DOCUMENT RESUME

ED 182 464 CE 023 960

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TITLE The Personality Functioning of Traditional-Age Students and Adult Learners during the First Year of College.
INSTITUTION Indiana Univ., Bloomington. School of Education.
PUB DATE 16 Jan 80
NOTE 32p.

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adult Students; Age Differences; *College Freshmen; Comparative Analysis; Higher Education; Individual Characteristics; Nontraditional Students; *Personality Change; Personality Studies; Sex Differences; Social Factors; *Student Characteristics
IDENTIFIERS Omnibus Personality Inventory

ABSTRACT

A study attempted to substantiate empirically whether changes occurred in the personality functioning of adult learners and traditional-age students during the first year of college. The Omnibus Personality Inventory and companion questionnaires were administered to randomly selected groups of students from two campuses of a midwestern state university in Fall, 1977, and Spring, 1978: 273 adult students (freshmen aged twenty-three or older) and 422 traditional-age freshmen. Usable responses represented 51% (40% male) and 44% (37% male) respectively. Group mean and individual true gain (change) analyses were used to document whether shifts in personality functioning took place and to identify college activities related to various shifts. Variables examined included reason for attending college, aspirations, co-curricular activities, grades, employment during school, relationship to parents, and marital status. Changes in personality functioning for traditional-age students seemed attenuated compared with the results of studies conducted during earlier decades. College attendance was associated with changes in personality functioning for both older and younger students, although changes did not occur in all students nor was the directionality of change consistent. Given the increasing heterogeneity of college student populations, the use of group mean scores to assess personality functioning during the first year of college may no longer be defensible. (PV)

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The Personality Functioning of Traditional-Age Students and Adult Learners During the First Year of College

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January 16, 1980

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Abstract

During the 1970s, substantial shifts occurred in the characteristics of persons attending college (e.g., more older students, more traditional-age students from the bottom half of high school class). The purpose of this study was to empirically substantiate whether changes occurred in the personality functioning of adult learners and traditional-age students during the first year of college. The Omnibus Personality Inventory and companion questionnaires were administered to both groups in Fall, 1977, and Spring, 1978. Group mean and individual true gain (change) analyses were used to document whether shifts in personality functioning took place and to identify college activities related to various shifts.

Changes in personality functioning for traditional-age students seemed attenuated compared with the results of studies conducted during earlier decades. College attendance was associated with changes in personality functioning for both older and younger students, although changes did not occur in all students nor was the directionality of change consistent. Implications of the findings are discussed.

The Personality Functioning of Traditional-Age Students and Adult Learners During the First Year of College

Increase in intellectual ability including acquisition of knowledge is usually considered to be an important goal of higher education. However, other necessary and valued concomitants of intellectual growth such as critical thinking, creativity, freedom from irrational prejudice, and independent judgment are not often accounted for by mental ability measures (Webster, Freedman & Heist, 1962). As a result, investigations concerning the impact of college on students' development have often been phrased as questions concerning changes in personality functioning (Dressel, 1971; Sanford, 1962).

The findings of a large number of studies of college students' personality functioning conducted during the 1960s were fairly consistent. On the average, college students seemed to: increase in esthetic interest, complexity of thinking, religious tolerance, impulse expression, autonomy, and nonauthoritarianism; decrease in religiosity and political naiveté; and become more mature socially (Ellinson & Simon, 1973; Feldman & Newcomb, 1969). It has been estimated that perhaps half of these changes occurs during the first year (Katz, 1969; Sanford, 1962).

During the 1970s, significant demographic changes have taken place within the college-going cohort. For example, more women than men currently are enrolled in postsecondary education, and many more students from the bottom half of high school classes now attend college. Most of the college impact studies were conducted prior to the influx

of what Cross (1971) has termed the "new students" (i.e., older, low SES, lower ability). Whether the generalizations based on traditional-age (17-22 years of age) students enrolled in the 1950s and 1960s are valid for the students of the 1970s and 1980s has not been determined.

While adult development has received attention in recent years (e.g., Levinson, 1978; Weathersby, 1977), relatively little is known about the personality functioning of adult learners in higher education. When compared with their 18-year-old counterparts, adult women have been found to be less anxious and more confident (Clements, 1974). Using a cross-sectional design, Strange (1978) found that differences in reflective judgment scores (a measure of cognitive maturity) between freshmen and seniors could not be accounted for by age. A comparison of traditional-age freshmen (18 years) and seniors (22 years) and older freshmen (22 years) and seniors (26 years) revealed that both groups of seniors had higher reflective judgment scores. Using the Omnibus Personality Inventory, Kuh and Ardaiolo (1979a) found that when compared with traditional-age freshmen, adult learners tended to be more interested in reflective thought and were more scientific in their problem-solving orientation. Whether changes in the personality functioning of adult learners can be expected during college similar to those reported for traditional-age students has not been empirically substantiated.

