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ABSTRACT

The new American College Testing (ACT) College Outcomes Survey was used with a national sample of 9,348 undergraduate students to evaluate the effects of college on the personal and social self-concept of students. About one-third of the sample were over age 26. Outcomes for adult learners were compared with those of younger students. An "index of personal growth attributed to college attendance" was used to measure 36 items of personal and social growth and the college contribution to development. The index values indicated that colleges had "tangible" impact on 29 of the 36 areas for adult students, and adults reported personal and social growth comparable to that of the younger students. Comparisons were drawn between older college students and younger, more traditional-aged students to determine if the two groups showed different patterns of involvement in the college environment and if the impact of the college experience was different for adults. Adults were much less involved in campus activities and much more likely to be involved in caring for family. (Appendixes contain a list of 46 references and 5 data tables.) (Author/YLB)

Adults' Personal Development in College

Running Head: Adults' Personal Development in College

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Abstract

The new ACT College Outcomes Survey was used with a national sample of 9,400 undergraduate students to evaluate the effects of college on the personal and social self-concept of students and to compare the outcomes for adult learners with those of younger students. An "index of personal growth attributed to college attendance" was used to measure 36 items of personal and social growth and provides one indicator of "college effect" considering the interaction of student growth and the college contribution to development. The index values indicated that colleges had "tangible impact" on 29 of the 36 areas for adult students and adults reported personal and social growth comparable to that of the younger students.

Adults' Personal Growth in College

The public has become keenly interested in seeing what colleges can offer students who participate in higher education. This is especially true for adult students who often pay their own expenses and forgo other demands on both their time and money to participate in higher education. Consequently, both consumer and public policy issues confront colleges as they attempt to measure the outcomes of college and design programs that respond to the competing demands of their constituents.

The purpose of this study was to investigate the effects of college on the personal and social self-concept of adult students and to assess the role of college as viewed from the eyes of the adults. To do this, the responses of approximately 9,400 college students were analyzed using the new American College Testing (ACT) College Outcomes Survey (COS). The study consists of two parts; first, we calculated an index of "personal growth attributed to college attendance" that assesses both the personal growth observed by adult students and the perceived effect the colleges had on their development. The index offers an indicator of "college effect" by providing a measure of personal growth attributed to college attendance. Next, we drew comparisons between older college students and younger more traditional-aged students to determine if the two groups showed different patterns of involvement in the college environment and if the impact of the college experience was different for adults.

Related literature

The vast majority of adults enroll for work or career related reasons and in many cases do so to address some life event or transition that serves as a motive for learning. Aslanian and Brickell (1988) and Frost (1991) suggested adults enter school in part to cope with changes and point to circumstances in adults' lives such as getting hired, fired, married, or divorced as reasons to pursue learning. Hughes and Graham (1990) suggested these "triggering" events motivate a person to change and foster both conflict and growth among the life roles of spouse, parent, worker, and student.

Adults enter college at different and somewhat unpredictable times in their lives and offer unique personal backgrounds, high expectations of themselves and their fellow students, and make a decided impact on the face of higher education. They attend college for very practical reasons as well as the desire to enhance life experiences.

Often this requires having to juggle jobs, families, and a host of role expectations (Aslanian & Brickell, 1988; Hughes & Graham, 1990; Kasworm, 1990a). Nonetheless, the role expectations of adults can also serve to make them more serious students interested in achieving direct benefits from college and seeking as much as possible from the experience.

College performance and outcomes. Chartrand, (1990, 1992), Cupp (1991), Kasworm (1990a), Shere (1988), and Valentine and Darkenwald (1990), address the effects of low self-confidence of adult learners as they return to college. Often adult students do not feel they will be as "smart" as traditional-aged students, will not be able to keep pace with younger students, or feel their skills are too rusty to address the demands of college work. Despite these concerns, after reviewing over 300 studies on adult undergraduate learners in higher education, Kasworm (1990b) found adult students do as well or better than traditional- aged students based on grades and aptitude/content test performance. Plausible reasons for these findings are that adult learners often feel they compensate for any initial lack in confidence or rusty skills by working harder than the traditional- aged students (Cupp, 1991), by attending college with a clear purpose in mind, by bringing a rich background of life experiences to class, or by taking the advice of their professors or advisers more seriously than the younger students (Frost, 1991, Kasworm, 1995). Cupp (1991) offered an example of this phenomena in citing one adult student's comments, "all the regular students hate (me) because I sit in the front row... and when they ask for a 12 page paper, I provide them 25." (p. 16)

Kuh (1993) also described comparable outcomes among adult learners in analyzing the findings of interviews of 150 traditional- and nontraditional-aged seniors discussing their college experiences in and outside of the classroom. Examining the demographic data collected with the interviews, he found the benefits of attending college did not differ for those who were over the age of 23, attended college part-time, lived off campus, had families or worked more than 20 hours a week.

