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ABSTRACT

A longitudinal study investigated developmental changes in moral and ethical decision-making among college students at three Christian, evangelical, liberal arts colleges. The three colleges had an "ethics across the curriculum" emphasis in place during the period of the study. The study began in 1987 with 99 freshmen from a total incoming class of 1400, of whom 37 percent were male and 63 percent were female. A follow-up study was done in 1991 with the 75 students still enrolled in school. The study used both qualitative and quantitative instruments that included measurement of demographic characteristics, survey of major social issues, a defining issues test, a value survey, a learning context questionnaire, a test of religious problem solving styles, and an interview. Findings indicated that subjects were generally similar to one another and to the college population as a whole and that the students made significant advances in moral reasoning, openness and tolerance, and religious identity. Elements needed to induce more students to take advantage of growth opportunities during their college years are discussed. Included are appendixes containing 22 tables and 56 references. (JB)

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# Values Assessment at Three Consortium Colleges: A Longitudinal Followup Study

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March, 1992

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**Values Assessment at Three Consortium Colleges:  
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Running head: LONGITUDINAL VALUES STUDY

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Houghton students Julie Neudeck and Rebecca Schenk assisted in the collection of data and the rating of interviews.

At Messiah College, during the 1987-88 academic year, faculty colleague Richard Stevick and Messiah students Diane Frisch and Renee Hunsberger assisted with videotaped interviewing and the rating of interviews, and students Colleen Campbell and David Detwiler also helped to rate interviews. During the 1990-91 academic year, faculty colleague John Addleman assisted with the interviewing and rating of interviews, and Houghton student Rebecca Burwell rated interviews.

At Wheaton College, faculty colleagues Stanton L. Jones and Cynthia Neal provided valuable assistance. Students who assisted in various phases of the research effort were as follows: 1) 1987-88 Rose Buier, Kevin Cesar, Dennis Plummer, Grace Ann Robertson; 2) 1988-89 Heather Anderson, Rose Buier, David Dodd; 3) 1989-90 David Dodd, Heidi Hallbauer, Sandy Johnston, Lauren Strickler; 4) 1990-91 Todd Flournoy, Alex Galloway, Heidi Hallbauer, Sandy Johnston, Cliff McNeely, Carol Phillips. Rose Buier deserves special mention for her excellent work as senior author of an article which was published on the 1987 study (Buier et al., 1989). Additional cross-sectional studies of freshmen and

seniors were conducted at Wheaton during the 1988-89 and 1989-90 academic years.

Finally, a weeklong workshop on values assessment during June, 1987 at Alverno College provided us with many helpful suggestions about assessment in general and the measurement of values and moral reasoning in particular. We are especially grateful to Dr. Marcia Mentkowski for her many suggestions concerning research design and measures.

## GENERAL INTRODUCTION

The years between 18 and 22, the typical college years, have been called "the critical years" by former Harvard Divinity School Professor Sharon Parks (1986). She views this period as a major "make or break it" time for the development of faith, identity, and similarly important aspects of the maturation process. As Dirks (1988) has noted, campuses across the country have often served as reasonably accurate gauges of larger social trends. Christian institutions certainly reflect these prevailing tendencies as well, but they are also vitally interested in the degree to which they reflect the unique concerns of their constituencies. Although nearly all adopt the implicit goal of fostering the maturation process, there is considerable debate about whether public or private institutions are effective in doing so (e.g. Bellah, Madsen, Sullivan, Swindler, & Tipton, 1985; Bloom, 1987).

The Christian College Consortium, a group of thirteen evangelical liberal arts colleges, is deeply concerned about how best to establish the kind of academic and social communities that will challenge and support young adults as they move towards self-chosen commitments. Faculty and staff members are increasingly

discussing what it means in word and deed to assume the important role of guide, mentor or role model as these "novice adults" search for a faith by which to live. By creating a climate more conducive to helping students learn how to seek out, integrate, and use knowledge itself, these institutions seek to assist persons in developing more coherent and deeply internalized world views that will inform and impact the way they live their lives.

For the past four years, an "ethics across the curriculum" emphasis has been implemented at Consortium schools. Generously funded by the Pew Charitable Trust, significant efforts have been made to understand at multiple levels what it means to form conscience, facilitate moral decision-making, and shape character (Holmes, 1991). There is widespread consensus that the teaching of ethics and the transmission of values must serve an integrative function in the institutional context (i.e., "ethics is everybody's business"). From the start, certain faculty members chose to devote energies to assessing the impact of this initiative. Although there is considerable debate about appropriate goals and methodologies, it would be accurate to state that a major focus has been on cognitive-developmental theory, particularly on moral reasoning, or the internal

decision-making process that precedes moral action. Although this is only one aspect of "being ethical", the researchers have found it helpful to isolate a single dimension for careful consideration. Aspects of cognitive reasoning appear to be scalable, and thereby measurable. As Dirks (1988) has noted, moral development from a Christian perspective includes not only "justice reasoning", but one's attitudes, volition, commitment, lifestyle, and personal relationship with God.

There is a significant literature on outcome research in higher education, especially as it pertains to changes in moral and ethical decision-making (e.g. Rest, 1985). Two recent studies (McNeel, 1987; Shaver, 1987) have explored these processes in the context of two Christian liberal arts colleges and a Bible college. McNeel concluded that a Christian liberal arts education can be associated with the enhancement of moral judgments without causing the students to become "liberal" in the context of their beliefs. Shaver demonstrated that the nature of the educational context (liberal arts college versus Bible college) has significant implications for understanding the "justice reasoning" of its students. Representative research studies at both private and public institutions have been reviewed by Astin (1978), Perry (1970) and Rest

(1979). Unfortunately, there are few controlled studies of these important dimensions of development during the critical years at Christian liberal arts colleges. Even less is known about how moral development is intertwined with the broader cognitive, psychosocial, or sociocultural context (i.e. making moral decisions does not occur in isolation).

During the 1987-88 academic year, the authors of this report participated in a collaborative, cross-sectional study of moral and ethical decision-making using freshmen and senior subjects at their respective colleges. In addition to probing entry and exit-level characteristics, we also sought to make comparisons and contrasts among our three colleges and with respect to a broader normative base.

A summary of this 1987-88 study was published (Buier et al., 1989), and a more detailed writeup was prepared for the Christian College Consortium (Van Wicklin et al, 1988). Although this cross-sectional research was highly informative, it did not provide information on developmental changes experienced by one continuous group of subjects over four years. The present longitudinal study does.

We have decided to keep the identities of our colleges confidential for all data which contrasts one

college with another. Throughout this report the three colleges which comprise the sample will be referred to as Colleges A, B, and C.

It should also be noted that for the sake of convenience we often refer to the subjects in the 1991 followup study as seniors. Although most of them are seniors, technically speaking some are not. A few students took a semester or year off between 1987 and 1991, and a few others will take more than four years to complete a four-year degree.

## METHOD

### Subjects.

In the 1987 study, 99 freshmen from our three colleges were selected from a combined incoming class of approximately 1400 students. Chosen from either a computer-generated, random list or from a large, first-year, general education class, the original freshman cohort was 37% male and 63% female.

During the Spring of 1991, every single member of the original cohort who was still enrolled agreed to participate in the followup study. Of these 75 subjects, 22 of 30 (73%) were from College A, 27 of 34 (79%) were from College B, and 26 of 35 (74%) were from College C.

### Procedure.

All subjects were assessed during the Spring, 1991 semester. Each heard a brief oral presentation about the study, and signed a consent form (see appendix A). Each subject completed a videotaped interview (expanded somewhat from the freshman year), took the same three tests as in 1987 plus two additional tests, and watched the videotape of his or her freshmen interview. Each was paid for participation in the study.

### Instruments.

Both qualitative and quantitative measures were used in this study. By "quantitative" we mean the use of objective, structured, paper-pencil measures which lend themselves rather nicely to statistical analyses. We opted for quantitative measures which had sound psychometric properties and established norms for college students. The "qualitative" measure used was a semi-structured interview. Although the interview included some well-defined constructs (e.g. identity statuses, moral reasoning stages), it also provided us with a more subjective and wholistic sense of each student's "story" or "voice." A copy of each measure can be found in appendix B, and a brief description of each follows.

### Quantitative measures.

Demographic characteristics. A survey used to collect information on a number of relevant background characteristics. These include gender, home town size, parental marital status, education background, and the subject's academic division and religious denomination. Other data such as SAT/ACT scores, rank in class, college major, and career aspirations were obtained with permission of each subject from the college transcript.

Survey of Major Social Issues. (Pace, 1975) This is a 36-item opinion survey to which each subject indicates her extent of agreement. The items purport to measure such variables as freedom of expression, role of women, minority issues, and ecology.

The Rest Defining Issues Test. (Rest, 1987) This is a structured response test of moral reasoning on which a student prioritizes a number of responses to moral dilemmas. The test yields a "p score" which indicates the extent to which one gives priority to principled reasoning in moral decision-making.

The Rokeach Value Survey. (Rokeach, 1973) This tests consists of two sets of 18 values--one set designated as instrumental values, and the other as terminal. Instrumental values are beliefs concerning desirable modes of conduct (e.g. honest, forgiving,

logical, helpful), whereas terminal values represent desirable end-states of existence (e.g. salvation, a world at peace, inner harmony). The student rank orders each set of values in order from most to least important.

The Learning Context Questionnaire. (Kelton & Griffith, 1986) This is an objective measure of William Perry's developmental categories of cognitive style. It consists of 50 items to which a subject indicates extent of agreement. Although this measure was not used with the cohort in 1987, Perry's stages were informally assessed in the freshman interview. Furthermore, additional studies done at one institution during 1988 to 1990 provide some "baseline" information for freshmen.

Religious Problem-Solving Styles. (Pargament et al., 1988) This is an 18-item measure of three styles of religious problem-solving to which a subject indicates extent of agreement. The styles are deferring (individual waits for solutions from God), self-directing (God gives the individual freedom to direct own life), and collaborative (individual and God both responsible for solving problems). (This measure was not part of the 1987 assessment.)

Qualitative measures.

Senior interview. The longitudinal cohort, as freshmen and four years later, participated in semi-structured but open-ended interviews conducted either by an author of this study or a carefully trained research assistant. Each interview was videotaped. Freshmen interviews each lasted about one hour. Senior interviews were a bit longer ranging from 45 to 90 minutes. Stimulus questions were designed to provide some indication of each student's general cognitive-perceptual style, moral reasoning in response to ethical dilemmas, and overall psychosocial and maturational development. Specific suggestions for this qualitatively oriented measure were derived from the work of Colby and Kohlberg (1987), Fowler (1981), Kohlberg (1984), Maloney (1985), Marcia (1966), Parks (1986), and Perry (1981). Specific stimulus questions for the senior interview were modified based on information obtained from cross-sectional studies done at one of the three colleges during the 1988-89 and 1989-90 academic years with other groups of students.

All interviews were later rated by teams of at least three independent raters. After receiving training in the criteria for the necessary judgments, the raters formally assessed the tapes.

The two primary constructs that were assessed from the interviews at all three colleges were ego identity statuses and moral judgment stages. Brief descriptions of these constructs can be found in subsequent sections of this paper respectively labeled identity development and moral reasoning.

Review of original freshman interview. Upon conclusion of the senior interview, the interviewer watched the videotaped, freshman interview with the subject who was then asked for her perceptions about personal changes from the time of this first interview.

#### HYPOTHESES

Although this study is largely exploratory and descriptive, our work is undergirded by several developmental theories including the psychosocial theories of Erik Erikson and James Marcia, the cognitive and moral development theories of Lawrence Kohlberg, William Perry, and James Rest, and the faith development theory of James Fowler, Newton Maloney, and Sharon Parks. The college experience is a primary opportunity for "meaning-making" and identity formation as the student separates from parents and becomes exposed to the challenges of college life. This psychosocial

development takes place at different rates for each student over the four years, and involves all of the variables we studied with our assortment of qualitative and quantitative measures. These include political, social, moral, and religious ideologies, cognitive styles, academic potential and achievement, and choice of major and career aspirations.

Based on this rich theoretical background and our discoveries from cross-sectional analyses during the 1987-88 academic year, we offer the following hypothesis concerning freshman-senior changes:

Defining Issues Test

1a. Scores on the DIT will be significantly higher for seniors than for freshmen.

1b. Scores will not differ significantly among our three institutions or between our institutions and other four-year, liberal arts colleges.