Drawing meaningful conclusions from the various attempts to describe the personality functioning of older students is sometimes confounded by the different criteria researchers have used to define and subsequently select their respective target samples (Penn & Weaver, 1979). The term

"adult learner" has been used to describe a variety of groups exhibiting disparate characteristics and motives for learning or attending post-secondary education. For example, it is likely that older students who pursue a general education diploma, continuing education courses, associate, baccalaureate, and post-baccalaureate degrees have different motives for learning (see Morstain & Smart, 1977). Therefore, specific descriptors must be used when discussing characteristics and personality functioning of adult learners to permit identification of the population(s) to which the findings can be generalized.

The purpose of this study was to examine the relationship between college attendance and personality development of contemporary traditional-age freshmen and adult learners. Adult learners were defined as first-year students 23 years of age or older enrolled in seven hours or more in university-level courses. More specifically, the study was designed to answer the following questions:

1. Do changes occur in the personality functioning of adult learners and traditional-age students during the first year of college?

2. What demographic variables are related to personality change during the first year of college for these two groups of students?

Method

Instrumentation

Two types of instruments were used in this study: (1) short demographic questionnaires with parallel forms for adult learners and traditional-age freshmen; (2) the Omnibus Personality Inventory (OPI). In addition to descriptive data (sex, age, parents' occupation, etc.), the questionnaires requested information about various activities or characteristics that have been either empirically or theoretically

related to personality development during the college years. For example, respondents' present or proposed major was requested. Katz and Sanford (1962) have suggested that because various curricula encourage different "ways of knowing," students in the humanities and social sciences are more likely to seek gratification than students in the sciences or applied major fields. Respondents' participation levels in various co-curricular activities were also requested. It seems logical that students who participate in certain activities may evidence gains along a comparable personality dimension; e.g., regular concert or theater attendance could be related to increases on a measure of estheticism (see Astin, 1977; Bower, 1977).

The OPI purports to measure intellectualism and social-emotional adjustment among college students by recording differences in attitudes, opinions, and feelings on a variety of subjects thought to be relevant to academic activities. Each of the 385 OPI items contributes to one or more of 14 scales: thinking introversion (TI--a liking for reflective thought); theoretical orientation (TO--preference for theoretical concepts and the scientific method); estheticism (Es--interest in esthetic matters); complexity (Co--tolerance of ambiguity); autonomy (Au—nonauthoritarianism); social extroversion (SE--preference for relating to others socially); impulse expression (IE--readiness to seek gratification); personal integration (PI—degree of emotional adequacy); anxiety level (AL--nervousness, tension and social adjustment); altruism (Am—degree of affiliation); practical outlook (PO--interest in applied activities and material possessions); masculinity-femininity (MF--differences in attitudes between men and women); response bias (RB—respondent's test-taking attitude)

(Heist & Yonge, 1968). The OPI has been found to be reasonably reliable for both older and younger students (Kuh & Ardaiolo, 1979a)..

Sample and Procedures

The original adult learner sample was comprised of all students 23 years of age or older classified as freshmen at two campuses of a seven campus midwestern state university system who were registered for seven or more credit hours for the Fall, 1977, semester. These criteria were met by 283 students. Ten students were improperly classified, which reduced the target sample to 273 (42% male) to whom the instruments were subsequently mailed in the fall. Usable questionnaires and OPIs were returned by 51% (40% male).

This group of adult learners was contacted again at the end of the Spring, 1978, semester and asked to complete the OPI and a questionnaire similar to the one used in the fall. Nineteen students either had officially withdrawn from school or had had their telephone disconnected indicating perhaps they, too, had left school. Thus, the adult learner spring target sample n was reduced to 121 (40% male). Usable instruments were returned by 56% of the fall respondents (25% male).

The original traditional-age freshman sample was randomly chosen in the Fall of 1977 by selecting every 38th student from those persons 19 years of age and younger classified as freshmen and enrolled for seven or more credit hours at the residential campus (n = 222). Attrition reduced the target sample to 213 (39% male). Usable instruments were returned by 44% (37% male).

Like the adult learners, the traditional-age respondents were contacted in the spring to complete the OPI and their respective form of the questionnaire. At this time it was learned that at least three of the fall respondents had left school, reducing the target sample to 90 (38% male). Usable instruments were returned by 62% (32% male) of the fall respondents.

Data Anglysis

Because the OPI was developed specifically for use with traditional-age students, Cronbach's alpha (internal reliability) and stability (test-retest) coefficient estimates were computed to determine whether the instrument was reliable for both younger and older students. The OPI scales appeared to be reasonably reliable for both groups (Table 1).