Clark and Anderson (1992) found adults reported that the perceived benefits of education changed during college attendance with a greater shift toward intrinsic rewards. For example, personal development and fulfillment increased in importance whereas the career development benefits of college decreased in importance. They

argued that learners acquired a more holistic view of the of the true benefit of continuing education that they refer to as the "empowerment of learners." Adults valued this knowledge development and it was the single most important benefit for more than one-third of both the entering and graduating students. These findings are consistent with Kasworm's (1990b) review of literature on adult learners where she found that women, as they continued their college work, often reported increasing commitments to internal motives such as self-improvement and decreasing commitments to external motives such as career skills or financial security. Further, Kasworm and Blowers (1994) found that the adult life context both influenced and served as the avenue for the expression of learning relationships for adult students. This was the case for the interaction between family and student roles, as well as for the interaction between work and student roles for those adults who continued to work while attending college.

Adults' involvement in college. While the research on college outcomes has shown that college does indeed have an impact on the cognitive, personal, and social development of students, the research does not specifically address the nature of the adult students involvement in college today. Today's adult students may be less involved in the campus environment, less likely to become involved in student activities and social groups, and less likely to spend significant amounts of time on campus (Aslanian and Brickell, 1988; Frost, 1991; Kuh, 1993b).

Frost (1991) and Kasworm (1995) indicated adult students are often less involved with campus social activities or concerns of the student body and express concerns about how they relate to the traditional-aged students in class. Cupp (1991) found that almost uniformly adult learners are much less involved in extracurricular activities, often because of a lack of time and money. Kuh (1993) articulated this notion as he quoted an adult student reflecting on her struggle to handle the time constraints she experienced in college, "Time constraints were becoming too severe. I had too many meetings to attend. Now I'm able to schedule those so that I don't lose any time with my daughter because she's number one (in priorities). School is number two. Work is number three and I run a poor four! But the extracurricular is still an important part of the educational process. You're learning how to lead" (p. 293).

Other research has demonstrated that adult students are more concerned than younger students with the cognitive and quality aspects of their education, while younger students tend to value the social aspects of college more than adults (Okun, Kardash, & Janiga, 1986; Wolfgang & Dowling, 1981; Kasworm & Blowers, 1994). Kasworm (1995) also notes that involvement in co-curricular activities for adults means engagement in work, family, and "...self-directed learning projects outside the confines of the college setting and beyond particular course assignments" (p. 24). This suggests that involvement for adults occurs across the worlds of college, work, and family and is not limited to the collegiate environment (Kasworm, 1995). When the college environment is considered, the important impact on adults has been found to come from involvement in relationships with faculty and in class-related learning. In contrast, the important impact of college on younger students often comes from involvement with peers and in peer-related activities (Kasworm & Pike, 1994; Kasworm & Blowers, 1994; Kasworm, 1995).

If college "involvement" does have a significant affect on student outcomes, adults may very well experience different outcomes from undergraduate education. However, some researchers (Chartrand, 1990, 1992; Donaldson, 1989; Bean & Metzner, 1985; Kasworm, 1995; Kasworm & Pike, 1994) have questioned the validity of applying the traditional definition of involvement to adult students. Because of different levels of campus involvement and the variety of roles that adults attend to, Kasworm (1990b) suggested there are several issues related to adult students' experience in higher education. For example, should adults be highly involved in student activities and out-of-class experiences and if so, should it by mandated by college policies? Furthermore, should we expect the same developmental impact for adults as we do younger students who attend college or would we expect different changes in the adults' development?

This review of the literature on college outcomes raises several questions we address in our research. First, in what areas do adult students see the most personal and social development as a result of the college experience? Second, what is the interaction between the personal and social growth and the colleges' contribution in determining the impact of the college experience for adult students and does it vary from that experienced by younger students? Third, what is the pattern of participation in out-of-class activities for adults? Lastly, do different levels of involvement in out-of-

class activities appear to affect personal and social growth outcomes for adults? The current study is guided by these questions and examines the responses of a large number of adult college students who reported on the changes they believe occurred during their college experiences.

Method

Subjects

Data collection. Data were collected from 15,657 college students between February 1993 and April 1994 at 75 colleges and universities throughout 27 states. The students involved in this study completed the ACT College Outcomes Survey (COS) as part of their institutions' efforts to assess student growth during college. The institutions administered the COS to a sample of their students (median response rate was approximately 50 percent) and the completed forms were sent to ACT for scoring and evaluation. The colleges involved in this study were those that had utilized the ACT research services during the period and were not randomly selected. However, the institutions were representative of institutions used to develop the preliminary national user norms for the COS published in 1993 and represent both public and private institutions of various types from across the country (College Outcomes Survey Preliminary User Norms, 1993). The institutions included in the sample varied in size from small schools of a few hundred students to large universities with over 20,000 students. The sample included public, private, technical, two-year, and four-year colleges and universities from a variety of geographical regions in the United States.