1c. Scores on the DIT will be consistent with the assessment of moral stages derived from the senior interview.

Ego identity status

2a. A greater percentage of seniors than freshmen will be assigned to post-crisis (moratorium or achievement) identity statuses.

2b. Given the conservative, protective atmosphere of the Christian college campus, there will be relatively high numbers of foreclosed seniors.

Rokeach Value Survey:

3a. There will be high correspondence in the value rankings among the three institutions and for individual students between the freshman and senior year assessments.

3b. Seniors will place lower priority on intrapsychic and intrapersonal values than they did as freshmen. In other words, we anticipate more appreciation for broader social concerns as a product of a liberal arts education.

3c. Christian college students will place higher priority on salvation, loving, helping, and forgiving than students from nonreligious institutions.

Pace Scale of Major Social Issues

4a. Senior responses to the Pace items will be largely comparable to those of students from other four-year colleges, except that our students will be somewhat more conservative in their response to items on issues such as abortion rights, censorship of pornography, and the rights of women with small children.

4b. In general, senior responses to Pace items will reflect more liberal attitudes than the responses of these same subjects as freshmen. By liberal, we mean responses which suggest greater tolerance of differing opinions, greater freedom of expression, and the need for reforms.

4c. Responses to most Pace items will not differ significantly among our three institutions.

## INFORMATION ON RELIABILITY

The videotaped interview was used to assess two important variables in both the freshman and followup assessments; namely, ego identity statuses and moral judgment stages. Two training videotapes were produced by the researchers during the Fall of 1990 to improve inter-rater reliability ( $\% \text{ agreements} / \text{agreements} + \text{disagreements} \times 100$  for all scorers) for status assignments to be derived from the senior videotapes (1990-1991). Reliabilities for independent raters within the same college (intra-institutional) for the 1987-88 freshmen interviews were within the acceptable range (generally acknowledged to be around 80% for the more qualitatively-oriented interview format). These were reported in an initial article (Buier et al., 1989). The 1991 followup assessment requires three types of reliability computations--intra-institutional, freshman-senior, and inter-institutional reliabilities.

The ego identity statuses (Marcia, 1966) were the focus of the initial training videotape. Eight subjects were scored for four separate identity statuses: (a) occupation; (b) politics; (c) religion; and (d) overall. For six assessors, the respective inter-rater reliability checks for these statuses were: (a) 79%; (b) 67%; (c) 73%; and (d) 75%. Given that there are four

separate designations (i.e. diffusion, foreclosure, moratorium, and identity achievement) this was not always an easy task. Upon closer inspection, it appears that the main interpretive differences tended to occur between diffusion and foreclosure (the "pre-crisis" statuses), or between moratorium and identity achievement (the "post-crisis" statuses). Knowledge of these differences in the interpretation of the stated criteria was utilized at the local level to help shape rater behavior. Despite the availability of what appeared to be rather explicit criteria, it was sometimes a very "close call" to decide between these designations. This probably accounts for the less than ideal percentages.

A second training videotape was prepared for assessing moral judgment. Five subjects were scored for a "stage" of moral development (Kohlberg), utilizing the established criteria from Colby and Kohlberg (1987). Three ethical dilemmas from the standardized moral judgment interview were used, and a "weighted" (average) score was determined. Inter-rater reliability for six assessors exceeded the stated goal of 80% (overall rate of 83%).

When scored at the local level, the inter-rater reliabilities for all the senior videotapes was

encouraging. For the moral judgment interview, the combined score for the particular stage of moral development was 78%. For the combined identity statuses, the overall rate was 89%. Approximately a third of freshman videotapes (1987-88) of these same subjects were also reassessed, yielding "freshmen-senior" reliability scores. Somewhat lower rates were obtained for the moral judgment interview scores (74%) and the combined identity statuses (85%).

Finally, selected videotape interviews (5 videotapes per institution; 15 videotapes overall; 3 raters per institution) were scored at each of the three institutions. For the moral judgment interview scores, the inter-rater reliability rate was 77%. For the combined identity statuses, the overall inter-rater reliability rate was 73.5%. Although these are not "ideal" scores, they are certainly not inconsistent with rates that are reported in complex, multidimensional, applied studies (Pascarella & Terenzini, 1991) or clinical research (Groth-Marnat, 1990).

## DEMOGRAPHICS

### Basic Profile of the Senior Sample.

Background data on the subjects who were the basis for this research were gathered through both a self-administered questionnaire and institutional records. See appendix B for a copy of the background data questionnaire used with students during their senior year. With only minor modifications it is essentially the same form given to the students when they were freshmen. Therefore, it is also possible to compare freshman year responses with senior year responses in order to discover any changes in background information over the four year period (e.g., changes in parents marital status, shifts in major, and changes in political self-identification. We will look first at the basic demographic data for the seniors who remained in school. Next we will discuss how the demographic profile for this group compares with the wider student population of the three colleges and also the national student population. Third, we will examine any changes in background information between freshman and senior years. Finally, we will make a few comments about any significant inter-institutional differences in the senior sample.

Table 1A reports some of the basic demographic information for the combined senior sample. Out of the seventy five (75) seniors in the study 61.3% were female. All of the seniors in the study were traditional college age students (20-22 years). The majority of students (52%) were from small towns or metropolitan areas (33.3%) with only a small percentage from rural areas (14.7%). Information on parents marital status indicates that the students came from unusually stable families in that only slightly less than six percent (6.9%) of the parents were separated, divorced or remarried. The educational level of both father and mother was at a higher level than the overall national average with eighty percent (86.3%) of the fathers and seventy percent (77.4%) of the mothers having at least some college education. Particularly striking was the fact that a number of the students had fathers with graduate degrees (42.5%).

Turning to the occupations of both fathers and mothers a number of different types of work were reported with the highest concentration in business (28%) for the fathers and being a homemaker for the mothers (33.3%). Other occupations with significant numbers were teaching, different kinds of skilled to unskilled labor, health professions and religious

occupations. Family income represented an interesting mix with some indicating modest family income (under \$50,000 per year - 47.3%) while a significant number reporting family income in excess of \$75,000 per year (23%). Religiously, the seniors represent a cross-section of a variety of evangelical groups with Baptists (16%), Presbyterians (13.3%) and nondenominationalists (10.7%) being the three largest clusters. Certainly, however, no one religious group dominates the sample.

The seniors themselves have an interesting profile. A large number report being able students in high school with 74.7% indicating that they had a high school g.p.a. of at least "B+" or better. In addition, institutional records (i.e., admission application data) reflects the fact that 65.7% of this group of seniors were in the top twenty percentile of their high school classes (see Percentile Rank in HS Class). This data on scholastic ability is further corroborated by SAT records which record the following means for this group: SAT Verbal: 484.65 (n=43); SAT Math: 531.86 (n=43); SAT Total: 1069.68 (n=62). A breakdown of the actual majors completed by these students shows almost thirty different kinds of majors. The largest cluster of majors was in the general category "arts and humanities" (34.6%) while the second highest cluster was in the

"social sciences" (28%). Professional areas (exclusive of teaching) and business had some nine representatives (12%). When asked about plans for future study a majority of the seniors indicated that they planned to continue for either a master's degree (52%) or a doctorate (18.7%).

Finally, when asked to describe themselves theologically, the majority (69.4%) of these seniors chose the label "conservative" (conservative and somewhat conservative) while a minority (29.4%) identified as in some way being "liberal". Likewise, politically, the seniors preferred to identify themselves as "conservative" (70.6%) including both "conservative and somewhat conservative". Only 29.3% chose the label of "liberal" politically (somewhat liberal, liberal, and very liberal).

#### Wider Student Population Comparisons

In comparing the profile of the senior sample with the wider college population in the United States it is possible to use several existing data bases. One such data base is the extensive Cooperative Institutional Research Project (CIRP) which has the object of gathering information on incoming freshmen classes over a number of years. In looking at the sub-populations reported as part of the CIRP it appears that the senior

sample most closely approximates that category titled "selective non-sectarian private colleges". Therefore, we will draw some comparisons between the sample upon which our research is based and this group of selective private colleges. Table 2A summarizes some of the variables where comparable data are available from the senior sample and the CIRP data base.

The student sample drawn from Houghton, Messiah and Wheaton has somewhat more women in it than the profile of the selective non-sectarian schools. This male to female ratio, however, is typical of many Christian colleges (see below). The senior sample has a higher percentage of students who report high school grades in the "A" range, thus indicating that this group might be more able academically than the typical student in the CIRP population. In regard to family income there is a modest difference between the two groups in that slightly more of the senior sample report family incomes above \$50,000 (52.7% vs. 48.0%). Both samples have virtually the same level of anticipation of pursuing graduate study in the future (70.2% vs. 70.8%). A significantly higher percentage of senior fathers have completed some graduate study (54.8% vs. 38.4%) while a smaller but similar difference is noted for the level of mother's education. In regard to majors, the senior

sample, in comparison with the CIRP group, are over represented in the arts, humanities, education and social science while being under represented in business, engineering and the professions. Finally, slightly more of the CIRP students are likely to identify themselves as politically liberal (29.5% vs. 22.0%) than the seniors who are the basis of this study.

In the fall of 1990 a group of fifteen Christian colleges agreed to participate in the CIRP project and gather information from their incoming freshman classes. As a result, the CIRP coordinators at the University of California, Los Angeles, agreed to treat this group of fifteen colleges as a distinctive sub-population for reporting purposes for the first time. Therefore, it is possible to compare the seniors in this study with this group of students from very similar colleges.

In examining this sub-population (also reported in Table 2A) some interesting contrasts and similarities emerge. Note that the proportion of male and female students in the Christian College Coalition (CCC) sample is almost identical to the senior sample. It is typical that Christian colleges enroll a disproportionate number of female students. The senior sample indicates that high school grades are somewhat higher for this group than the wider Christian college group. As far as

family income, the senior sample has a higher level of income. The CCC sample reports a lower level of divorce than the wider college community but not as low as the senior sample (13.4% vs. 5.5%). Graduate study plans differ in that the CCC sample is less likely to plan on graduate study than the senior sample. Furthermore, the senior sample has a significantly greater number of fathers with graduate degrees and fewer fathers who have not completed high school. The same pattern holds for the mother's educational level. Finally, the Christian College sample has higher numbers of students planning on majoring in education, business, and other areas of study than does the senior sample. The CCC sample has greater affinities in the distribution of majors with the wider college population rather than with the senior sample. The senior sample is distinguished by a high concentration of majors in the arts/humanities and social sciences even when compared with other Christian college students. In regard to political orientation, the CCC sample has fewer self-identified political "liberals" than either the senior sample or the wider college population.

How might we characterize these similarities between the senior sample and other Christian college students? In general we can say that the seniors come

from higher socio-economic strata in that their parental income and levels of education are higher. Further, these senior students may be more able as indicated by higher high school grades and more motivated to continue academic studies. They may also come from more stable homes as indicated by the low divorce rate even in comparison with other Christian college students. Finally, they are more likely to be majoring in the traditional liberal arts areas than the more applied, professional areas.

#### Freshman - Senior Year Comparisons

Since some similar background questions were asked of the sample during both the freshman and senior years it is possible to make a few observations about changes over four years. In comparing the type of community the students came from, a few students had moved during their college years. Those who changed communities generally moved either from farms to small towns or from small towns to cities. Nevertheless, the changes only affected about 5% of the students. Inspection of data regarding parental marital status also revealed only minor changes. A little over four percent (4.2%) of the students indicated that their parents had become divorced or separated. In comparing the student responses regarding either father's educational level or

mother's educational level it appeared that several of the parents had earned graduate degrees or undertaken some graduate study while the students were in college.

Perhaps the most interesting comparison between freshman and senior year was in the area of majors. It was possible to compare the major selected as a freshman with the actual major completed as a senior. Over fifty percent of the students actually completed the major they began as freshmen (54.2%) while the remaining students shifted into a different major. Majors most likely to retain students were nursing, business, elementary education and music education and the social sciences. Generally, a variety of majors lost students with no one major having a net loss of more than one student. Those areas of study that gained students were: religion, psychology and the other social sciences. The most striking gains were in the combined areas of the social sciences where relatively few students indicated these areas as their choice during the freshman year but which were eventually selected by approximately three out of every ten students (28%).

#### Inter-Institutional Similarities/Differences

Although in reporting the results of this research the focus will be on the combined sample drawn from three colleges it is appropriate to ask the question,

"Are there any significant demographic differences among the three schools?" In order to answer this question each of the demographic variables was broken down by the three schools. Generally, there are many similarities among the three schools when compared to other selective, private colleges. However, certain differences are also apparent.