To determine whether the respondents (adult learners, $n = 68$; traditional-age, $n = 56$) who completed the OPI in the fall and the spring were dissimilar from those students who completed the OPI only in the fall (adult learner, $n = 72$; traditional-age, $n = 37$), the means and standard deviations of their Fall, 1977, OPI profiles were compared (t-test). Statistically significant differences were found between the fall-spring adult learner respondents and fall-only adult learner respondents on two scales: Personal Integration ($t = 1.98$, $p < .05$) and Anxiety Level ($t = 2.23$, $p < .05$). The directional differences indicated that the fall-spring respondents were more emotionally secure and less nervous or worried than fall-only respondents. No differences were found between the fall-spring and fall-only traditional-age freshman respondent groups.

To determine whether shifts occurred in respondents' personality

functioning during the first year of college, the means and standard deviations of the respective groups' Fall, 1977 and Spring, 1978 OPI scores were compared by sex (matched sample t-test). Because mean comparisons may obscure individual diversity (see Feldman, 1972; Treanor, 1970), the following estimated true gain (change) formulas also were used to take into account regression and other related measurement concerns that sometimes mask individual differences. Each of the respondents' 14 OPI scale scores from Fall, 1977, and Spring, 1978, was correlated (Pearson product-scale moment coefficient) with each item on the Fall and Spring questionnaires (nontabled) for use in the following computations.

To determine the relationships (Pearson product-moment coefficient) between estimated true gain (change) during the first year of college and demographic variables that were ordinal in nature (e.g., age), a correlational method suggested by Cronbach and Furby (1970) was used. However, this formula could not be used for several scales because the average of the reliability estimates (Cronbach's alpha) was lower than the respective test-retest stability coefficients. This was true for adult learner women on TO, Es, RO, Am, MF; for adult learner males on SE, MF, and RB; for traditional-age women on CO, SE, Am, and MF; and for traditional-age men on Es, Co, MF, and RB. These correlations (see Tables 2 and 3) reflect relationships between Fall '77 and Spring '78 change scores and demographic variables.

To determine the relationship between non-ordinal variables (e.g., major field or reason for attending college) and change on the OPI scales, an estimated individual true gain (change) score for each

respondent on each OPI scale was obtained using the formula suggested by Lord and Novick (1968).

One-way analyses of variance were computed to establish the relationships between estimated true gain scores on each OPI scale and the respective non-ordinal variables. If a statistically significant F-ration resulted, pairwise multiple comparisons were made (least significant differences procedure) to determine which response categories differed from the others. The magnitude required for statistically significant differences varied depending on the number of respondents answering the respective questionnaire item.

Results

Group Mean Comparisons

Fall and Spring OPI group mean scores for both traditional-age freshmen and adult learners are presented in Table 1. Only two statistically significant differences were found. Traditional-age males became more independent and self-directed (Au) and adult learner females became less fundamentalistic in their religious beliefs (RO). Slight decreases were noted for adult learners on the intellectual dimensions (TI, TO, Es, Co, Au, and RO). The social-emotional measures for both traditional-age and adult learners did not reflect any discernible patterns of change.

Individual True Gain Analyses

Major Field. Several relationships were found between respondents' present or proposed major field and estimated true gain OPI scores. Adult learner males majoring in science/math or who had not decided on a major were less likely to exhibit negative change (true

gain) on TI ($F = 3.6$, $p < .05$). Traditional-age men majoring in science/math and social science/humanities became more independent of authority (Au) during the first year of college than business/education majors ($F = 16.0$, $p < .01$). Business/education majors were more likely to report feelings of personal adequacy, but less likely to decrease in their interest in practical activities than their counterparts majoring in social sciences/humanities (PI, $F = 3.5$ and PO, $F = 3.2$, respectively, both $p < .05$).

For traditional-age and adult learner females, majoring in business/education was related to smaller gains on the SE scale (i.e., exhibited more of a preference for being with people) than females selecting social sciences/humanities ($F = 4.3$, $p < .01$ for both groups). The direction of these differences in personality functioning associated with major field are consistent with those reported by Katz and Sanford (1962) and Feldman and Newcomb (1969).

Reason for attending college. Adult learner males who were unable to articulate specifically why they were enrolled ("uncertain") evidenced negative true gains on the SE and IE scales ($F = 5.9$ and 3.9, $p < .05$, respectively). Adult learner females who reported intrinsic or self-directed reasons for attending college (e.g., "interest in a specific major" or seeking "exposure to different ideas") as opposed to instrumental reasons (e.g., "to get a better job") were less likely to remain fundamentalistic in their religious beliefs (RO--$F = 5.1$, $p < .01$). Reason for attending college was not related to change on the OPI scales for traditional-age students.

Aspirations. The traditional-age group was asked where they expected to be working ten years later. When compared with their counterparts who planned to be working in the home or a combination of homemaking and professional roles, women who expected to be employed full-time in their chosen vocation exhibited increases (true gain) on four scales; TI ($F = 3.1$, $p < .05$), Co ($F = 3.3$, $p < .05$), RO ($F = 3.4$, $p < .05$) and SE ($F = 5.7$, $p < .01$).