Since the focus of this study was to assess the undergraduate students' personal and social growth since entering college and the colleges' contribution to that growth, students who had completed less than 24 hours of credit at the institution being studied (i.e., approximately one year) were deleted from the sample along with any students holding bachelors' degrees or working on advanced degrees. This left a subgroup of 9,348 students who were included in the analyses.

Demographic Characteristics. The demographic characteristics of the sample suggest the subjects are representative of many state and private two- and four-year colleges and universities across the country. Approximately two-thirds of the respondents were between the ages of 19-26 with the largest group falling between the ages of 20 and 22 (46%). Approximately 25 percent of the students were studying part-

time (less than 12 hours) and most enrolled in colleges in their home state of residence (88%). Sixty percent of the respondents were female and 40% were male. Eighty-six percent classified themselves as "white" with the other 14% identifying themselves as American Indian, Asian, Black, or multiracial. Forty percent of the students were pursuing associate degrees, just over 50% were pursuing bachelor's degrees, and the other 10 % were enrolled in school for other motives. Approximately fifty percent of the students had completed at least 80 hours of college course work before completing the COS and 35% had completed at least 100 hours of college course work.

Because we were particularly interested in the adult learners we examined the characteristics of the adult sample in more detail to ensure they were representative of typical adult populations. This review indicated approximately half of the adult respondents were between the ages of 24 and 31, about one-quarter were between the ages of 32 and 38, with the remaining students 39 years of age or older. Almost 84% classified themselves as "white" (approximately 2% indicated they were of Hispanic/Latino ethnicity) and the other 16% identified themselves as American Indian, Asian, Black, multiracial, or "other." These figures closely approximate the general adult learner population in regard to racial makeup that runs between 12 % and 21 % (Aslanian and Brickell, 1988; NCES, 1993). The demographic characteristics of the smaller group of adults suggest the subjects are representative of adult students enrolled in many state and private two- and four-year colleges and universities across the country.

Measure

The College Outcomes Survey, developed by ACT was used to obtain data for this study. The COS is a several page questionnaire designed to evaluate the college experience and assess students' perceptions of their growth and preparation in both cognitive and affective areas. Only the 36 items in the College Outcomes Section, Part D of the survey were used for this analysis. This section contains items measuring the personal and social growth in areas such as personal values and responsibilities, understanding self and others, tolerance, emotions, leadership skills, interests, social and civic responsibilities, and moral and religious development and assesses the personal growth students observed since enrolling in college. This list of items provides

a somewhat comprehensive assessment of the areas of student personal and social growth in college.

Reliability estimates were established using generalizability theory because of the multi-dimensionality of the COS and the possible uses of the instrument (e.g., individual, college, or outcome variable comparisons). For this particular study the comparison is based on average student ratings of various outcome variables where the variables are the object of analysis with students as the source of error. Analysis for this type of comparison yielded generalizability coefficients that ranged from .96 with groups of 200 to .99 with groups of 500 (Sun, 1995).

Participants responded to the 36 outcome variables on two different outcome dimensions labeled personal growth and college contribution. **Personal growth** (PG) was based on "the extent of your growth since entering this college (regardless of the extent of the contribution made by your experiences at this college); this item was rated on a five point scale where 5 = very much and 1 = none. The second component, **college contribution** (CC) was based on "... the extent of the college's contribution (i.e., your college experience both in and out of class) to your growth (regardless of the extent of your personal growth in a given area)." This item was also rated on a five point scale where 5 = very much and 1 = none. On each item subjects were also given the option of responding that the item was "not applicable."

Participants also responded to several items measuring their "responsibilities and time allocations" according to the amount of time they spent on each type of activity on a weekly basis. We selected five items associated with involvement in college clubs, college-sponsored events, care of family, off-campus community service, and off-campus cultural events to assess the levels of student involvement outside of formal classroom activities. On these items participants reported the number of hours they spent on the activity each week.

Analysis

To assess both student growth and the impact of college an "index of personal growth attributed to college attendance" was computed for each of the 36 items. The purpose of this index was to represent both the personal growth students observed and the contribution made by the colleges. This index, representing the interaction between

growth and the colleges' role, provides a method of assessing general areas where colleges have tangible impact.

This index was computed by multiplying the PG variable rating by a proportion that represents the relative contribution of the college experience on that growth. That proportion is determined by dividing the CC variable rating by 5 -- the highest possible rating. For example, if a student rated the CC variable 4 and the PG variable 3, the calculation would yield a derived index score of 2.4 (i.e., 4 divided by 5, multiplied by 3). This combined score is then transformed into a standard scale score with a maximum value of 100 to assist with interpretation. This resulting index score provides a combined estimate of both the growth occurring during college and the colleges' contribution (G. Pike, personal communication, March 24, 1995).

We identified two criteria to determine areas of "tangible personal and social growth" as a result of the college experience. Each item had to have an mean index value of 36 or above and an individual variable mean value of three or higher on both the PG and CC variables to be seen as an area of tangible impact, i.e., higher than moderate in both areas. These criteria were established based on the scaling of the items and a theoretical response for students who perceived at least a moderate or greater than average impact on both the personal growth and college contribution variables.