In terms of academic ability variables it appears that the three schools vary somewhat in the ability levels of the sample members. Students at College B have the highest percentage of those who report being in the top 10% of their class (45.8%); have the higher SAT scores; and are more likely to report high school grade point averages of "A" or "A+". Following College B students in these variables would be College C and then College A students.

Family background items also reveal some differences among the schools. College A students are disproportionately drawn from small towns (81.8%) while College B has a slightly larger number of students from rural areas (22.2%), and both College B and College C have about the same number of students from cities and metropolitan areas. College B has the highest percentage of intact families although the differences are not that great (College B: 96.3%; College C 84%; College A

81.8%). In looking at the father's and mother's occupations there are some modest differences. College B student's fathers are more likely to come from business (44.4%) while College C has the largest percentage of fathers in religious vocations (32%) and College A has the largest percent of fathers who are laborers (22.7%). For all three schools roughly thirty percent of the mother's are identified as "homemakers". In terms of education level, College B and College C have about the same number of fathers who were college educated with College C having the highest percentage of fathers with graduate degrees (C: 56%; B: 40.7%; A: 28.6%). Family income differences were clearly evident in that three times as many College B families reported high incomes (over \$75,000) than either College A or College C.

Some differences appear in the different majors represented at the three colleges. The College B sample had the highest number of students majoring in the "arts and humanities" followed closely by College C with virtually none of the College A sample having "arts and humanities" majors. College A and College B also had a higher number of students majoring in the "social sciences" while College A students had the greatest variety of majors. In regard to plans for future study

College C students were most likely to indicate plans for graduate study for either masters or doctoral degrees (80.8%) followed closely by College A (77.2%) and less so by College B students (45.5%).

In terms of self-reported opinions in the areas of politics and theology, there are modest differences in the three sub-samples. Generally, College B students were the most likely to identify themselves as "conservative" both politically and theologically. In contrast, College C students were somewhat more likely to identify themselves as "liberal" even though this was a minority of the College C students (38.5%). In other words, at all three schools the majority of the students were comfortable with the self-designation of "conservative". In sum, although some differences are evident among the three schools, the colleges are more alike than dissimilar when viewed in the context of American higher education.

## MORAL REASONING

The Colby and Kohlberg (1987) assessment of moral judgment bases the classification of moral stages on the different ways that individuals resolve moral dilemmas. The three basic levels of assessment are Level I or Preconventional (morality is perceived in terms of hedonistic consequences of one's actions and in obeying powerful authorities), Level II or Conventional (morality defined in terms of conformity to the standards set by persons or groups with which one identifies--right or wrong is judged by one's intentions to conform to personal expectations and to maintain the social order, and Level III or Postconventional (morality no longer defined exclusively by external authorities or the social order--individual values or moral principles are considered in relation to community welfare). There are two specific stages under each level as well as transitional positions between stages. For a description of these stages, see Kohlberg (1984), Colby & Kohlberg (1987), or Muuss (1988).

Moral reasoning was assessed both quantitatively (Defining Issues Test) and qualitatively (moral judgment interview). Table 1B provides DIT scores for the combined sample as well as comparison scores from the DIT Manual (Rest, 1987). We predicted (hypothesis 1a)

that DIT p scores would be higher for seniors than for freshmen. The mean freshmen DIT score was 37.213 (SD 10.58; range 10.00 - 70.00). The mean senior DIT score was 46.827 (SD 12.66; range 15.00 - 73.00). A paired samples t-test between the freshmen and senior mean scores was highly significant. No gender differences were found for either the freshmen or senior mean DIT scores. There were at least three individuals at each institution that made rather striking gains in their DIT scores, with p score increases of 25 or more.

We also predicted (hypothesis 1b) that freshman and senior DIT p scores would not differ significantly among our three institutions or between our combined sample and that of other four-year colleges. P scores for the freshmen cohort (Fall, 1987) for College A, B, and C are 35.63, 38.96, and 36.7, and for the senior followup they are 46.00, 46.29, and 48.07 respectively. These small inter-institutional differences are not statistically significant. Comparisons in Table 1B reveal that our senior DIT p scores are slightly lower than those reported for church-affiliated liberal arts colleges and slightly higher than the general sample for graduate students (Rest, 1987). (For the sake of comparison, p scores for seniors from our 1987 cross-sectional study are included in Table 1B.)

Table 2B provides a frequency distribution of moral judgment stages for the 1987 freshmen cohort and the 1991 followup assessment. The results for the combined freshmen interviews indicated that 32% were rated as "preconventional" (stages 1 or 2), 65% were rated as "conventional" (stages 3, 4 or 4b), and only 3% were rated as "postconventional" (stages 5 or 6). In contrast, only 3% of seniors were rated as preconventional, 86% as conventional, and 11% as postconventional. With reference to the particular stages, the freshmen mean was "interpersonal concordance", whereas the senior mean is between "law and duty to the social order" and "cynical-ethical relativism" (cf Colby & Kohlberg, 1987).

Table 3B provides a crosstabulation of moral judgment stages for the 1987 freshmen cohort and the 1991 followup. With respect to freshmen-senior changes in moral judgment stage, only 4 of 74 subjects "regressed" by one stage, 27 were in the same stage on both assessments, and 43 advanced by at least one stage.

When the DIT scores are compared and contrasted with the results from the moral judgment interview (MJI), some interesting trends emerge. For the freshmen MJI, those at stage 2 had a mean DIT of 34.59, at stage 3 a mean of 37.22, and at stage 4 a mean of 47.56. For

the senior MJI, those at stage 3 had a mean MJI of 45.38, at stage 4 a mean of 42.42, and at stage 5 a mean of 58.75. Obviously, there is a strong correlation between the DIT and MJI which provides support for hypothesis 1c.

Discussion. Obviously, increased sensitivity to moral issues is deeply affected by other cognitive and affective changes that occur as a result of attending college (cf Pascarella and Terenzini, 1991). Developmental trends are certainly interconnected and often mutually reinforcing. Ideally, the ability of college students to reason abstractly, critically and flexibly improves. Interpersonally, they become more sensitive and skilled. With reference to their personality and value structures, there is often more evidence of autonomy, open-mindedness and tolerance.

There is an impressive amount of research available that suggests that increases in principled moral reasoning accompany the experience of attending college (Rest, 1979). The difference between the freshmen and senior mean DIT scores in this study was approximately 10 points, consistent with other studies (Pascarella & Terenzini, 1991). Generally speaking, church-affiliated liberal arts colleges have the highest reported senior p scores on the DIT of all institutional types (mean of

50.49), according to Rest. Overall, the seniors gave greater preference to principled moral considerations than did the freshmen who were studied. There is certainly no support for the assertion that students at these Christian liberal arts colleges are any less competent with reference to justice reasoning than their peers at more secular private or public institutions. On the other hand, they cannot be described as more competent either. Although the mean was "high", it was still below the mean for church-affiliated liberal arts colleges.

On the MJI, there is also a movement towards principled moral considerations between the freshmen and senior years. In particular, the movement tends to be away from stage 3 reasoning towards 4 or 4b thinking. Again, this appears to be consistent with the results obtained in previous studies (Pascarella & Terenzini, 1991). Far too many freshmen appear to adopt the mindset of, "Be nice and you'll get along." Seniors, in contrast, seem to be more concerned with fulfilling the actual duties to which they have agreed. Obviously, to an extreme, being a good person in your own eyes and those of others, or keeping institutions going as a whole, runs the risk of interfering with one's capacity

to reflect abstractly, critically, or flexibly as a moral agent of change.

Both the DIT and MJI indicate that the college experience has made a discernable impact on the development of principled moral reasoning. The available data would also suggest that this impact is beyond that which might take place in a matched group of noncollege respondents, suggesting that there has been somewhat of a "liberalization" of both attitudes and values about the rights and welfare of others (Pascarella & Terenzini, 1991).

On a more intuitive level, it appears that certain types of life experiences may be of particular importance in fostering moral development in the sample studied. Key among these are the in-depth exposure to divergent perspectives, direct confrontation with moral conflict, or access to the support and structure of peers or staff who can help the student "make sense" of his or her experience. Unless the student is willing and able to take advantage of these intellectual or interpersonal opportunities, significant growth may not occur. Indeed, it appears that the cumulative effect of such critical life experiences may be the key, whether they be primarily intellectual, cultural, or social. A

certain amount of disequilibrium or dissonance seems to be the necessary prerequisite for any lasting impact.

There is also a strong relationship between overall senior identity status and senior DIT score ( $p < .0008$ ), but not between freshmen identity status and the same measure. For additional information on associations between identity status and DIT scores see the subsequent section on identity development.

## IDENTITY DEVELOPMENT

According to Erikson (1968), young adulthood is marked by an "identity crisis" as the individual struggles to answer the question of "Who am I?" Identity is one's sense of self, a self-definition that expresses who and what one really is. For some this time of searching may be drastic, but for most it is gradual--marked more by uncertainty than extreme inner turmoil.

Erikson argues that identity is more than a summation of previously held roles. Identity achievement requires an integration of a more complex nature. The process includes experiences that help the individual to clarify interests, abilities and beliefs, and experiences that help the individual make commitments. An individual's environment can facilitate identity formation by allowing for: 1) experimentation with various roles; 2) the experiencing of choice; 3) meaningful achievement; 4) freedom from excessive anxiety; and 5) time for reflection and introspection.

Ideally, a college should be just the kind of environment to provide the testing ground for a critical examination of this nature. As an institutionalized "moratorium" it can provide abundant opportunity not only for cognitive growth but for social and moral

development as well. (Erikson, 1968; Pascarella & Terenzini, 1991; White, 1980)

James Marcia (1980) has identified four identity statuses based on Erikson's theory. He uses the Erikson concepts of crisis and commitment to derive these statuses. The identity diffuse individual has not experienced a crisis (has not explored meaningful alternatives) or made any commitments. The identity foreclosed person has made commitments, but without a crisis. Generally this occurs when a young adult uncritically borrows parental roles and ideologies--in effect confusing "identity" with "identification." The individual in moratorium is one who is actively seeking commitment by exploring alternatives. Finally, the identity achieved individual is committed to various roles and ideologies based upon personal exploration of alternatives.

Figure 1: Marcia's use of crisis and commitment

	No commitment	Commitment
No crisis	Diffusion	Foreclosure
Crisis	Moratorium	Achievement

In this study we obtained four separate measures of identity status for each subject; an overall identity assignment and one for occupation, religious, and political identity. We collected data on identity for a sample of freshmen and senior subjects in the Fall of 1987, and a followup measure on all freshmen still enrolled during the Spring of 1991. We also explored associations between these identity measures and the other variables obtained in this study. A summary of significant results follows for cross-sectional and longitudinal changes in identity status, and for associations between identity status assignment and other variables.

Table 1C provides four identity status measures for our subjects as freshmen (Fall, 1987) and for the longitudinal followup in Spring, 1991. A cross-sectional comparison group of sixty seniors from Fall, 1987 is also provided for the overall identity status.

Occupational identity. Students entering a liberal arts college typically have not wrestled with different career alternatives to a point of having personally derived and well-founded occupational goals. As Table 1C illustrates, close to 70% of the freshmen in our sample were classified as occupationally diffuse or foreclosed. By the senior year this percentage drops to just over

forty percent. While occupational diffusion drops precipitously over time, the number of occupationally foreclosed subjects actually increases by seven percent. This means that close to forty percent are leaving college with "borrowed" occupational commitments rooted in very little personal scrutiny.

It may be of interest to note the occupational statuses of these 28 foreclosed individuals as freshmen. Nine of them were diffused, twelve were foreclosed, six were moratoriums, and one had been classified as achieved. Thus, the greatest percentage are foreclosed in both assessments, and the remainder are roughly divided between those who advanced and those who "backed off" from a personal search for occupational identity.

There are some gender differences in occupational identity. A greater percentage of females move toward occupational identity resolution (i.e. moratorium or achieved) by the senior year. Two-thirds of the females are moratorium or achieved in contrast to only one-half of the males. Females account for a greater percentage of occupational foreclosures as freshmen, but not as seniors. In the freshmen year, 40% of females are foreclosed in comparison to only 14% of males. However, by the senior year 41% of males are foreclosed in comparison with 35% of females.