Differences were also noted when the degree objectives of traditional-age women were compared. Women who aspired to the baccalaureate degree exhibited greater gains on the TI, TO, Es, RO, and SE scales (all $p < .05$) than their peers who were enrolled in two-year degree programs or who did not expect to receive a degree.

Co-curricular Activities. In Table 2, the statistically significant ($p < .05$) relationships between OPI true gain (change) scores and ordinal variables for traditional-age freshmen are presented. For males, participation in certain co-curricular activities during the fall semester was associated with a number of changes during the first year of college. First-year men who attended special lectures and meetings of curriculum-related organizations such as the English Club became more independent and flexible in their thinking and behavior (Au) but less skeptical of conventional religious beliefs (RO), and less interested in material possessions (PO) and helping others (Am). They also reported fewer feelings of loneliness (PI). Involvement in athletic activities (intramurals, attendance at football games, etc.) was related to negative changes on nonauthoritarianism (Au), increased (true gain) interest in religiosity (RO) and practical activities (PO), and increased nervousness (AL—low score indicates high anxiety level).

Participation in co-curricular activities in the spring war less often related to true gain on the OPI scales. Involvement in academic and cultural events was positively related to an increase in preference for reflective thought (TI) for first year males. Increase in impulse expression (IE) was positively related to participation in athletic activities (high scorers on IE often express feelings of aggression).

For first-year traditional-age females, participation in intramurals or other athletic events was related to increases (true gain): in willingness to seek gratification or express aggression (IE), in expressed skepticism of fundamentalistic religious activities (RO), and in preference for relating to people in a social context (SE). Involvement in cultural activities was positively related to increased need for independence (Au) and feelings of personal adequacy (PI—low scores reflect social adjustment). Involvement in social activities in the spring semester was related to increased sensitivity and appreciation for artistic qualities (Es) and skepticism of conventional religious beliefs (RO), and decreased feelings or symptoms of anxiety (AL).

For male adult learners, involvement in cultural and social activities in the spring was related to change (true gain) on several personality dimensions. Those who attended or performed in plays and concerts became less flexible and nonauthoritarian in their thinking (Co, Au), became more fundamentalistic in their religious views (RO), and somewhat more logical in problem-solving approaches (TO). Participation in athletic activities was positively related to true gains on TO, Au, and IE, and negatively related to change on Es.

Adult learner females who took part in out-of-class academic-related activities in the spring decreased in tolerance for ambiguity (Co), but reported more feelings of tension and nervousness (AL).

Grades. First semester college grades were negatively related to true gain on IE for traditional-age males. Traditional-age freshmen women who had achieved high grades in high school exhibited gains in preference for logical thinking (TO) and dealing with complex phenomena (Co), but evidenced decreases in liking for reflective thought (TI). However, women who earned high grades during the first semester of college became more interested in a variety of areas (TI), but reported more feelings of isolation (PI) even though they did not admit to being nervous (AL). They also became less interested: in practical applied activities (PO), in dealing with ambiguous situations (Co), and in seeking gratification (IE). Older women who earned high grades in the first semester of college became more: interested in reflective thought (TI), organized in their thinking (TO), independent (Au), and lonely (PI); and became less interested in esthetic pursuits (Es), the welfare of others (Am) and material possessions, and somewhat less nervous (AL). Male adult learners who were registered for more credit hours became more interested in practical, applied activities (PO), and became more anxious (AL).

Work. For male adult learners, the number of hours worked per week during the first semester of college was negatively related to change in nonauthoritarian thinking (Au) and in the degree to which their religious beliefs were conventional (RO) (Table 3). Working was also related to increased feelings of loneliness (PI), rebellion (IE), and

tension (AL). For female adult learners, hours worked per week in the fall was positively related to an increase in interest in material possessions (PO) and in relating to people (SE), and decreases in reflective thought (TI) and tolerance for ambiguity (Co).

Parents and marital status. First-year traditional-age males who contacted parents frequently for advice on financial, personal, or academic matters evidenced negative change (true gain) on TO (i.e., less likely to approach problems logically). For traditional-age females, frequent contact with parents was related to becoming less analytical when dealing with problems (TO) and more dependent on authority (Au). Variations in personality functioning was not related to parents' occupation for either adult learners or traditional-age students, nor was change related to marital status or spouse's occupation for adult learners.

Discussion

The results of this study suggest two discussion themes:

1. Certain patterns of activities and accomplishments during the first year of college seem to be related to changes along various personality dimensions for both first-year learners and traditional-age students.

2. Given the increasing heterogeneity of college student populations, the use of group mean scores to assess personality functioning during the first year of college may no longer be defensible.