We conducted additional analyses to compare the adult learners to the younger students on variables measuring responsibilities and time allocations for involvement in college clubs and organizations (political, social, religious), college-sponsored events (e.g. plays, exhibits, sports), care of family (e.g., spouse, child, relative), off-campus community services (e.g., religious, civic) and off-campus cultural events (e.g., theater, music, exhibits). Since the variables measuring involvement in activities outside of class were not continuous in nature, we used a chi-square statistic to test the relationships. Due to the large number of subjects we set the alpha value for determining significance at .001.

We also compared the mean and index scores on the outcome variables for adult learners to those of the younger students to see if substantive differences were reported for the two types of learners. For this comparison we chose not to use traditional tests of statistical significance to make the comparisons due to the size of our sample. That

is, with large numbers of subjects even trivial differences between groups will be statistically significant since tests of statistical significance are a function of sample size. Instead, we identified "benchmarks" to compare the differences we observed between the adults and the younger students. To give us these benchmarks, we examined differences present in other groups that should theoretically report disparent scores. For example, we compared males to females, looked at student involvement in campus activities and organizations outside of class, and school size. In this way we were able to determine benchmarks to tell if the differences between younger and older students were really important ones.

We also used factor analyis with the 36 items measuring *personal growth* to identify broad outcome characteristics for the adult learners. Using the subgroup of approximately 4,000 adults, we conducted a principle components factor analysis with an orthogonal rotation using the varimax procedure. To determine which factors to retain, a scree test was utilized as was the Kaiser criterion, which recommends that only items with eigenvalues above 1.0 be included. These factors provided a overall conceptual framework for personal growth and indicated the broad constructs of personal growth that were affected by the college experience.

Results

Item responses - For the personal growth items, adults reported mean scores for the 36 variables ranging from 3.02 to 4.09 on a five-point scale, with most items falling between 3.50 and 3.90. The areas for which adults indicated the colleges' contribution to their personal growth was the greatest included: becoming academically competent (4.09), increasing my intellectual curiosity (4.07), acquiring a well-rounded general education (4.05), setting long-term or life goals (4.01), taking responsibility for my own behavior (3.98), obtaining a sense of purpose or value for life (3.97), being more willing to change and learn new things (3.95), and developing self-confidence (3.93). The personal growth areas that were lowest included those associated with participating in elections (3.32), understanding different religious values (3.30), developing religious values (3.25), and becoming active in volunteer work (3.02). See Table 1 for the complete listing of mean scores for both adult and traditional-aged students.

Items where the adult learners found the colleges' contribution to be the greatest were very similar to those in which they reported the most significant growth. These included acquiring a well-rounded education (3.89), becoming academically competent

(3.83), and increasing intellectual curiosity (3.78). Likewise the adult learners found the colleges least influential in helping them develop religious attitudes (2.29), becoming active in volunteer work (2.60), and in understanding religious values different from their own (2.76). See Table 2 for a complete list of the mean scores.

Comparing the mean scores of the adult to traditional-aged students shows that the differences were very slight. The differences between the mean scores for both the PG and CC scores ranged from 0 to .20 on a five-point scale (only two items showed .20 differences). In fact, the scores were so similar that 20 of the 36 PG items varied only .05 of a point or less and 16 of the 36 CC items varied .05 of a point or less.

By comparison, benchmark differences for other groups were normally higher on almost all of our benchmark comparisons. For example, we found differences between males and females in the range of .15 to .25; differences on the number of credits earned at the present college in the range of .3-.4; differences for active involvement in out-of-class learning experiences in the range of .2-.3; differences for active involvement in college sponsored events in the range of .1-.2; and differences in college size to vary as much as .5-.6 between smaller schools and those enrolling 3,000 to 10,000 students. See Tables 2 and 3 for specific item comparisons for the adults and younger students.

Involvement - When comparing the younger students to the adults in respect to involvement in activities outside the classroom there were statistically significant differences for all five variables measuring involvement in activities outside the classroom. The largest differences were observed in responses to involvement in (1) college clubs and organizations where adults showed less involvement in every category; i.e., 64% reported no weekly involvement versus only 45% of the younger students, (2) college sponsored events where adults reported less involvement in each category; i.e., 77% reported no activity versus 50% of the younger students; and in (3) caring for the family where adults reported much higher rates of involvement; e.g., only 23% of the adults reported no activity whereas 67% of the younger students reported no activity. Statistically significant differences were also found in the items assessing involvement in off-campus community services and off-campus cultural events, but the differences were less dramatic. For example, 56% of the younger students reported no involvement in off-campus community services whereas only 47% of the older students reported no involvement. Likewise, 51% of the younger students reported no

involvement in off-campus cultural events and only 47% of the adults reported no weekly activity. See Table 3 for results of the statistical comparisons.