A helpful normative comparison with a nonreligious institution (see Table 4C) is found in the longitudinal data of Waterman & Goldman (1976). In this sample from Hartwick College--a small, nonreligious, liberal arts college--we observe an uncanny similarity in the percentage of occupationally foreclosed freshmen and seniors. The major difference appears to be in the relative percentages of occupational moratoriums and diffusions. We have more seniors who are occupational moratoriums, in contrast to a greater percentage of occupational diffusions at Hartwick.

Religious identity. It is for this category of the Marcia scale that we find the highest number of foreclosures. Two-thirds of subjects are rated religiously foreclosed as freshmen, and forty percent receive this rating in the senior followup study. Of the 30 foreclosed seniors, 24 were foreclosed as freshmen, three were rated as diffuse and three were moratorium. This suggests that one-third of our subjects may have passed through close to four years of Christian higher education without ever having critically examined their religious ideology.

Religious ideology is also the area of greatest identity resolution for many of our subjects. Only 15% of freshmen are classified as moratorium or achieved

religiously; however, 53% received this classification in the followup study. Fifty percent of religiously foreclosed freshmen and 60% of religiously diffused freshmen have progressed to moratorium or achievement by the senior year.

There are important gender differences in this area as well. Although two-thirds of males and females are foreclosed religiously as freshmen, over half of the males remain foreclosed in the followup in contrast to less than one-third of the females. Close to two-thirds (63%) of senior females are moratorium or achieved religiously, in contrast to less than two-fifths (38%) of senior males.

The comparison norms at Hartwick College (Table 4C) providing interesting comparisons and contrasts in the area of religious identity. We have almost twice as many religiously foreclosed freshmen and seniors as compared with the Hartwick sample; however, in both samples there is a 20% decline in religious foreclosure between the freshman and senior assessments.

This suggests that our very high foreclosure rate is more a product of the students we "receive" than the ones we "create." By the senior year, more of our subjects are in advanced religious identity statuses. The percentage of religiously diffused seniors is six

times greater at Hartwick. There is a 10% increase in religious diffusion by the senior year in the Hartwick sample, in contrast to a 12% decline in our sample.

Political identity. Political identity diffusion is preeminent for many of our subjects. Over half (55.4%) of freshmen are politically diffused, which means in most cases that socio-political knowledge (including a general understanding of world events) is of very little personal importance to our entering students. Even more unsettling is the observation that over two-thirds (68%) are classified as either politically diffused or foreclosed in the followup study. This suggests that less than one-third have begun to examine socio-political issues for themselves.

We observe no significant gender differences in political identity resolution. Roughly one-third of males and females have reached either political moratorium or achievement by the senior year. However, twice as many males are politically foreclosed as seniors (48.3%, males; 23.9% females). Senior females are more apt to be politically diffused in that 77% of politically diffused seniors are female.

Comparison norms with Hartwick College (Table 4C) reveal similar percentages of politically diffused freshmen (just over 50%). However, 25% of Hartwick

freshmen are politically achieved in contrast to none of our freshmen. By the senior year there are comparable percentages of subjects in pre-crisis (diffusion or foreclosure) and post-crisis (moratorium or achievement) statuses for both samples.

Overall identity status. Most of the research using the Marcia model supports the contention that students progress in identity resolution during the college years, and this result has been observed in both cross-sectional and longitudinal designs (Adams & Fitch, 1982; Adams, Shea, & Fitch, 1979; Kroger & Haslett, 1988; Prager, 1986; A. Waterman & C. Waterman, 1971). Furthermore, according to A. Waterman, P. Geary, and C. Waterman (1974), the greatest changes in identity resolution are in the occupational area. In the political area, A. Waterman (1982) found that over half of students form no clear political commitments over four years. For our subjects the greatest progress appears to be for religious identity followed by occupational identity, and least of all for political identity. We found a 40% increase in the number of religious moratoriums or achievers by the senior year, compared to a 28% increase in occupation moratoriums or achievers. Although there is a 25% increase in the

number of political moratoriums and achievers, 68% remain diffused or foreclosed politically.

In a cross-sectional study by Adams and Fitch (1982), one-half of subjects remained in the same identity status over a two-year period, 15 to 20% progressed, and 10% regressed. (The remaining 20 to 25% were unclassifiable.) In our study, about 40% remained in the same overall identity status, 55% advanced by at least one status, and only 5% regressed. (See Table 2C.) Also, because progress in identity resolution is seen both longitudinally and cross-sectionally, development cannot be explained away as a mere artifact of selective attrition.

It is heartening to note that over half of our subjects advanced their level of identity resolution. However, researchers have observed that anywhere from two-fifths to two-thirds of students may go through college without ever examining or modifying their identities (Goethals & Klos, 1970; A. Waterman, 1982). If one considers a diffused or foreclosed senior as one who has not seriously examined his identity, then almost one-half of our subjects fit this description with regard to overall identity status assignment, and two-thirds can be described this way with respect to political identity.

One can also see from Table 1C that the number of identity foreclosures does not diminish from the freshman to the senior year. Seventeen identity foreclosed freshmen are rated foreclosed in the senior assessment as well. Of the remaining 15 foreclosed seniors, 11 were diffused as freshmen and four were moratorium.

In summary, we find support for both hypotheses advanced in the introduction to this report. In support of hypothesis 2a, a greater percentage of our students are assigned to the post-crisis statuses of moratorium or achievement by the followup assessment. In partial support of hypothesis 2b, the number of foreclosed seniors is quite high.

Gender differences. Several research studies have led to the conclusion that identity development proceeds at different rates for males and females (Constantinople, 1969; Loxley & Whiteley, 1986; Whiteley & Yokota, 1988). Basically, females enter college at more mature levels psychosocially, but men actually make greater gains. However, other researchers have not found such gender differences (Adams & Fitch, 1982; Adams et al., 1979; Whitbourne, Jelsma, & Waterman, 1982).

If identity foreclosure is regarded as "more mature" psychosocially than identity diffusion, then our

results support the finding that female students enter at more mature levels. Two-fifths of our freshmen males were classified as identity diffused, whereas over half of our freshmen females were foreclosed. However, our results suggest that female subjects actually make the greatest psychosocial gains. By the senior year 56% of females are moratorium or achieved in contrast to only 41% of males. This represents only a 14% increase in the number of moratorium or achieved males, but a 41% increase for females. Also there is a 17% increase in the number of foreclosed males by the senior year in contrast to a 12% decline for females. (See Table 3C.)

#### Inter-institutional comparisons

A breakdown of identity status for each of the three participating colleges reveals few significant associations. There are no significant associations by college for freshmen political, religious, or overall identity status or for the senior occupational status. Freshmen at College A have a significantly higher number ( $F=17.2$ ;  $p<.00001$ ) of occupational moratoriums in comparison to College B which has more occupational diffusions. College C has a significantly higher number of seniors with advanced political identities (moratorium or achieved) in contrast to Colleges A and B ( $F=8.16$ ;  $p<.0006$ ). All three colleges have similar

numbers of seniors who are pre-crisis (diffusion or foreclosure) or post-crisis (moratorium or achieved) in occupational, religious, and overall identity assignment. However, College B assigned only one senior to the status of religious achievement, and no seniors to the overall status of identity achievement, in contrast to Colleges A and C which assigned higher numbers of seniors to the identity achieved status.

Identity status and cognitive measures. There are relatively few significant associations between identity status and the various cognitive measures we used in this study (i.e. SAT scores, rank in class, LCQ score, and RPS scores). Politically diffused seniors were found to have significantly lower combined SATs than senior political moratoriums (Diff--1027; Mor--1161;  $p < .05$ ). There is also a linear relationship between identity status and LCQ scores which approaches significance (Diff--3.86; For--3.88; Mor--4.30; Ach--4.37;  $p < .08$ ). All of these scores fall within the cognitive style range of "multiplicity" (3.50-4.49). Overall identity status did not significantly associate with any of Pargament's religious problem-solving styles. However, religiously foreclosed seniors did score significantly higher than other statuses in the "deferring"

problem-solving style (For--15.6; Dif--12.8; Mor--12.4; Ach--13.8;  $p < .05$ ).

Identity status and moral reasoning. Our results indicate that senior identity status associates significantly with moral judgment stage at a probability level less than .01. Thirty of 32 foreclosed seniors are in stages 3, 4 or 3-4 transition, and the other two are in stages 1 and 2. By contrast, one-third of senior moratoriums (8 of 24) and one-half of identity achieved seniors (7 of 14) are in stage 5 or 4-5 transition. Overwhelmingly, identity foreclosed seniors are at Kohlberg's Conventional level of moral reasoning, and a more advanced identity status tends to be associated with a higher stage of moral reasoning.

On the Rest DIT which measures the use of principled moral reasoning, identity foreclosed seniors have the lowest average DIT scores, and moratoriums and achievers have the highest (For--41.2; Mor--51.7; Ach--50.6;  $p < .007$ ). Surprisingly, identity diffused seniors have an average DIT score more comparable to moratoriums and achievers (49.2); however, as there are only 5 seniors in this status the finding may be open to question.

Identity status and social issues. There are a number of significant associations between senior

identity status assignment and responses to items on the Pace Scale of Major Social Issues. Basically, foreclosed seniors hold more conservative positions on several items in contrast to other statuses. Senior moratoriums tend to hold more liberal positions. Senior achievers are as liberal as moratoriums on some items but significantly less so on others. (See Table 7C.)

We also examined the relationship between senior political identity status and responses to Pace items. We obtained an identical relationship to that observed for overall identity status for items 13 and 25 on the Pace instrument (See Table 7C); however several new associations were found as well (See Table 8C). These associations indicate that political moratoriums and achievers hold more liberal positions on issues pertaining to free speech and environmental pollution.

These associations demonstrate why one should assess identity status in connection with a study of values, beliefs, and moral reasoning. Although it is important to ascertain what a student believes or values, it is as crucial to discover that a student's position is only weakly held or perhaps based on an uncritical parental identification.

Identity status and values. A number of significant associations were observed between identity status and

the priority assigned to instrumental and terminal values on the Rokeach Value Scale (RVS). For example, senior achievers and moratoriums place higher priority than diffusions and foreclosures on the values of equality and broadmindedness. Senior diffusions place lower priority than other statuses on helpfulness, and a higher priority on being capable. Senior moratoriums place the highest priority on being imaginative, and a high but relatively lower priority on personal salvation. (See Table 9C.)

Discussion. Parks (1986) claims that young adulthood is a window of opportunity for identity formation. Nowhere else in the life cycle is there quite the same intersection of conditions that would enable such a transformation. From an empirical standpoint Meilman (1979) found evidence supporting greater increases in identity achievement, and greater decreases in foreclosure and diffusion during the college years in contrast to other times in the life cycle. These sources suggest that those who fail to resolve basic identity issues in college are missing a major opportunity to do so. Life circumstances may not be as accommodating in the years that follow.

We have accepted a developmental model by Jordan (1971) which states that most students enter college

foreclosed or diffused. The social independence of college together with the challenging ideas of professors and peers stimulate a moratorium phase which may lead to identity achievement by the junior or senior year. About 55% of our subjects have advanced by at least one identity status, and 51% are moratorium or achieved by the senior year--a 30% increase from the freshmen year. However, 49% of subjects in the followup study are diffused or foreclosed and close to one-third were classified as foreclosed in both the freshmen and senior assessments.

As stated above, there are very few differences among the three colleges in this study in identity status assignments. The biggest area of difference is in the assignment of students to the moratorium or achieved status. The differences observed may be explained in part by differences in "rater philosophy" at the three institutions; however, as we pointed out in the methodology section of this report, our inter-institutional rater reliabilities compare favorably with other studies in this area.

The distinction between moratorium and achievement is not nearly as important as that between pre-crisis and post-crisis. It is much more important to determine if a senior has failed to examine ideologies (diffusion)

or has uncritically borrowed commitments (foreclosure). It is less significant to know whether a student is still actively exploring ideologies (moratorium) or has acquired ideological commitments based on such exploration (achievement). Exceedingly few senior identities look very "achieved" in the eyes of their middle adult interviewers. Also, it would not necessarily be a sign of greater maturity to have "arrived" at solid commitments in areas of occupation, political, and religious beliefs by one's senior year in college.

The moratorium and achieved statuses are considered preferable to diffusion and foreclosure in part because they are developmentally advanced. Research reviews tend strongly to support this contention (e.g. see Bourne (1978a) and Bourne (1978b)), as does our own research. For example, as noted above, foreclosures have lower DIT scores and are found in lower stages of moral reasoning than moratoriums and achievers.