Individual Change

Considered together, the first six scales of the OPI are thought to be an index of intellectual disposition, and the remaining scales (with the exception of PO, which is usually conversely related to changes on

Au and Co) can be interpreted as an index of social-emotional maturity (Heist & Yonge, 1968). Using this interpretative scale configuration approach, some inferences can be made about the types of activities or accomplishments that are associated with personality functioning during the first year of college.

Traditional-age male students who took part in out-of-class academic and cultural activities evidenced gains in reflective and nonauthoritarian thinking patterns. However, participation in athletic events was not positively related to development of a more favorable intellectual disposition for first-year males. A similar pattern was discerned from the relationships between several social-emotional scales (notably PI and AL) and participation in academic, cultural, and athletic activities.

For traditional-age women, the pattern of changes in personality functioning during the first year of college was somewhat different. For example, the apparent inhibiting relationship between male participation in athletic events and intellectualism did not hold for women. In fact, with the exception of some backsliding on the Complexity dimension, traditional-age females' participation in all co-curricular activities seemed to be supportive of desirable personality development.

One accomplishment clearly stands out as a salient factor in traditional-age female personality change. First semester college grade point average (GPA) was related to seven significant shifts--four of them in the desired direction (TI, TO, Au, PO). Achieving high grades apparently takes a toll on some freshmen women, however, as evidenced by backsliding on the social-emotional well-being scales (AL, PI). Whether

feelings of anxiety and isolation concomitant with academic achievement has a subsequent debilitating influence on other areas of their lives cannot be determined at this time. These findings coupled with the personality changes (true gain) related to motivation ("reason for attending college") and educational aspirations suggested that the first year of college for achievement-oriented traditional-age women with clearly defined goals is a time when substantial changes in personality functioning may occur.

Although the fall-spring group mean comparisons did not reveal statistically significant changes on the part of male adult learners, the individual true gain comparisons indicated that some shifts in personality functioning may take place in older students. For example, adult learner males who had numerous work and family responsibilities and who had been out of school for some time tended to regress (negative true gain) on some of the intellectualism scales (TO, Co, Au, RO). The number of hours worked per week while going to school seemed to be a particularly important variable. Men who worked long hours were tense and high strung, prone to aggressive behavior, and reported feelings of nervousness and loneliness. They also exhibited relative decreases on two of the intellectualism dimensions (Au, RO).

Although few adult learner males took part in cq-curricular activities, those who did tended to exhibit increases (true gain) on some of the intellectual disposition scales. Participation in cultural events in the spring is the inexplicable exception. Even athletic activities seemed to be positively related to personality development in the desired direction (TO, Au, IE--Table 3). Academic achievement (GPA) was also

positively related to change, although enrolling for more than one or two courses seemed to be counterproductive insofar as desirable personality development was concerned.

The trends related to personality functioning of adult learner females during the first year of college were similar to, though perhaps not as salient, as those noted for adult learner males. Like their male counterparts, the number of hours worked per week was negatively related to changes in the desirable directions. Few significant relationships were found between participation in various co-curricular activities and change on OPI scales. This may be partially explained by the fact that few adult learner females were able to take part in such events.

The variable most often tied to movement along various dimensions was first semester GPA. No less than six scales reflected significant shifts associated with academic achievement; at least three (TI, AL, PO) and perhaps a fourth (IE) can be interpreted as changes consistent with the general goals of higher education.

Group Change

On the one hand, that few significant respondent group changes occurred during the first year of college was disappointing. The college impact research of the 1960s (see Feldman & Newcomb, 1969) indicated that, in general, desirable changes in intellectual and social-emotional functioning were common and predictable for traditional-age college students. On the other hand, the group mean results (particularly those concerning traditional-age freshmen) prompted an additional question. Considering that systematic group changes have been found before, what is it about this group or the procedures used in this study that account for

the relative stability of group personality functioning during the first year of college?

The first administration of the OPI took place in late September. Therefore, it is possible that a good deal of "change" or development had occurred before students completed the instrument. In other words, students possibly would have scored lower on the fall administration of OPI if it had been completed a few weeks earlier, prior to the start of school, resulting in more significant fall-spring changes on more OPI scales.

A corollary explanation is that several weeks into the semester, many first-year students (young and old alike) receive faculty evaluations of their work in the form of graded tests and papers. This "reality testing" may trigger a period of cognitive "retreat" (see Perry, 1970); i.e., students regress to interaction patterns established years earlier in school and exhibit deferent behavior toward teachers. Students may become submissive for a time and revert to a dualistic way of perceiving their environment ("the reason I didn't get a better grade is because I was unable to learn the 'right' answers!"). Therefore, although changes may have been underway in many students, perhaps the administration of the instrument was ill-timed to reveal the changes.

Another plausible explanation for the "no significant differences" group mean findings concerning adult learners may be related to the "ceiling effect." As a group, adult learners' OPI scores on many scales were much higher than traditional-age students. Given the measurement limitations associated with change and initial high scores, and the other interests and activities (family, jobs, etc.) that encourage stability on the part of most adult learners, perhaps it is unrealistic to expect

an appreciable degree of change in the personality functioning of older students during the first year of college.