Index of personal growth attributed to college attendance - On a 100 point scale, the computed indexes of college impact and growth for the adults ranged from a high of approximately 65 to a low of 32. The highest index values were in the areas of becoming academically competent (64.76), increasing intellectual curiosity (63.89), being willing to change and learn new things (58.31), setting long-term goals (58.18), developing self-confidence (57.18), and in the ability to stay with a project until the end (56.59). The lowest index values were in the areas of developing religious values (32.43), being active in volunteer work (35.31), understanding religious values different from ones own (40.05), and participating in elections (40.96). In all, twenty-nine of the 36 index values measuring personal growth attributed to college attendance met the criteria of tangible impact. A complete listing of the index values of personal and social development are presented in Table 4.

Contrasting the index scores of the adult students to those of the younger students showed very similar index values for all 36 variables. The differences between index scores only ranged from .3 to 3.2 points on a scale with a maximum value of 100 with most comparisons only varying by one to two points (see Table 4). In comparison, differences in our "benchmark" groups noted above often ranged from 10 to 20 points.

Factor analysis - When the factor analysis was conducted, four factors emerged that were identified as 1) intra-personal development, 2) personal valuing and moral development, 3) social leadership and development, and 4) civic involvement and awareness. See Table 5 for details of the factor analysis.

Factor one, *intra-personal development*, consisted of items related to acquiring becoming academically competent, acquiring a well-rounded general education, developing productive work relations, increasing intellectual curiosity, setting long-term/life goals, understanding self, talents, and interests, developing self-confidence, being willing to change to learn new things, learning to stay with a project until its completion, and dealing fairly with a wide range of people.

Factor two, labeled identified as*personal valuing and moral development*, consisted of items focusing on skills such as becoming a responsible family member, seeking and conveying truth, understanding different religious values, personal responsibility for behavior, clarifying personal values, learning to manage finances, developing moral principles to guide actions, and developing religious values.

Factor three, *social leadership and development*, contained items associated with becoming an effective team member, participation in volunteer work, considering differing points of view, interacting with people of different cultures, improving relations with others, coping with change, developing leadership skills, and being adaptable and tolerant, negotiating.

Factor four, identified as *civic involvement and awareness*, addressed the skills of becoming a more effective citizen. This factor contained the variables measuring awareness of global issues, participating in the electoral process, awareness of social and political issues, gaining insight into human nature, recognizing rights, responsibilities and privileges, and being sensitive to moral injustices.

Discussion

In this study we examined 36 items on the ACT College Outcomes Survey that measured personal growth among adult students and developed index values measuring personal growth attributed to college attendance. The index values calculated for the adult learners indicated that in 29 of the 36 areas adults perceived the college to have tangible impact on their personal and social growth. When we compared the adults' level of involvement in the college environment outside the college classroom to that of younger students, adults were much less involved in campus activities and much more likely to be involved in caring for family. The adults were also slightly more involved in off-campus community service or cultural events than the younger students. We also found the development for adult learners to be comparable to that of younger students across all areas of personal and social growth. These findings suggest that higher education has a tangible effect on adults despite their concerns about "rusty academic skills" and lack of time to become involved in campus activities. Perhaps as some have suggested (Chartrand, 1990, 1992; Donaldson, 1989; Kasworm, 1995; Kasworm, & Blowers, 1994) the traditional benefits of campus involvement needed to increase college impact do not necessarily pertain to adult learners.

In examining the individual areas where adults reported the greatest personal growth from college, we found that our results are consistent with earlier research looking at adults in college environments. Clark and Anderson (1992) reported knowledge development was the single most important factor for more than one-third of the graduating students. Likewise, Kasworm (1990b) found an increased "love of

learning" among adult learners along with the finding that adult students appeared to do as well as younger students on academic performance measures. These points are supported in our research where adults reported the greatest gains in obtaining academic competency, intellectual curiosity, a well-rounded general education, increased self-confidence, long-term goals and values, perseverance, and abilities to change and learn new things.

One of the most significant findings in our research was how slight the differences were when contrasting adults' perceptions of growth associated with college to the younger students. Older and younger students responded in very similar ways in every index measuring personal and social growth and the contribution of college. The indexes values for adults were slightly higher than those of the younger students on 23 of the 36 items, yet the variances represent few discrepancies of any practical value. Instead, it is probably accurate to say that despite the different levels of out-of-class campus involvement, adult learners report the same level of personal and social growth as that of the younger students.

This finding substantiates preliminary findings by Kuh (1993b) where he found the benefits of college did not differ for those who were over the age of 23, lived off-campus, or had families. Kasworm's (1990b) review of performance measures comparing adult learners to traditional students and Cupp's (1991) preliminary findings from interviews that adult learners experience growth similar to that reported for traditional students also suggest that adults experience substantial growth in college, similar to that of younger more traditional-aged students.