In order to examine the effect of failing to advance in identity status, we conducted several special analyses--two of which are presented here.

Persistent foreclosures. In one study we compared two groups of subjects--17 "persistent foreclosures" (foreclosed in both the freshman and followup

assessments) and 15 "advancers" (foreclosed as freshmen but moratorium or achieved four years later). Our primary comparison measure was the DIT "p score" which measures the extent of principled moral reasoning in response to various moral dilemmas. Whereas the "persistent foreclosures" did not improve their scores on the Rest DIT (38.4 to 39.1), the "advancers" increased their p scores substantially (41.2 to 52.7). According to Rest (1979) an average college p score is 42.3 and the p score increases an average of 10 points during the college years. Persistent foreclosures also had lower LCQ scores and a lower average moral judgment stage (See Table 10C).

Discriminant analysis. We also divided the entire sample into two categories: those who have experienced a crisis (moratorium/achieved) and those who have not experienced a crisis (diffusion/foreclosed). In a general sense, those who were sorted into the category of having experienced a crisis constituted those who were developmentally advanced over those who had not had such an experience. In an attempt to explore the differences between these two categories, discriminant function analysis was conducted to discover predictor variables that might be used to indicate which type of

students would have experienced a crisis by their senior year.

A total of twenty one different variables drawn from the freshman year data were used in the analysis. The goal was to determine which of these variables would form the strongest basis for predicting who might have experienced a crisis by their senior year. The discriminant analysis produced a function that, based on a total of eleven variables was able to correctly predict group membership in approximately 88% of the cases (see Table 11c).

Based on this analysis the following profiles of crisis and non-crisis students emerge: Crisis--Students who experience a crisis by their senior year were likely to come from higher social class backgrounds, major in the liberal arts, have higher total SAT scores, and score higher on their freshman Defining Issues Test (DIT). In addition, these students were likely to be somewhat liberal in their social opinions and attitudes regarding academic freedoms, were critical of "law and order" proponents, supported environmental concerns, were more favorable toward feminism, believed in international cooperation, were critical of science and were more favorable to civil rights. In regard to certain selected values from the Rokeach Values Survey,

the crisis students were likely to rank more highly the values of broadmindedness, intellectualism, and politeness while ranking lower the values of honesty and pleasure. Finally, in a measure of religious problem solving styles, the crisis students were more likely to be self-directed rather than collaborative or deferring in their approach to problems.

In contrast, the following profile emerges for students who did not experience a crisis:

Non-crisis--Students in this category came from lower social class backgrounds, tended to major in professional studies, had lower total SAT scores and lower freshman DIT scores. In regard to opinions about social issues these students were more conservative and thus were likely to question certain academic freedoms, support law and order, regard science positively while questioning civil rights issues, feminism, environmental concerns, and international cooperation. Values such as honesty and pleasure were ranked more highly than by other students while broadmindedness, intellectualism, and politeness received lower ranks. When compared on the basis of their approach to religious problem-solving, this group of students were more likely to score higher in a deferring or collaborative approach rather than a self-directed approach.

It is important to track identity status not only for the information it contains about psychosocial maturity but for another important reason as well. Identity status assignment provides helpful information about the foundation which underlies a student's values and beliefs. It is important not only to know that a student holds a particular set of value priorities or beliefs. One should also explore the strength of commitment and the amount of personal exploration one has invested. For example, how much strength of conviction undergirds the beliefs of an identity diffused subject? Even though a foreclosed subject holds fast to an opinion and claims that her views are not likely to change much, how much personal exploration has entered into the decision-making process?

Furthermore, our research results show that political and overall identity status interacts significantly with a student's selection of value priorities and the content of socio-political beliefs. We find a tendency for senior foreclosures and diffusions to hold more conservative beliefs and for moratoriums and achievers to be more liberal. Indeed, many studies find a progressive liberalization of attitudes and beliefs during the college years (See

Pascarella and Terenzini (1991, p. 278) for a list of several dozen studies which support this conclusion.)

Finally, hypothesis 4b remains as an interesting and challenging issue--namely, our prediction that we would have high numbers of foreclosed seniors due to the conservative, protective or "in loco parentis" atmosphere of our colleges. A foreclosure rate of 42.7% seems unfortunately high in an absolute sense, regardless of any comparative data--especially in light of what is known about the foreclosed identity.

Comparisons of foreclosure rates with other institutions are difficult to make for a number of reasons. First of all, very few longitudinal studies have been done, and a surprisingly large percentage of identity status research is insensitive to age or year in college as variables for control. In several studies the focus is more on getting "equal n" for each status for comparison purposes, which rules out any determination of the relative number of subjects in each status. Secondly, most of the longitudinal research available is 15 to 20 years old which suggests the possibility of confounding by changes in the sociocultural milieu. Furthermore, most of these studies use few subjects and do not take necessary precautions to ensure representativeness of their respective college

populations. Indeed, we may have produced the largest longitudinal study (over 4 years duration) of identity status to date. Finally, identity status assignment depends on a subjective, interview procedure. Without training tapes and computations of inter-institutional reliabilities (such as was done for our three institutions), there is a great possibility that we are comparing "apples and oranges."

Given these rather imposing qualifiers, we will venture to address hypothesis 4b, concerning the relatively high number of foreclosed seniors. Our percentage of seniors with foreclosed identities is 42.7, with the percentage of occupational, religious, and political identities being 37.3, 40.0, and 33.3 respectively. Comparison norms at secular colleges reveal the following. The percentage of senior occupational, religious, and political foreclosures reported by Waterman and Goldman (1976) is 35.2, 17.3, and 16.3 respectively. Cushing (1971) reports a rate of foreclosure among juniors and seniors at SUNY (Buffalo) as 21.2% (see Table 5C) and Meilman (1979) cites a rate of foreclosure for 21 year-olds as 16%. It would appear that our senior foreclosure rate is high by all comparisons we are able to make.

Yet for at least the reasons cited above, additional study is needed to state with any confidence that foreclosure rates are higher at Christian colleges, let alone arrive at conclusions about cause and effect.

## ROKEACH VALUE SURVEY

Milton Rokeach has created a survey (1973) that has been widely used to discover how people rank a variety of values. Rokeach's measure involves the ordinal ranking of eighteen "terminal" (e.g., ends) values and eighteen "instrumental" (e.g., means) values. This measure was used in 1987 with the subjects in this study as well as a group of seniors in the class of 1988. Therefore, it is possible to draw a number of comparisons with this present sample as seniors and their responses when they were freshmen. Further, it is possible to compare a sample of the class of 1988 with a sample from the class of 1991. Table 1D presents the rank orders of both the terminal and instrumental values for the study sample as both freshmen and seniors.

The data strongly support hypothesis 3a which predicts a strong correspondence of value rankings among the three colleges and between the freshmen and senior year assessments. There is relatively little change in the rank ordering of either set of values. For the seniors the top four terminal values include: salvation, true friendship, wisdom and self respect. The top four instrumental values are: honest, loving, forgiving, and responsible. In comparison, for the freshmen (College A and College C only), the top four terminal values

include: salvation, true friendship, family security and self respect. Note that except for the value of family security these are the same values highly ranked by the seniors. For instrumental values the freshman ranked as the top four: loving, honest, forgiving and responsible. Although in a different order these are exactly the same top four values selected by the seniors.

In the original study conducted in 1987-1988, a cross-sectional sample of seniors was drawn from the class of 1988. Their rankings of the top four terminal and instrumental values are as follows: terminal values - salvation, wisdom, mature love and true friendship; instrumental values - honest, loving, forgiving and obedient. The seniors of 1988 are alike the seniors of 1991 in that they both agree that salvation and true friendship are among the top four terminal values. They differ in that the class of 1988 also put wisdom and mature love in the top four while the class of 1991 valued family security and self-respect. In the case of instrumental values both the class of 1988 and the class of 1991 shared three of four values in the top four: honest, loving and forgiving. For the fourth instrumental value the class of 1988 opted for obedient while the class of 1991 substituted responsible. Over

all it would seem that there is a great deal of similarity between the two senior classes.

### Freshman-Senior Year Comparisons

As one outcome of a liberal arts education we predicted (hypothesis 3b) that seniors would place lower priority on intrapsychic and interpersonal values (e.g. inner harmony, family security) and higher priority on broader social concerns (e.g. a world at peace, equality). For the combined sample, this hypothesis received little if any support. Only family security ranks lower in the followup (7th) as compared to the freshmen assessment (3rd).

Perhaps a fairer test of hypothesis 3b would be a comparison of value rankings for those students who advance their identities to moratorium or achieved compared with those that do not. Presumably the "advancers" have appropriated more of a "liberal arts" education. However, statistical analysis reveals no significant change in value rankings on intrapsychic, interpersonal, or broader social values for "advancers" in contrast those who did not advance in identity status.

In an effort to determine which if any of the changes in ranking between freshman and senior years

might be significant, t-tests were conducted for the students having both freshmen and senior year rankings (n=48). There was only one statistically significant change (p=.01) among the terminal values and that was the change in the value placed on "an exciting life" with that moving up from the freshman year to the senior year (from 13th place to 12th place). Among the instrumental values there were only three shifts that were statistically significant. The value placed on "ambitious" increased from 12th place to 7th place (p=.039) while the value placed on "courageous" also moved up from 8th place to 6th place (p=.023). In contrast, the value placed on being "polite" moved down in the rankings from 13th place to 16th place (p=.012). All other changes were minor enough that they did not approach statistical significance (p<.05).

Another strategy for discovering changes in values over time is suggested by Rokeach (1973, p. 37). He notes that it is possible to discover changes in values by calculating correlation coefficients between the rankings of the values at two or more points in time. If no change has occurred then the rankings should stay the same and the correlation coefficient (rho) would be exactly 1.00. However, the greater the change the smaller the value of rho (r). This procedure was

applied to the freshman and senior year data and the results are presented in table 2D with the values ranked from the greatest change (low r value) to the least change (high r value) for both terminal and instrumental values.

It is hard to be sure what this data is telling us except that certain values were more likely to shift in the rankings than others. One interpretation is that those values that are more likely to change are those that are less firmly held and thus more fluid in their ranking. An alternative explanation might be that those values which are more likely to change are those which have been challenged as a result of the college experience. No doubt there are many other hypotheses that could be generated from these data. However, the correlation coefficients for the freshman-senior rankings of these values are presented for exploratory purposes only. These data are helpful because it is theoretically possible to have identical mean group scores for freshman year and senior year for a value but to have significant fluctuation among the individuals ranking that value. Thus to get a more accurate reading of changes between freshman and senior year in the Rokeach Values Survey it is necessary to look at both

changes in group means as well as correlations between the rankings for freshman and senior year (the R value).

### Inter-Institutional Comparisons

The senior year Rokeach data was available for all three schools so it was possible to compare the ranking for each of the colleges. In most cases there were remarkable similarities among the three colleges. Table 3D reports the top four terminal values for the three schools and the fact that for all three schools all but one of the top four values are the same (College A and College B have all four top values the same). Likewise there are similar patterns in the case of the top four instrumental values. Each of the schools shares at least two values and in two cases three out of four top values with the other colleges. One way analyses of variance were run to determine if any of the different rankings among the colleges were statistically significant. Out of a total of thirty six different values only two were differentially ranked in such a manner as to produce statistical significance. In the area of terminal values the only such value was the value placed on "wisdom" with students at College B placing a higher rank on this value followed by College A students and then College C students. For the

instrumental values the only value ranking producing statistical significance in the analyses of variance was the value placed on "forgiving" with both College B and College C students ranking this higher than College A students. Other variations in rankings among the three colleges were not statistically significant underscoring the similarities across the entire sample.

#### Comparative Data

Comparative data with a variety of populations and other studies reveals some interesting findings. Table 4D reports Rokeach's normative data for a college age population (1973, pp. 76-77). There are some similarities and differences between Rokeach's college data and the seniors in this study. In the case of terminal values there are two choices common to both groups (wisdom and self respect). Likewise, in the case of instrumental values both the national sample and the present study found two values in common (honest and responsible) in the top four. In contrast, the national sample ranked happiness and freedom in the top four terminal values while the seniors ranked these eighth and eleventh respectively; further, with regard to instrumental values the two samples differed over broadminded and ambitious which the seniors ranked as tenth and seventh respectively.