It also is possible that traditional-age freshmen in the late 1970s were somehow "different" than students of the early 1960s from whom generalizations concerning college impact were drawn. Given lower academic ability (declining ACT and SAT scores) and achievement (more students from the bottom half of high school graduating classes matriculating), perhaps higher education can no longer expect to have the same degree of influence on this "type" of student. Perhaps whatever changes that are associated with college attendance will take longer to be exhibited because less able students need more time to seek out and integrate the new experiences and challenges purported to be causally related to development (Sanford, 1962).

Implications

Are the "trees" (seemingly disparate findings) the leading edge of a "forest" (a mosaic depicting the relationships between college and personality development) of discernible depth? It seems that a few general observations about the first year of college and personality functioning can be put forth.

Statistically significant shifts on various OPI scales did occur for both older and younger students. However, they did not occur for all students nor was the directionality of change similar between or even within these two groups. Therefore the use of group means to assess personality development related to college attendance is likely to be less useful with the increasingly heterogeneous college populations of the 1980s. For younger students, changes in personality functioning

tended to take place on social-emotional dimensions. Such changes are not surprising given the psychological and physiological metamorphosis most young adults go through during the late teens.

It has been suggested that much of the personality development that occurs during college takes place because of out-of-class experiences (Chickering, 1969; Wilson, 1966). This conclusion is supported by the findings of this study. However, if certain changes in personality functioning are considered desirable, some out-of-class experiences for some students may not be appropriate. It is difficult to conceive of an acceptable alternative to intramural or intercollegiate sports for young college students. Nevertheless, the traditional-age male respondents' personality shifts associated with participation in such activities questions the wisdom of carte blanche encouragement of such activities for all students. For women, however, participation in athletics seemed more beneficial, perhaps because many females have not had opportunities or were not encouraged to express themselves in physical movement and play prior to college.

To be sure, involvement in athletic events--for both participants and spectators--provides a socially acceptable outlet for physical and emotional energies not easily or appropriately expended in other activities. Perhaps a restructuring of the expectations for sports and of the way in which athletic competition is organized could result in a vehicle for meeting certain physical and psychological needs as well as for encouraging desirable personality change.

Participation in other co-curricular activities seemed to be more conducive to the types of shifts in personality functioning considered consistent with the aims of higher education. Few would deny the

intangible benefits of socializing with new friends with different attitudes and values as an important and necessary college student experience. However, those students who had frequent contact with their parents during the fall semester became more rather than less dependent on others. It is difficult for parents to encourage psychological independence on the part of their children. Indeed, for some students, the cognitive and affective challenges encountered during college can not be integrated without support from home. However, a potentially "developmentally powerful" college environment may be neutralized if parents nurture dependence through encouraging frequent contact.

Some older students exhibited shifts in personality functioning on some social-emotional scales, particularly those dealing with aggression/frustration (IE), nervousness (AL), and social alienation (PI). However, the majority of changes occurred along the intellectualism dimensions. These findings coupled with the shifts associated with academic achievement suggest that the college experience can have a desirable influence on the personality functioning of adult learners. These data also underscored the importance of classroom experiences as a source of influence on the older students' attitudes and values. Traditional-age students' personality changes were often associated with out-of-class activities. But for adult learners who rarely participated in such events, the classroom seems to be the most likely experience to which changes in adult learner functioning can be attributed.

It is not known whether these findings represent changes that are relatively transient rather than permanent or whether they are on the surface rather than at the core of personality functioning. Only

continued longitudinal research can satisfy the former. A few researchers (Freedman, 1962; Kuh, 1976; Newcomb, 1943; Newcomb, Koenig, Flacks & Warwick, 1967) have responded to this challenge in studies of traditional-age students. Their findings have indicated at least short-term (five to ten years after college) persistence of personality changes that take place during college. The latter question—surface vs. core change—is more complex and perhaps impossible to answer satisfactorily.

Considerable sample attrition and relatively low response rates limit the generalizability of the findings. Keeping these limitations in mind, several implications for faculty, staff, and administrators in higher education seem appropriate. The relationship between work and education, found to be positively related to retention of traditional-age students (Astin, 1975), was negatively related to desirable personality changes of adult learners, particularly males. Given the increase in number of older students in postsecondary institutions, further research seems warranted concerning by whom and under what conditions a job, family responsibilities, and academic pursuits can be successfully balanced. Perhaps a combination of low-interest financial assistance programs and flexible leaves of absence policies from secure jobs could reduce the concomitant financial pressure experienced by some students.