These findings offer a contrast to the recent literature on traditional student development and college outcomes that focuses heavily on the notion of "involvement" and the active engagement of students in the living and learning community. One issue that begs answering is the notion of why the adult learners perceive their development to be akin to that of younger traditional students even though they have very different types of involvement both on- and off-campus. One plausible explanation is that the notion of campus involvement is really similar to that of "authentic learning" defined by cognitive psychologists (Anderson & Armbruster, 1990). That is, campus involvement is simply a way to integrate learning that takes place in the classroom into a real life setting. Adults may still experience the same types of growth from the college

experience because they are able to link their learning in other authentic contexts; that is, in their roles as parents, community members, as supervisors at work, or within roles in social clubs and relationships. Furthermore, those focusing on continuing professional educators have already suggested that professionals tie their learning to previous learning and make connections to existing schema (Cervero, 1988: Merriam & Cafferella, 1991) They see new information gleaned from classes in light of what they already have experienced and can reflect on earlier leadership opportunities and adult life roles they have experienced.

The four broad outcome categories emerging from the factor analysis of the *personal growth* among adult students enrolled in undergraduate degree programs were consistent with the findings of earlier research by researchers examining traditional-aged college students and provides an empirical basis for assessment of personal growth outcomes. For example, in a synthesis of the literature on college outcomes, Kuh and Wallam (1986) suggested one of the general outcomes of college was social development represented by increased social and political values and increased tolerance and civic responsibility; similar to the factor indicating civic involvement and awareness. Kuh and Wallam argue that personal development characterized by self-assurance and improved relations with others was a general area of growth occurring in college. This latter theme is consistent with the factor representing intra-personal development among the adult learners.

These general constructs of personal development in college for adults are also similar to several elements addressed by Chickering and Reisser (1993) who emphasize developing mature interpersonal relationships that is present in the factor on social leadership and development. Likewise, in a description of college outcomes, Jacobi, Astin, and Ayala (1987) discussed the use of general outcomes related to valuing, social integration, and involvement in a contemporary world that are similar to the three empirical factors identified in this study as personal valuing and moral development, social leadership and development, and civic involvement and awareness respectively.

The empirically-derived factors measuring the civic involvement and awareness, intra-personal development, and personal valuing and moral development dimensions are similar to those identified by Robert Pace (1984) as he suggested the need to study the personal and social outcomes of college. These four empirical factors were also akin

to those studied by other researchers who found changes in self-concept and self-esteem, moral development, and attitude change (Pascarella and Terenzini, 1991), increased social and political concerns along with increased self-perceptions (Loeb and Magee, 1992); and humanistic and civic involvement (Pascarella, Ethington, and Smart, 1988).

This consistency with conceptual notions about college outcomes suggests that these four factors can serve as useful broad categories to assess personal and social growth in college. They lay the groundwork to study the broad categories of college impact; an approach that could capture the integration among various college activities. This approach could also help colleges determine the general outcomes they will focus on, the steps they should seek to enhance their impact, and encourage them to integrate the experiences college students have to create an institutional ethos that fosters student development.

Finally, the comparability of growth outcomes and college impact on growth for both younger and adult college students raises questions about whether the distinction we make between adult and younger students is the correct one to make. Aslanian (1990) has noted that our conceptions of "traditional" and "non-traditional" student are being challenged by growing variations in enrollment patterns of both adult and younger students. For example, adult students are attending on a full-time basis more than they used to, and younger students are increasingly enrolling on a part-time basis, spending the remainder of their time at work or attending to family. Kasworm and Blowers (1994) also found that traditional definitions of involvement appear to apply to adults when they enrolled on a full-time basis. Therefore, a question that needs to be addressed is whether distinctions between groups of students, in terms of both involvement and outcomes, are more properly made on the basis of enrollment pattern than on the basis of age.