There are published studies of college students using the values survey which give some further comparative data. In a study of state college students, Addleman (1988) found that the top four terminal values were: happiness, true friendship, self respect and family security (n=91). Note that this study does have some similarities to the rankings of the students from Colleges A, B, and C. Two of four terminal values are identical between the two college groups if the senior data are used and that three of four terminal values are identical if the freshman data are used. This would indicate that the students at the Christian colleges may be fairly similar, at least with regard to terminal values, to college students in general. The major exception is that the Christian college students consistently rank salvation as the highest value while the state college students ranked salvation as the sixteenth (16) value. Table 4D also contains some additional data on rankings from other studies.

Hypothesis 3c predicts that Christian college students will rank the values of salvation, loving, forgiving, and helping higher than students from nonreligious colleges. This prediction is based on our findings for our 1987 cross-sectional study, and it continues to receive support with this longitudinal

followup of the freshmen cohort. The values of salvation and loving are consistently found among the top four values at our three colleges, forgiving ranks in the top four at colleges B and C, and helpful ranks in the top four at College C. None of these values places in the top four in any of the comparison norms in Table 4D.

#### Gender Comparisons

In various studies of the Rokeach Values Survey it has often been possible to draw contrasts between male and female members of the sample population. In this particular study, comparisons were made between male and female subjects by using a one way analysis of variance. In applying this procedure only two statistically significant differences (at the  $p < .05$  level) between males and females were found in each of the two sets of values. For the terminal values, males and females differed with regard to the values "an exciting life" and "inner harmony". In both cases males tended to rank these values higher than females. Linder and Bauer (1983) together with McCarrey and Weisbord-Hemmingsen (1980) both report on research exploring male/female differences in the ranking of terminal values. They found that men ranked "an exciting life" higher than women did. Linder and Bauer (1983) also found no significant ranking in sixteen out of eighteen terminal

values. The results of these studies are comparable to the findings of this research project. For the instrumental values, males and females differed over the values of "independence" and "self control". In the case of independence women ranked this value higher than did men; and, conversely, for the value of self control males ranked this value higher than females. Other than these two terminal and two instrumental values there were no statistically significant differences in the rankings of senior men and women in this study.

STUDENT OPINION ON VARIOUS ISSUES (THE PACE  
QUESTIONNAIRE)

One of the paper and pencil instruments used in this study with students both as freshmen and seniors was a set of thirty six opinion questions developed by C. Robert Pace of UCLA (see appendix B). Pace and his colleagues developed these questions in the 1970's and they have been used in various studies and also have evolved into new forms (e.g., as part of the CIRP questionnaire). These questions provide us with a way of getting at the attitudes and opinions that these students hold with regard to a number of contemporary issues. The thirty six questions are clustered under six areas: national security and international concerns (questions 1-6); freedom of expression (questions 7-11); women's roles (questions 12-17); minority problems and issues (questions 18-23); social problems or issues (questions 24-30); and environmental concerns (questions 31-36). Table 1E presents the results of the survey for the senior sample giving their answers as both freshmen and seniors.

In the area of national status and world security the questions tap student opinions regarding the interdependence between the United States and other nations. An examination of questions 1 to 6 indicates

that the students generally affirm the idea that the United States needs to work in concert with other nations. For example, 61% disagree with the idea that the United States can be self-sufficient. For these questions Pace offers some comparative results from either national surveys or from UCLA students. In comparing these results with the seniors there are only minor differences with two exceptions. The seniors are significantly less likely to disagree with the need for military strength (25% vs 46%, UCLA students). In other words, the seniors in this study were more supportive of military strength. The other difference was that the seniors were more skeptical of the need to share resources (69% agree vs. 89%, UCLA students). Other than these differences, the students in this study were quite similar in their opinions to other college students.

Questions 7 to 11 deal with freedom of expression. Looking at the results in table 1E it is clear that the senior students offer strong support for a variety of civil rights and for freedom of expression. They support literature that questions moral concepts; they support careful analyses to protect civil rights; they believe that the college campus should be open to people with unpopular or extreme ideas; and they believe that suppression of dissent is undemocratic. Comparative data

is available from national samples for questions 7, 8 and 9 and it reveals that the seniors are even more supportive of these ideas than the wider college student population. However, there is one obvious area where the general support for freedom of expression is limited or questioned. Question 10 indicates that the seniors strongly support the desirability of censorship in regard to obscenity and pornography. Although no national comparative data for this question is available, it is likely that such censorship would not be as strongly supported by the wider college student population.

In the area of women's roles questions (12-17) seek to explore the extent to which women have been the target of discrimination or to what extent women should be given a special protected status. There is nearly unanimous support for equal benefits and opportunities for women together with strong support for greater involvement of women in business and government. In both of these cases (ques. 12 and ques. 14) the opinions of the senior sample are actually even more favorable than the wider college population. However, the seniors have mixed opinions regarding the impact of women working outside the home on young children (question 15) with only 30% rejecting the idea that such a pattern causes

harmful effects. Likewise only 59% are critical of the idea that advertising portrays a negative concept of women. Finally, only 15% agree with the statement that birth control methods, including abortion should be available to any woman who wanted them. No doubt the national debate about abortion has focused attention on this issue. If the question of birth control was separated from abortion there would likely be a rather different response to this item (#16).

A series of questions in the survey focused on minority problems and probed the extent to which the students were aware of and sympathetic to problems experienced by minorities. The results for these questions are mixed. In regard to the need for "self help programs" (question 20) over eighty percent (83%) support this need. Further, the seniors are aware that minorities have not always been treated fairly by the police and the court system (question 23 - 75% agreeing). However, in significant other ways the seniors are not convinced about the extent of structural discrimination and racism in American society. Only 44% (question 18) believe that poverty is connected with discrimination and neglect by the white majority. In addition, a slight majority of the seniors (52%) believe that people of color can get ahead simply by

hard work (question 19). Finally, like many in the wider American society, the senior students in this study find the concept of reverse discrimination unacceptable with only 8% supporting the idea (question 22). Comparative data from a national sample is available for questions 18 to 20 and that information indicates that the seniors are similar to the wider student population with any differences in the direction of being less sympathetic to minority problems (the differences average approximately 7% points).

Questions 24 through 30 deal with a variety of issues but include questions about the criminal justice system, science and technology, the role of science, values, reason and emotions. There are no national comparative norms for these questions. In regard to crime the seniors do see government and industry as, on occasion, engaged in criminal activity (question 24 - 73% agreeing). In addition, the seniors see too much stress on law and order as potentially leading to a repressive society. However, when different types of crime are compared (question 26) it is clear that they seem less concerned about white collar crime than street crime. The seniors are generally critical of science and technology in that 63% see these areas as actually creating dangers and problems. When contrasting reason,

logic and abstract thought with experience and feeling, the seniors question the appropriateness of reason (question 29 - 59%) and argue that experience and feeling should be valued more highly (question 30 - 69%).

The final section of the Pace Questionnaire covers issues having to do with ecology and the environment (questions 31-36). In comparative data from UCLA students there was near unanimous support for these items. As can be seen from table 1E, the seniors did support these items in large measure with one exception.

With the exception of question 33 the seniors by a margin of at least 80% agreed with the remaining questions. This would seem to indicate a strong support for environmental concerns. Perhaps the near unanimous support for item 32 has been stimulated by a variety of events in the past four years that focused the issue of dumping wastes into various bodies of water. In regard to the issue of population control, however, the seniors indicate a large measure of scepticism about the need to control population (question 33 - 35% agreeing). Why is this the case? It is hard to interpret this finding. One possibility would be linkages between population control and issues such as abortion. Another possibility is that this is part of a national scepticism about the

need to control population. In fact, some experts have been reported as saying that the earth can support a larger population than previously estimated. Whatever the cause, these seniors do not agree with the need to control population growth.

In summary, we find strong support for hypothesis 4a. The responses that our subjects give to PACE items is largely comparable to other college samples with few exceptions. For the most part the exceptions reveal that our subjects are somewhat more conservative on a few issues.

#### Freshman - Senior Comparisons

Table 1E, in addition to reporting the results for the seniors, gives the results of the Pace questionnaire for the same students when they were freshmen. Therefore, by comparing the freshmen year responses with the senior year responses it is possible to detect where change occurs and the extent of those changes in student opinion. Two strategies were used to highlight freshmen-senior changes. First, we will note those items for which the change between freshman year and senior year is greater than 10 percentage points. Second, by computing the group means and running paired t tests it is possible to detect which paired means reflect a

statistically significant difference. Table 1E makes note of those changes greater than 10 percentage points.

Using these strategies it is apparent that out of the thirty six items only about 12 items appear to have any significant changes [11 items are apparent due to percentage differences; only one additional item was discovered through t tests]. Generally, then, one may say that the opinions of the students in these various areas are characterized by a good deal of stability and lack of change. This corresponds with a number of other studies which indicate that student opinions often do not undergo significant change during the college years or that changes in opinion may be temporary and not permanent (Pascarella and Terenzini, 1991).

In examining the table 1E data, changes tended to fall into the following areas: national security (Ques. 5); freedom of expression (Ques. 9 and 11); women's roles (Ques. 16 and 17); minority problems (Ques. 19, 21, and 23); social issues (Ques. 25, 26 and 27); and the environment (Ques. 33). In regard to national security students became less likely to see the need to share and more important to stockpile resources. Concerning freedom of expression students became stronger in their support of free speech and freedom of dissent and protest. There was some increase of support

for the availability of birth control and abortion to those who wish it, although the changes still resulted in only a small percentage favoring this item (#16). Students also became more convinced about stereotypes and sexism in advertising (an increase of 12%). By far the most significant shift was movement toward greater disagreement with the statement that anyone can get ahead by hard work regardless of their race (from 24% to 52% disagreement). Changes were also evident in that students became even more in favor of school integration (question 21 - 92% agreeing; t test  $p=.001$ ) and increased in their belief that there was bias toward minorities on the part of courts and the police (increase of 18% to 75% agreement).

Turning to social issues, students increased in their agreement that too great concern with law and order can lead to a repressive society (question 25). Further, they became increasingly convinced that science and technology may create problems and dangers which cannot be solved by appeal to science and technology (question 27). However, students became less convinced that white collar crime was more serious than crime in the streets (question 26). In the final section dealing with the environment only one question seems to reflect significant change - question 33. Agreement with the

idea that population must be controlled to reduce pollution actually declined by 14% to only 35% agreeing with the statement.

In summary, it would appear that hypothesis 4b receives support in that the modest changes in opinion are generally in the direction of more "liberal" positions (e.g., pro freedom of expression, supportive of minorities, more aware of sexism, etc.). However, there are a few exceptions. In regard to the environment it appears that there may be a retreat from some of the pro-environmentalist views. Concerning national security there seems to be less commitment to a sharing of resources and international interdependency. Finally, the issue of street crime gained as an issue of concern over white collar crime. Nevertheless, the overall picture that one must draw from a discussion of the Pace questions is that student opinions and attitudes change relatively little over four years. And if changes do occur they are in the direction of more liberal opinions and positions.

#### Gender Comparisons

A further analysis of the Pace questionnaire data was done breaking the seniors down into two groups on the basis of gender. Both one way analyses of variance as well as chisquare tests were used to determine if

there were any statistically different means or frequencies between males and females on these questions. Out of the thirty six questions only seven had male-female differences that were noteworthy. In the general area of national security, women were more likely to disagree with the statement that lasting peace comes only when the U.S. is stronger than other countries (ques. 1). Further, women were more likely to disagree with the statement that all nations should belong to the U.N. (question 6). As might be anticipated an area with significant differences between men and women was in regard to women's roles. Women were more likely to argue that women should receive the same benefits as men (question 12); that we need more women in government (question 14); and that women working outside the home does not have a bad effect on children (question 15). Finally, in the general area of ecological concerns, women were less likely to support the need for population control (question 33) while men were more likely to agree with the statement that an environment harmful to animals is also harmful to humankind (question 34).

#### Institutional Comparisons

As in the case of gender differences, it was also possible to break the Pace questions down along the

lines of the three different colleges represented in the study. Again, both one way analyses of variance and chisquare tests were used to search for statistically significant differences among the three schools. Using this approach, out of the thirty six Pace questions a total of eight questions revealed noteworthy differences among the schools.

