juniors and seniors in terms of response patterns. Consistent with Holland's (1966, 1973) findings, this study found that, as they age and mature, people of similar interests tend to gravitate to each other and to similar occupational goals.

Students at different institutions did present different response pattern profiles, on both the 16 PF and the GZTS. 16 PF personality factor C (emotionally stable, maturity, facing reality...) was statistically significant among three institutions, indicating that the students at Mars Hill College scored significantly higher on this

personality factor than the students at either Morris College or High Point College. On the 16 PF factor F (enthusiasm, spontaneous, expressive, cheerful), the students at Mars Hill College again scored statistically higher than the students at Morris Brown College, Morris College or Benedict College. On the GZTS factor F (friendliness), the students at Virginia Wesleyan College scored statistically higher than the students at Morris Brown College. Although no sweeping generalizations can be made concerning this finding, students at both Mars Hill College and Virginia Wesleyan College were either differently introduced to the two inventories (being less rebellious), or were more emotionally stable, enthusiastic and/or friendly than the students at the other institutions.

The 16 PF has two separate scales to test for test compliance: faking good and faking bad. Recreation majors, as a whole, apparently did not feel the need to fake towards the good on any factor. Faking bad, however, did have its differences: males were significantly more likely to fake towards the bad than were females. This difference could be attributed to test rebellion, or a true reflection in the way the male recreation majors perceived themselves. Test rebellion could be questioned, as the genders were rather evenly distributed. It was assumed that the participation technique used by the test coordinator was the same for each

institution. Therefore, the two genders should have been more alike in their attitudes towards participating in the study. Male recreation majors appear to be more likely to misrepresent themselves than female recreation majors.

There was also a significant tendency for both Commercial Recreation and Sports Management majors to fake towards the bad on the 16 PF. Both of these major programs are rather new to the recreation field, and have a major emphasis on business and business-type interactions with other people. Although there were no statistically significant differences among the majors, as a whole, found by this study, apparently these two groups of students differed from the other majors in some area of personality. They reported traits of themselves differently than the other majors. The use of a different personality inventory might have found such a difference.

Church Recreation majors might be expected to be the least likely to fake towards the bad as the students drawn to this major option are not usually characterized by a desire to present the worst side of themselves. They could be described as well-adjusted and at ease with themselves, rather confident with their choice of occupation. A major such as Sports Management presents a more unstable future, in terms of power, money, lifestyle, etc. Church Recreation majors could be more content with their choice, knowing there was somewhat more stability in this option for them.

Implications of Results

It cannot be said that recreation majors of today are radically different from college students of the 1960s and 1970s. They were subtly different on various factors, but no sweeping differences were apparent from this research. The differences that were found in this research do support, first, the need for the updating of the two instruments used in this study, and second, the idea that today's recreation major are a reflection of the age in which they were raised. There were enough differences between the original groups and the current group to suggest that college students, in general, have changed over the years. The norm tables available for use with the two inventories should be revised to reveal the personality traits of the students of the 1990s. Today's students seem more apprehensive, suspicious, tense, etc., possibly reflecting changes in society from approximately 1970 to today. Most of the college professors, and higher-level managers in the recreation field today, are products of the 1960s and 1970s, comfortable with their own values and perceptions. Today's recreation major and soon-to-be employee are different, with different outlooks, aspirations, and values. The methods and educational processes used to educate previous college generations should be examined with an eye towards meeting the needs of the current group of students. Differences

need to be taken into account when working with today's student and new employee: they are not the same type of student the professors or administrators were when they were in college. Today's recreation major is not better, or worse, than the student of the 1960s and 1970s, just different.

Recommendations for Further Research

The findings of this study indicate at least two areas where additional research and information are needed: an updated profile of college students, in general, and supplemental profiles of recreation majors. Very little of the research conducted in the 1980s regarding college students' personalities concentrated on establishing a current profile. Most of the research on this topic in the 1980s was based either on establishing norms for the Myers-Briggs Type Indicator (MBTI), or to investigate the reasons behind academic major selection. Research based on 1967-1968 norms, or conducted to establish norms, makes it difficult to draw conclusions or parallels when using a more current sample of students. The personality research of the 1980s concentrated on topics related to vocational indecision and vocational choice, not the personalities of the college students themselves. Using old inventories, or very new inventories without much history or reliability

established, essentially makes most of the research findings of this type of study questionable. Personality profiles of general college students should be securely established at least once a decade, in order to account for and track any significant changes in the student population.

As the Myers-Briggs Type Indicator is reflective of the trend in personality assessment through the 1980s, it is important that the MBTI (and other type inventories) be used to establish a current profile of recreation majors. This study was interested in any changes in recreation majors over time, and elected to use older instruments. Nevertheless, there is no current profile for recreation majors using the most current personality assessment instruments available. This lack should be addressed by further study.

The given personality profile for recreation majors should be expanded and strengthened. Further research on this topic should include 1) establishing a profile based on the use of more current assessment instruments; 2) expansion of the population to include others beyond just students in the southeastern United States; and 3) expansion and comparison of any differences between students in private institutions and students attending state schools, as well as other forms of institutional or regional differences.

This study has provided the recreation profession and departments of recreation in higher education with a descriptive profile of the recreation majors of 1992 at small, private colleges in the southeastern United States, as well as any changes in personality factors of recreation majors from the 1960s-1970s to today.

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