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Table 1

Personal Growth Variables - Means and Standard Deviations

	24 years or older		23 years or younger	
	M	SD	M	SD
Becoming Effective Team Or Group Member	3.73	0.93	3.75	0.89
Become Willing To Consider Opposing Points	3.76	0.88	3.77	0.85
Interact Well With People From Different Cultures	3.62	1.02	3.65	0.98
Improving My Ability To Relate To Others	3.83	0.89	3.86	0.83
Prepare To Cope With Changes As They Occur	3.79	0.95	3.82	0.89
Developing Leadership Skills	3.72	0.98	3.77	0.95
Actively Participating In Volunteer Work	3.02	1.21	3.05	1.16
Learn To Be Adaptive, Tolerant And Willing To Negotiate	3.66	0.93	3.69	0.88
Seeking And Conveying The Spirit Of Truth	3.72	1.04	3.64	1.00
Become More Aware Of Global Issues and Events	3.55	1.03	3.52	1.02
Participate Effectively In Election Process	3.32	1.14	3.39	1.09
More Aware Of Political And Social Issues	3.50	1.06	3.51	1.03
Gaining Insight Into Human Nature	3.31	1.08	3.30	1.05
Recognize Rights, Responsibilities And Privileges	3.54	1.06	3.54	0.99
Becoming Sensitive To Moral Injustices	3.59	1.05	3.59	0.97
Understand Religious Values Different From My Own	3.30	1.14	3.35	1.08
Take Responsibility For My Own Behavior	3.98	1.04	4.09	0.88
Learn How To Become More Responsible Family Member	3.76	1.11	3.78	1.01
Clarifying My Personal Values	3.83	0.97	3.89	0.88
Develop Sense Of Purpose, Value For Life	3.97	0.96	3.90	0.93
Learning How To Manage Finances	3.58	1.12	3.75	1.02
Dealing Fairly With A Wide Range Of People	3.79	0.97	3.86	0.88
Develop Moral Principles To Guide My Actions	3.69	1.06	3.77	0.95
Acquiring Appropriate Social Skills	3.69	0.99	3.78	0.90
Becoming Academically Competent	4.09	0.87	3.96	0.87
Develop Productive Work Relations With Others	3.77	0.99	3.85	0.91
Increasing My Intellectual Curiosity	4.07	0.89	3.92	0.89
Setting Long-Term Or Life Goals	4.01	0.97	3.95	0.96
Constructively Express Emotions And Ideas	3.67	0.98	3.67	0.93
Understand Myself, Talent And Interests	3.81	0.96	3.80	0.91
Developing Self-Confidence	3.93	0.96	3.89	0.93
More Willing To Change And Learn New Things	3.95	0.91	3.85	0.87
Developing My Religious Values	3.25	1.27	3.34	1.21
Improve Ability To Stay With Project Till End	3.86	1.01	3.81	0.93
Become Effective Member In Multicultural Society	3.51	1.06	3.47	0.98
Acquiring A Well-Rounded General Education	4.05	0.91	3.95	0.91

Table 2

College Contribution Variables - Means and Standard Deviations

	24 years or older		23 years or younger	
	M	SD	M	SD
Becoming Effective Team Or Group Member	3.31	1.00	3.34	0.98
Become Willing To Consider Opposing Points	3.37	0.96	3.34	0.95
Interact Well With People From Different Cultures	3.21	1.12	3.28	1.12
Improving My Ability To Relate To Others	3.44	1.00	3.41	0.97
Prepare To Cope With Changes As They Occur	3.22	1.08	3.19	1.05
Developing Leadership Skills	3.27	1.12	3.30	1.09
Actively Participating In Volunteer Work	2.60	1.17	2.70	1.19
Learn To Be Adaptive, Tolerant And Willing To Negotiate	3.16	1.05	3.20	1.01
Seeking And Conveying The Spirit Of Truth	3.01	1.15	2.94	1.10
Become More Aware Of Global Issues And Events	3.13	1.12	3.09	1.10
Participate Effectively In Election Process	2.81	1.21	2.84	1.17
More Aware Of Political And Social Issues	3.05	1.18	3.04	1.12
Gaining Insight Into Human Nature	3.15	1.14	3.15	1.08
Recognize Rights, Responsibilities And Privileges	3.07	1.17	3.06	1.08
Becoming Sensitive To Moral Injustices	3.04	1.13	3.06	1.06
Understand Religious Values Different From My Own	2.76	1.22	2.73	1.17
Take Responsibility For My Own Behavior	3.16	1.25	3.28	1.16
Learn How To Become More Responsible Family Member	2.72	1.25	2.69	1.26
Clarifying My Personal Values	3.02	1.13	3.00	1.09
Develop Sense Of Purpose, Value For Life	3.23	1.15	3.09	1.10
Learning How To Manage Finances	2.75	1.23	2.90	1.20
Dealing Fairly With A Wide Range Of People	3.27	1.10	3.38	1.02
Develop Moral Principles To Guide My Actions	2.89	1.19	2.96	1.10
Acquiring Appropriate Social Skills	3.18	1.10	3.25	1.04
Becoming Academically Competent	3.83	0.98	3.67	0.98
Develop Productive Work Relations With Others	3.23	1.12	3.30	1.07
Increasing My Intellectual Curiosity	3.78	1.01	3.58	1.00
Setting Long-Term Or Life Goals	3.46	1.16	3.34	1.10
Constructively Express Emotions And Ideas	3.14	1.09	3.09	1.05
Understand Myself, Talent And Interests	3.26	1.10	3.16	1.05
Developing Self-Confidence	3.48	1.12	3.28	1.09
More Willing To Change And Learn New Things	3.55	1.05	3.41	0.99
Developing My Religious Values	2.29	1.20	2.35	1.24
Improve Ability To Stay With Project Till End	3.48	1.13	3.37	1.06
Become Effective Member In Multicultural Society	3.09	1.14	3.08	1.08
Acquiring A Well-Rounded General Education	3.89	0.99	3.79	0.98

Table 3

Percentages and Chi-Square Values Comparing Students Age 24 and Older and Students Age 23 and Younger

	Average Total Hours Spent Weekly*					
Involvement in:	0	1-5	6-10	11-15 & Over	DF	Chi-square
College Clubs and Organizations	64/45	29/37	5/11	2/7	3	342.14***
College Sponsored Events	77/50	21/39	1/5	1/6	3	695.74***
Care of the Family	23/67	7/13	6/6	64/15	3	2,437.49***
Off-campus Community Services	47/56	40/36	9/5	5/2	3	130.64***
Off-campus Cultural Events	47/51	44/40	6/6	3/3	3	20.66***

*Note - First percentage is for students age 24 or older; second percentage is for students age 23 or younger.