To the statement that the U.S. is capable of being self-sufficient (question 3) College A students were more likely to agree with that idea (A: 57.1%; B: 29.6%; C: 34.6%). Both College A and College C students were more likely to support the belief that denial of dissent is anti-democratic (question 11; agree: A: 90.9%; C: 92.3%), while College B students were less likely to agree (B: 70.4%). In the area of women's roles College A students were much more likely to take a strongly agreeing position with regard to women having the same benefits as men (question 12: percent strongly agreeing: A: 90.9% C: 53.8%; B: 40.7%). In regard to the idea that mothers should be allowed to follow their own interests (question 13), College B students were less likely to accept that concept (B: 37%) while both College A and College C students were more supportive of that view (A: 81.8%; C: 73.1%). Similarly, both College A and College C students agree with the need to have more women in

government (A: 95.2%; C: 96.2%) while College B students were noticeably less inclined to agree with this statement (question 14; B: 70.4%). In regard to abortion and other birth control methods (question 16), although most students at all three schools opposed abortion, the greatest level of support was among College A and College C students in contrast to College B students (A: 22.7%; C: 20.8%; B: 3.7%). To the statement that integration will contribute to the health of our society (question 21), the highest level of support was from College A students (100%) followed by College B students (96.3%) with a lower level of support from College C students (79.3%). Finally, College B students gave the strongest support to the concept that minorities have suffered at the hands of the police and the courts (question 23) with 92.6% agreeing with this statement while both College A and College C students had more reservations about this proposition (C: 66.7%; A: 63.6%).

In reviewing the above outlined differences among the three colleges several comments should be made. First, hypothesis 4c receives fairly strong support. Although there are some differences, the similarities outweigh the differences. The responses to the Pace questions show a remarkable parallelism at all three

colleges with only minor variations. Secondly, whatever differences do appear among the colleges may be due to somewhat different demographic profiles. For example, there is a higher proportion of women in both the College A and College C samples. Hence, some of the observed differences (e.g., questions 12-17) may reflect gender differences rather than institutional differences.

## LEARNING CONTEXT QUESTIONNAIRE

The Learning Context Questionnaire (LCQ) measures a preference format for the educational setting. Utilizing Perry's (1981) model of cognitive and ethical development, it gives an individual score that suggests either a dualistic, multiplicitous, relativistic, or dialectic "learning style" (Kolodny, 1991). The assumption is that principled moral thinking or "justice reasoning" (McNeel, 1987) is related to the way one learns and thinks, or views the overall academic environment

Although no freshmen data on the LCQ was available for this sample, cross-sectional studies conducted at one of the three colleges indicated freshmen tended to enter with primarily a dualistic mindset (Kelton & Griffin, 1986). In contrast, mean senior LCQ scores for all three institutions suggested multiplicity. Specifically, 23.1% were in the range of dualism, 42.3% in the range of multiplicity, and 34.6% in the range of relativism. Scores on the LCQ and the senior DIT were highly correlated ( $p < .001$ ).

Discussion. The freshmen in the study appear to be entering college with very much of a dualistic mindset. They seem preoccupied with "what to learn", or finding the "right answers." Towards the senior year, there is

considerable diversity in the approach to learning. Some are still concerned with the same issues as freshmen, but the majority are developing their capacities to learn, to think, or to judge. Overall, they are beginning to recognize and accept multiple perspectives on complex issues, but truly independent thinking is not yet fully realized for most. Some are exploring ways in which the perceived context might impact decision-making, but fewer still are coming to grips with what the personal and social implications of knowledge might be. Overall, it appears that "choice" "commitment" and "responsibility" are poorly understood constructs in the collegiate setting, and this study is no exception to that assertion (cf Parks, 1986). Forming the conscience and shaping character (Holmes, 1991) obviously requires a greater openness towards a diversity of interactional and teaching styles. The majority of seniors do not appear to be leaving college with a clearly articulated world view or a well-formulated set of control beliefs (Holmes, 1991), Rather, they are still struggling with how to think and make judgments in the context of their lives (cf Perry, 1981).

In one institution (WC), students were asked specific questions that might help clarify their

convictions about the ideal classroom context for optimal learning. An informal content analysis was quite revealing. Students with scores in the range of dualism on the LCQ overwhelmingly preferred the traditional lecture format. Students in the range of multiplicity wanted a balance of lecture and discussion. Those in the range of relativism on the LCQ seemed most concerned about what approach would foster "critical thinking." What was particularly fascinating was that their preferred mode of student evaluation ranged from an "objective format"/ multiple choice (relativism), with students in the range of multiplicity preferring some combination of the options, e.g. some multiple choice with some essay. Also evident was a growing respect for diversity of thinking with increasing scores on the LCQ, a finding that is certainly consistent with the Perry model of cognitive and ethical development. The content analysis also revealed that students had differing notions of "support" and "challenge" at the different positions. In both multiplicity and relativism, students tended to state their preference for peers, parents and professors that "really made them think," "raised the tough questions," "didn't offer solutions too quickly," "allowed me to learn from my mistakes," "were good listeners," or "forced me to really think for myself."

Interestingly enough, those with the higher LCQ scores had less "respect" for authorities, and a higher appreciation for "contextualized knowledge." Overall, as the LCQ scores went up, it seemed as if there was a higher view of "diversity," less of a need for "structure," a stronger desire for direct involvement in the learning process, and a greater wish to learn from peers as well as professors--i.e. the "community of scholars."

## RELIGIOUS PROBLEM SOLVING

Kenneth Pargament (1988; 1990) has developed the idea of "coping" as a useful tool in analyzing how religion might relate to an individual. In connection with his work Pargament created a measure of "religious problem solving" to explore how people may use religion to cope differently with situations they encounter. Through factor analysis Pargament found that three distinct styles of coping or problem solving may be linked to religion (1988:90). First, there is a Self-Directing style which emphasizes that it is the individuals own responsibility to solve their problems. God is viewed as giving them both the freedom and the ability to solve their own problems. The person is seen as taking an active problem solving stance and they are likely to say something like "God put me here on this earth and gave me the skills and strengths to solve my problems myself" (1988:91). Second, there is a Deferring style that puts the major responsibility for solving problems on God. In this approach the individual waits for God to intervene and provide direction. God is the source of solutions and not the person themselves. Of the three approaches this is the most passive. Finally, there is a Collaborative style which involves an active personal exchange between the person and God where

responsibility for the problem solving process is held jointly by the individual and God. Persons who tend toward this style will speak of God as a partner, as one who works with them and strengthens them as they cope with various problems.

In evaluating these three religious problem solving styles it appears that there are developmental implications for each style. Since both collaborative and self-directing styles involve more active personal involvement they would seem to require a more mature person. In contrast, the deferring approach, since it involves a large measure of dependency, would seem to be a less mature style of coping. In fact, Pargament explicitly relates these three styles to both personal competence, well-being and religious maturity. In his judgment, the self-directing style and the collaborative style are both linked to higher levels of competence, well-being and religious maturity while the deferring style is more likely to "hinder the individual from confronting and dealing with personal problems and developing greater competence" (1988:93).

In a recent study, Schaefer and Gorsuch used the Pargament measures as part of a larger study of psychological adjustment and religiousness (1991). Working with a sample of college students from Christian

Protestant colleges they found that students who were characterized by either a collaborative or deferring problem solving style were likely to have less anxiety and to be better adjusted psychologically in contrast to those with a self-directed problem solving style (1990:458). They noted, however, that the nature of their sample (students at religiously oriented colleges) might not be typical of a wider adult religious population. For example, self-directed students may have felt more pressures from those particular religious institutional environments.

In the framework of this research project, the use of Pargaments's Religious Problem Solving measure was intended primarily as an exploratory device. Since the measure was not used with subjects when they were freshmen it is not possible to establish what changes in religious problem solving styles may have taken place. However, by using the Pargament measure with the seniors it is possible to explore how these three styles may be related to other factors such as identity status and moral development. Generally, one would hypothesize that those students scoring higher in the self-directing and collaborative problem solving styles would also score higher in other developmental measures (e.g.,

Learning Context Questionnaire, Identity Statuses, and Defining Issues Test).

The entire senior sample was given the 18 item abbreviated Religious Problem Solving scales. Six items were used for each style and the scores for each of the items were simply added to produce three scores for each student: RPS1, Collaborative Score; RPS2, Self-Directed Score; RPS3, Deferring Score. The results for the entire sample are:

	Mean	STD
Collaborative Score	19.6933	5.1042
Self-Directed Score	12.7733	4.0087
Deferring Score	14.0533	4.1716

By way of contrast, in his original report of the development of the religious problem solving measures, Pargament found the following results (adjusted to a 18 item scale) with adult members of two protestant congregations: Collaborative (Mn = 13.01); Self-Directing (Mn = 14.85); Deferring (Mn = 12.91) (1988:95). It would appear that our sample of students differs from the Pargament sample in that the students scored highest in the collaborative problem solving

style while the adult sample scored highest in the self-directing problem solving style.

Table RPS provides some of the data on the RPS scales and other variables. There are minor differences between males and females with regard to religious problem solving styles. However, none of the differences were statistically significant.

Interestingly, although deference might be construed as a more feminine tendency, males actually scored higher on the deferring scale (male = 14.69; female = 13.65). In making inter-institutional comparisons there were no statistically significant differences among the three colleges. All three schools had students who ranked a collaborative style the highest followed by a deferring style and a self-directed style as the lowest score.

In examining the connection between senior identity statuses and religious problem solving several things can be noted. First, in regard to overall identity statuses there were no statistically significant differences among diffused, foreclosed, moratorium and achieved categories when compared on the three problem solving styles. The only noteworthy finding was that moratoriums were the highest in self-directed problem solving which might well fit those who are actively seeking to find their own identity. In turning to

religious identity statuses there were greater differences. Thus, Table RPS reports the different means for the four religious identity statuses. As can be seen, the means do differ from one another and in the case of the deferring style (RPS3) the differences are statistically significant ( $F = 2.7331$ ;  $p = .05$ ). Specifically, for the religiously foreclosed, it appears that they are more likely than the moratoriums to score higher on the deferring problem solving scale. Diffuse and moratorium statuses are associated with higher self-directed scores while foreclosed and achieved are higher in scores for collaborative problem solving. For both RPS1 (Collaborative score) and RPS2 (Self-Directed score) the differences among the means approaches statistical significance ( $p = .06$  and  $p = .07$  respectively).

If the identity statuses (overall) are collapsed into those who have experienced a crisis (achieved and moratorium) and those who have not experienced a crisis (diffuse and foreclosed) it is possible to compare the various RPS scales to these simplified categories. In Table RPS reports these results and shows that while the means of crisis and non-crisis subjects for either a collaborative or self-directing style are not sufficiently different for statistical significance, the

contrast for the deferring scale is statistically significant ( $F = 7.03$ ;  $p = .009$ ). What this means is that those who score higher on a deferring problem solving style are less likely to have experienced an identity crisis.

Finally, Table RPS also reports correlation coefficients for the relationships among the problem solving scales, the learning context questionnaire (LCQ), freshman and senior Defining Issues Test scores. The correlation between the senior DIT score and a Deferring problem solving style is the only statistically significant one ( $p = .01$ ). In other words, those who score higher on the DIT are likely to score lower on the Deferring problem solving scale. Although no statistically significant correlations were found for the LCQ the results do indicate that higher scores on the LCQ are positively correlated only with a self-directing problem solving style.

Returning to the hypotheses initially generated regarding the Pargament Religious Problem Solving scales it appears that there is a mixed picture. In regard to overall identity statuses, while the more advanced statuses of moratorium and achievement are connected with a collaborative style only moratoriums score high on the self-directing scores. Looking at religious

identity the data do not support the hypothesis that those in the more advanced statuses would be associated with higher scores in collaborative and self-directed problem solving styles. In regard to the Defining Issues Test it appears that only the hypothesized connection between high DIT scores and self-directed problem solving is supported. This is also true of the LCQ where those scoring higher in the self-directed problem solving style were the ones more likely to score higher in the LCQ. In sum, the data support an association between a self-directed problem solving style and more developmentally advanced scores but not a similar connection with a collaborative problem solving style. Conversely, there is some support for a connection between a deferring problem solving style and lower scores on various developmental measures as noted by the contrast between those who have experienced an identity crisis and those who have not.

## REVIEW OF FRESHMAN INTERVIEW

Upon completion of the senior interview, each student watched his or her freshmen videotaped interview and responded to the following basic questions: 1) Based on the review of your freshman videotape, how do you feel you have changed in the past four years? What factors have led to the changes you have observed? 2) Can you shed any additional light on what you were thinking and feeling at the time of this interview? Were you responding candidly?