A related finding, the negative relationship between the number of credit hours for which adult learner males were enrolled and personality development, suggests that academic advisors must become sensitive to the multiple realities that face many older students. Adult learners who perceive themselves as the family provider may experience some guilt feelings as they use time usually reserved for family or work to pursue

educational objectives. For men, enrolling in more than one or two courses appeared to be developmentally counterproductive. For adult learners, perhaps work and study should be combined in moderation during the first year of course work.

Only a few of the older students included in this study took part in co-curricular activities. For those that did, the relationships between involvement and personality development were mixed: some activities were positively related to desirable changes, others were negatively related. The growing body of literature about adult learners suggests that older students have little time for and/or interest in most out-of-class activities (e.g., Kuh & Ardaiolo, 1979b; Penn, 1977). Those who wish to p... experiences conducive to the personality development of adult learners might best invest their energies and resources in engineering optimal classroom interaction and stimulation. For example, although out-of-class activities are more often related to personality development of traditional-age students, academic achievement seemed to be linked to important changes in the adult learners in this study. Faculty development programs should encourage instructional staff to maximize the opportunities for development through appropriate challenges and by requiring students to attempt to personalize the curriculum and the learning process. Many traditional-age students could also benefit from this type of instructional emphasis.

The college impact literature from the 1960s reported systematic changes in the personality functioning of traditional-age college students. It is possible that recent demographic changes in the college-going cohort may be related to attenuated college impact. If other studies corroborate

these findings, different technologies for encouraging college student development during the 1980s will have to be put forth, or those presently in use refined, in order to realize the changes in personality functioning documented for college students in earlier decades.

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Table 1
Comparison of Traditional Age Freshmen and Adult Learners Fall 1977 and Spring 1978 OPI Reliability Estimates, Means, and Standard Deviations By Sex

OPI Scale	Sex	Traditional Age Freshmen rx	ry	rxy	Fall, 1977 $\bar{x}$	sd	Spring, 1978 $\bar{x}$	sd	t-test	Adult Learners rx	ry	rxy	Fall, 1977 $\bar{x}$	sd	Spring, 1978 $\bar{x}$	sd	t-test
TI	M	.85	.88	.75	22.3	6.8	21.2	6.8	1.1	.81	.82	.64	24.3	5.6	22.5	5.4	1.7
	F	.83	.87	.83	22.9	7.0	22.4	8.0	.7	.81	.81	.75	24.0	6.6	22.7	6.8	1.9
TO	M	.79	.80	.75	17.8	4.9	18.5	4.5	-1.0	.70	.74	.73	20.8	5.0	19.7	5.3	1.3
	F	.70	.70	.71	15.9	5.2	15.7	5.8	.3	.75	.74	.73	16.5	5.4	16.3	5.2	.4
Es	M	.76	.77	.93	10.3	5.4	10.5	5.5	- .6	.78	.64	.81	9.2	3.9	8.8	4.2	.6
	F	.79	.89	.74	14.0	4.5	13.9	4.6	.3	.72	.76	.80	12.5	4.5	12.4	3.8	.4
Co	M	.73	.80	.79	14.6	6.2	15.2	5.8	- .6	.75	.75	.79	13.7	5.2	13.4	4.4	.4
	F	.71	.84	.82	14.4	5.0	14.2	5.6	.3	.79	.76	.69	14.2	4.9	14.3	5.2	- .3
Au	M	.85	.88	.86	25.6	6.4	28.3	7.2	-3.3**	.84	.85	.89	26.4	7.8	25.4	8.3	1.1
	F	.79	.91	.85	24.8	7.2	25.7	7.6	-1.3	.87	.92	.69	27.9	6.1	28.1	6.7	- .4
RO	M	.86	.86	.82	13.3	4.6	14.2	4.5	-1.4	.83	.81	.86	13.6	6.2	14.0	6.3	- .5
	F	.79	.83	.83	12.5	6.0	12.7	5.6	- .5	.85	.94	.91	12.3	5.0	12.9	5.0	-2.11*
SE	M	.85	.82	.84	21.8	5.2	21.9	5.5	- .1	.84	.82	.87	22.2	6.4	20.8	7.0	1.8
	F	.76	.79	.85	22.5	6.7	22.6	6.5	- .3	.83	.87	.74	21.7	6.3	21.3	6.3	- .2
IL	M	.79	.82	.80	34.1	7.8	32.8	8.3	1.1	.89	.87	.84	28.9	9.2	28.8	10.5	.1
	F	.82	.87	.87	28.9	6.4	29.8	7.7	-1.0	.88	.94	.85	24.6	8.7	24.6	9.2	- .1
PI	M	.91	.93	.92	31.5	10.1	33.2	10.6	-1.8	.91	.94	.92	36.6	12.7	36.3	13.7	.3
	F	.91	.96	.81	31.5	11.1	31.8	11.4	- .3	.94	.99	.81	36.2	9.6	36.4	11.5	- .2
AL	M	.80	.82	.80	12.1	4.8	11.9	4.0	.3	.77	.82	.83	14.4	4.3	14.5	4.9	- .2
	F	.76	.76	.81	11.7	4.8	11.3	4.4	.9	.82	.87	.76	14.1	3.6	14.0	4.3	.4
Ar	M	.80	.83	.81	16.9	4.1	18.0	4.1	-1.4	.74	.71	.77	20.4	4.2	20.4	6.0	- .1
	F	.74	.89	.71	21.4	4.1	22.1	4.2	-1.3	.73	.85	.77	22.4	5.6	22.6	5.0	- .4
TO	M	.84	.84	.83	15.8	5.7	15.0	6.3	1.0	.78	.75	.75	15.1	5.7	15.2	6.0	- .1
	F	.80	.89	.83	14.9	6.0	15.3	6.1	- .6	.82	.85	.67	13.2	4.7	14.1	4.8	-1.6
HF	M	.50	.51	.74	31.5	5.4	30.1	5.5	1.5	.44	.43	.84	31.8	6.3	33.4	6.3	-2.0
	F	.64	.62	.62	23.3	4.9	24.5	5.0	-1.7	.60	.52	.60	26.1	4.8	25.9	4.3	.3
RB	M	.39	.76	.76	11.2	3.3	12.2	3.6	-1.9	.65	.71	.80	13.6	5.2	14.2	5.4	- .7
	F	.69	.55	.57	11.7	3.6	12.3	4.7	- .9	.75	.79	.61	13.7	4.1	13.7	4.6	- .1