***p<.0001

Table 4
Index of Personal Growth Attributed to College Attendance for Adults Aged 24 or Older

Mean and index values for: Personal Growth (PG) and College Contribution (CC)	PG	CC	Index
1. Acquiring well-rounded general education	4.05	3.89	65.49*
2. Becoming academically competent	4.09	3.83	64.76*
3. Increasing intellectual curiosity	4.07	3.78	63.89*
4. Willing to change & learn new things	3.95	3.55	58.31*
5. Setting long-term or life goals	4.01	3.46	58.18*
6. Developing self-confidence	3.93	3.48	57.18*
7. Ability to stay with project until end	3.86	3.48	56.59*
8. Ability to relate to others	3.83	3.44	54.79*
9. Sense of purpose and value for life	3.97	3.23	53.57*
10. Taking responsibility for own behavior	3.98	3.16	52.78*
11. Willing to consider opposing points of view	3.76	3.37	52.60*
12. Understanding myself, my talents, & my interests	3.81	3.26	52.04*
13. Dealing fairly with a wide range of people	3.79	3.27	52.16*
14. Becoming effective team or group member	3.73	3.31	51.66*
15. Productive work relations with others	3.77	3.23	51.48*
16. Developing leadership skills	3.72	3.27	51.40*
17. Coping with changes as they occur	3.79	3.22	51.08*
18. Acquiring appropriate social skills	3.69	3.18	49.65*
19. Interacting well with people from different cultures	3.62	3.21	49.38*
20. Constructively express emotions & ideas	3.67	3.14	48.73*
21. Learning to be adaptable, tolerant, willing to negotiate	3.66	3.16	48.60*
22. Clarifying personal values	3.83	3.02	48.56*
23. Aware of global issues	3.55	3.13	47.49*
24. Seeking & conveying spirit of truth	3.72	3.01	47.24*
25. Effective member in multicultural society	3.51	3.09	46.77*
26. Recognizing rights, responsibilities, & privileges	3.54	3.07	46.72*
27. Sensitive to moral injustices	3.59	3.04	46.55*
28. Aware of political & social issues	3.50	3.05	45.80*
29. Gaining insight into human nature	3.31	3.15	45.60*
30. Developing moral principles to guide actions	3.69	2.89	45.29
31. Becoming more responsible family member	3.76	2.72	43.35
32. Learning to manage finances	3.58	2.75	42.21
33. Participating in election process	3.32	2.81	40.96
34. Understanding religious values different from own	3.30	2.76	40.05
35. Active in volunteer work	3.02	2.60	35.31
36. Developing religious values	3.25	2.29	32.43

Asterisk (*) indicates variable met conditions of "tangible" impact by colleges

Table 5

Factor Loadings for 36 Outcome Variables Measuring College Impact for Adults 24 Years & Older

Factor I	Intra-personal Development (48.60)	R
.728	Becoming academically competent	.746
.709	Increasing intellectual curiosity	.761
.674	Acquiring well-rounded general education	.705
.655	Willing to change & learn new things	.809
.674	Developing self-confidence	.797
.668	Setting long-term or life goals	.787
.548	Ability to stay with project until end	.757
.659	Understanding myself, my talents, & my interests	.790
.584	Sense of purpose and value for life	.801
.555	Constructively express emotions & ideas	.750
.497	Productive work relations with others	.752
Factor II	Personal Valuing and Moral Development (42.89)	R
.701	Developing religious values	.734
.675	Becoming more responsible family member	.820
.704	Developing moral principles to guide actions	.817
.574	Clarifying personal values	.820
.641	Learning to manage finances	.702
.598	Taking responsibility for own behavior	.775
.502	Understanding religious values different from own	.738
.449	Seeking & conveying spirit of truth	.768
.501	Acquiring appropriate social skills	.745
.526	Dealing fairly with a wide range of people	.746
.436	Becoming effective member in multicultural society	
Factor III	Social Leadership and Development (43.05)	R
.721	Becoming effective team or group member	.751
.678	Ability to relate to others	.817
.674	Developing leadership skills	.779
.631	Interacting well with people from different cultures	.731
.650	Willing to consider opposing points view	.760
.640	Learning to be adaptable, tolerant, willing to negotiate	.790
.619	Coping with changes as they occur	.778
.505	Active in volunteer work	.664
Factor IV	Civic Involvement & Awareness (42.23)	R
.796	Aware of political & social issues	.860
.753	Participating in election process	.820
.712	Aware of global issues	.782
.685	Gaining insight into human nature	.716
.598	Recognizing rights, responsibilities, & privileges	.834
.555	Sensitive to moral injustices	.791