** $p < .01$
* $p < .05$

Table 2
Correlation Between Estimated OPI True Gain Scores and Ordinal Traditional-Age Freshmen Variables

Demographic Variables	Sex	n	TI	TO	Es	Co	Au	RO	SE	IE	PI	AL	Am	PO
Fall '77														
Age	M	18		.39			-.49						.41	.47
	F													
HSGPA	M	18					-.51							
	F													
Participation in:[a]														
Social Activities	M	18												
	F	37								-.31				
Academic Activities	M	18					.51	-.37			-.37		-.38	-.42
	F	37			.28				-.27					
Cultural Activities	M	18	.59											-.42
	F	37					.27				-.34			
Athletic Activities	M	18					-.54	.43				-.45		.37
	F	36						.46	-.57	.31				
Contact With Parents	M	18		-.39										
	F	37		-.37			-.27							
Credit Hours Enrolled	M	18	.62											
	F													
College GPA	M	18						-.48						
	F	33	.37	.36	-.44		.49				.39	-.69		-.87
Spring '78														
Credit Hours Enrolled	M	18											-.45	-.80
	F	37		.38										-.31
Participation in:[a]														
Social Activities	M	18											.54	
	F	37			.60			.44			1.00[b]			
Academic Activities	M	18	.52											
	F	37												
Cultural Activities	M	18	.53											.50
	F	37												
Athletic Activities	M	13								.57			-.52	
	F	37		.39										.69

Note: [a]Approximate number of times students took part in the respective extracurricular activity.
[b]Correlation coefficients corrected for attenuation occasionally exceed ±1.00.

Table 3
Correlation Between Estimated OPI True Gain Scores and Ordinal Adult Learner Variables

Demographic Variables	Sex	n	TI	TO	Es	Co	Au	BO	SE	IE	PI	AL	Am	PO
Fall '77														
Age	M	16		-.51				.35						
	F	43								-.26				
Number of Children	M	16		-.62										
	F													
Hours worked per week	M	4					-.84	-.80		.84	.96	-.90		
	F	18	-.41			-.51			-.39					.44
Years since H.S. graduation	M	17		-.48							.45			
	F	47				-.30				-.27				
HSGPA	M	17			.45			-.49					.52	
	F	45	-.36			.31								
Participation in:[a]														
Social Activities	M	16	.41											-.45
	F													
Academic Activities	M	16		.42										
	F	48												
Cultural Activities	M	16		.54										
	F	48												
Athletic Activities	M	16												
	F	48												
Credit Hours Enrolled	M	16		-.48	-.56									
	F													
College GPA	M	17	.55		-.47	.58				-.50	.59	.75		-.51
	F	51	.87			.36								
Spring '78														
Credit Hours Enrolled	M	17		-.62		-.82	-.78				-.78			.55
	F	51	.73							.83				
Hours Worked Per Week	M	6				-.86								
	F	17								-.63				.43
Participation in:[a]														
Social Activities	M	17		.82									-.85	
	F	51					.51							
Academic Activities	M	17						.57				-.97		
	F	51				-.64								
Cultural Activities	M	17		.74		-.70	-1.05[b]	-1.18						
	F	51									.28			
Athletic Activities	M	17		.55	-.59		.69		.72					
	F	51												

Note: [a]Approximate number of times students took part in the respective extracurricular activity.
[b]Correlation coefficients corrected for attenuation occasionally exceed ±1.00.