We should first point out that there is considerable diversity in the nature of responding. Some perceived very little change and felt that they were very honest and open in the interview. Others could identify many ways in which they had changed, and a few had some interesting comments about the nature of their responding during the freshman interview. What follows is an attempt to summarize some of the major types of change that students reported.

Greater differentiation. Subjects reported having developed more detailed religious and sociopolitical ideologies, and more differentiated views of the parents, and their social environment. They moved from being largely uninformed about the world around them to being far better informed. Differentiation extends to

greater personal independence or autonomy as well. Consider the following student quotes by way of illustration:

"As a freshman, I wasn't questioning anything."

"As a freshman, Marx was just a bad guy; now I can learn from him."

"My faith and my small group of friends and family were my whole world--my only concern."

"In my freshman year I used a lot of 'God talk.' Since I knew this was a Christian community, I expected everyone to be this way. Now, I feel less need to talk my faith than to live it. I haven't lost it--it is quieter, yet stronger."

"Then I was more or less 'straight out of the nest'--now my beliefs are not exactly the same as my parents, and I make my own decisions."

"As a freshman, I worried more about how others viewed me. Now I am more secure in myself and less dependent on what others think."

(As a freshman I was)... "more reliant on God and others. Now, I must act and think. God will meet me and still guide me, but I must act."

Tempered idealism. Most students claimed to be far more idealistic as freshmen.

"My ideals are more tempered by reality."

"Back then I saw \_\_\_\_\_ College as a utopia."

"I am not as naively trusting of others around me, but I am actually more trusting of the few close friends I know well."

Factors that facilitate or retard development.

"It is easy to 'check out' when difficulties are encountered if you are simply overwhelmed by your obligations and responsibilities."

"Being overly concerned about peer, parental and/or professor approval can cause you to lose touch with your own convictions."

"It is hard to think for yourself when you don't have a clear sense of self."

"I would have grown a lot more if I had the opportunity to really get to know some faculty members."

"I was always torn between my Christian service involvement, my classes, and my friends. I didn't know how to prioritize my commitments."

"I was afraid of growing up--of really thinking for myself. I wasn't sure the risk would be worth it."

"Everybody kept telling me what to do--what to think. I just wanted to retreat."

"It's really frustrating when people don't really listen when you struggle to articulate your thoughts."

"I was afraid of being judged or punished."

"I didn't want to be called a 'cynic' or a 'liberal.'"

"I was afraid to doubt."

"I spent far too much time memorizing--and not enough time trying to understand what I was learning."

"Things in the classroom so often seemed so abstract and theoretical."

"I didn't really allow myself to become involved with hurting persons."

"We never seemed to have enough time to ask questions about what we were learning."

"I wish I had been required to write more papers."

"I was afraid to share my 'voice.'"

Openness and tolerance. By the senior year students report that they are less close-minded, and do not see everything as 'black and white' anymore. In the moral dilemma portion of the interview there is more recognition of the dilemma with responses like, "This is agony," or "I honestly don't know what I should do," or "That's a real good question." They also report greater openness to alternative ways of viewing things--to different sides of moral, religious, and sociopolitical issues.

"What was hard and fast no longer is..."

"There is more significant doubt at college which helps you shape your views."

"I was more confident morally as a freshman because I could just draw a response out of my 'bag of tricks.'"

"I had more simplistic views then and I was more interested in imposing them on others."

"As a freshman, Heinz and the Druggist did not seem like much of a dilemma...Thou shalt not...what more was there to say?"

Self-confidence, settledness, and security. The perceptions in this category were rather interesting because some reported being more settled and confident after four years, whereas others gave the exact opposite (pardon the dualism) reply. Some students reported having little sense of direction as freshmen while being very open to change and to new ideas. By their senior year they felt more settled about who they are, what they believe, and where they are headed. Others came to college with a firm set of beliefs and sense of direction and the surrounding academic and social environment disrupted their self-confidence and stability of self-image. Some seniors are unsettled because "so much is up in the air...marriage, career, where I'll live..." Others expressed their lost confidence this way. As a freshman they have simplistic

world views based largely and uncritically on their parents. They thought that their ideas were their own but they were not. The college experience has left them somewhat unsure of who they are or what they believe. Although their present unsettledness is seen as superior to where they were as freshmen, they may not be nearly as comfortable or happy at the moment.

"I was more confident as a freshman, but now I can see this was 'lower ground'...my self-esteem has taken a beating as I have gone through a time of doubting long held views."

"I am less certain of my future."

"I was more sure of things as a freshman, but this was a false confidence because my views were based totally on those of my family."

"I have a better sense now as to what others think of me--but that view is not as flattering as I used to think it was."

The role of crises. Students who made significant change could often (certainly not always) point to a crisis event that may have motivated personal and critical exploration of their beliefs and values. Examples of crisis events uncovered in the interview include the death of a parent or a sibling, parental divorce, a sister getting raped, participation in a

political demonstration (several mentioned Operation Rescue), poor grades especially in one's major, a challenging special speaker, a cross-cultural or subcultural experience--particularly one which immerses the student in a radically different environment.

For most students the Christian college offers a comfortable and rather predictable setting; for others it represents a drastic change. For example, consider the Catholic student who gets placed in a dormitory with several intolerant, Protestant, fundamentalist freshmen, or the international or inner-city minority student in with a bunch of white, rural "farm boys".

A noteworthy example is a student (actually one of only two in the entire sample of 74) who progressed all the way from identity diffusion to achievement in four years. He is an international student (an MK) who quickly found himself in the role of "spokesperson" for missionaries, his denomination, and the sociopolitical situation of the African nation in which he had lived. In his words he found the need "to become better informed or be embarrassed everytime somebody asks you an obvious question." The other precipitating factor in his college experience was getting arrested for participating in an Operation Rescue demonstration and waiting and worrying for eight months until his hearing.

This event stimulated a much closer scrutiny of the abortion debate which touched the heart of his moral, religious, and sociopolitical beliefs. Upon opening up this belief to critical scrutiny, how could he leave other political, religious and occupational beliefs unexamined.

We should also point out that negative crisis events such as sexual abuse, parental divorce, or perhaps finding oneself in a hostile or foreign environment may stimulate foreclosure of extremely persistent nature. The insecurity brought on by a traumatizing experience may make even the developmental changes associated with normal identity development very anxiety arousing. These students may need an especially reassuring atmosphere of support to find the courage to examine new ways of thinking and acting.

The other major question asked of subjects after they reviewed the freshman interview was whether they could offer additional insight into what they were thinking and feeling at the time of the freshman interview. Many had little to say here except that they believed that responses were open and honest. However, others affirmed the worth of our question with answers such as the following.

Reappraisals.

## a. Concerning well-formulated personal opinions:

"At the time I am sure that I thought my views were well thought out and that I was open-minded. But, as I look back on it, they really weren't."

"I really didn't have my own opinions, although at the time I thought I did."

"What I had passed off as beliefs which were different from my parents to make me look independent were really just comments I had heard from my friends in high school."

## b. Concerning parental pressure:

"As a freshmen, I didn't think that my parents had pressured me, but now I can see that they pressured me a lot."

## c. Concerning personal examples:

"I mentioned things in the freshman interview that seem trivial now. College experiences have eclipsed these examples."

Lack of candor.

## a. Excluding important details:

"I am surprised at what I didn't say as a freshman. For example I didn't bring up my time of religious doubting and rebellion in high school, even though it would have been helpful in the interview. I probably

didn't think it was okay to mention things like this at a Christian school."

"I spoke very generally as a freshman when more specific answers would have been enlightening. In the tape I mention a time with a friend that influenced my faith. In truth, I was getting involved in a very physical relationship with a nonChristian girlfriend, and it was destroying my faith."

b. A false display of confidence:

"I felt pressure to respond more confidently than I actually felt. I would confidently speak of my major and my plans when inside I was very doubtful."

"I felt a pressure to be more self-assured that was really the case. 'Me? I'm going to pursue real estate.'"

In summary, although this exercise was very exploratory, it added an important dimension to the study. It provided concrete illustrations, and helped to clarify why some students may have changed while others have not. It also raises concerns about the veracity of student responding and reinforces the importance of establishing rapport, especially with freshmen who may be uncertain of the expectations of their new environmental context.

### CLOSING REMARKS

Most of the discussion of our research results can be found at the end of each major section of this report. What remains is to 1) summarize more broadly what we have learned, 2) offer some directions for future research in this area, 3) extol the benefits of research collaboration, and 4) comment on the manner in which we are communicating these findings.

#### What we have learned.

We have learned that in many ways the students at our three colleges are similar to one another, to students at other religious colleges, and to the college population as a whole. For example, there is remarkable similarity among our three colleges in the ranking of Rokeach's instrumental and terminal values, the distribution of identity statuses, DIT p scores, moral judgment stages, LCQ scores, and in the responses to various sociopolitical attitudes. Our combined sample is also quite similar to samples from nonreligious colleges in the ranking of such values as honesty, responsibility, wisdom, self-respect and family security. We are also similar to other colleges on most sociopolitical attitudes in the Pace scale, in DIT p

scores, and in the general number of seniors who advance to a "post-crisis" identity status.

Our combined sample differs somewhat from general college samples in a few demographic variables (e.g. our high female to male ratio, more academically able students, more fathers with graduate degrees, and more students in arts, sciences, education, and the social sciences). Our students place higher priority as freshmen and as seniors on the values of personal salvation, and on being loving and forgiving; they place a lower priority on personal happiness and freedom. They are somewhat more conservative than the general college population in their views about national security, the censorship of pornography, some women's issues (e.g. mothers with young children who work outside the home; abortion rights), and some minority issues (e.g. being somewhat less than convinced about the extent of structural discrimination and racism). There may also be a greater number of identity foreclosed students in attendance at conservative Christian colleges in comparison with most nonreligious colleges and universities.

We have also demonstrated through the longitudinal design that our students have developed in many ways over four years. There are significant advances in moral

reasoning as seen by increases in DIT p scores or advances in moral judgment stages. Our senior sample has moved to a point of greater openness and tolerance of diversity on several sociopolitical attitudes in the Pace Survey. In the area of identity development, 55% have advanced by at least one identity status by the senior year and 51% are in a post-crisis status of moratorium or achievement. The average student's cognitive style has increased from dualism to multiplicity.

What does a conservative Christian college environment do to one's religious identity? It is disturbing to note that 40% of the combined senior sample remains religiously foreclosed. This might suggest that our collegiate, religious ambiance is so similar to our constituency that it fails to offer the challenge needed to acquire a faith based on personal scrutiny.

Yet this may not tell the whole story. The comparison data in Table 4C on Hartwick College, a small, nonreligious, liberal arts college, reveal that only 16% of their freshman sample was religiously foreclosed in comparison to 66% in our combined freshman sample. Whereas we report a 26% decline in religious foreclosure, they report no change--16% remain

religiously foreclosed. Whereas we report a 12% decline in religious diffusion, they report a 10% increase. Finally, and most importantly, Hartwick reports a 2% increase in students in a post-crisis religious identity, and we report a 39% increase.

In other words, although a Christian liberal arts college may attract more religious foreclosures, these same students may make greater advances in religious identity in a Christian environment.

The need for challenge and support.

Students make significant progress cognitively, psychosocially, and morally during the four years that they attend a Christian liberal arts institution. We are not able to demonstrate empirically what factors are responsible for these changes or, for that matter, why significant numbers of students fail to develop in these same ways. We are interested in theorizing a bit as to what may be needed to induce more students to take advantage of growth opportunities during their college years.

What is needed in a milieu that offers a balance of challenge and support. Too much challenge in the absence of support may create anxiety and defensiveness, leading one to foreclose or remain foreclosed. Too much support

with little or no challenge may be too comfortable to stimulate personal growth.

It is important to explore the role of college educators as one seeks to create this optimal balance. A simplistic view might have it that faculty provide the challenge, and student development personnel and other leaders of the extracurriculum provide the support (e.g. counselors, chaplains, RAs, coaches, etc.). However, these two functions are not (and must not be) so easily dichotomized. There are confrontational dimensions in the extracurriculum, and influential faculty members provide more than "intellectual challenge." They create a nonthreatening classroom atmosphere conducive to growth, and they mentor students outside of the classroom.

One of the interesting findings of this study may be that in order for faculty to be most successful in fostering development they need to have some identifiable commonalities with students. If faculty are perceived to be too different from their students, it is possible for the student to set aside or ignore the challenge that is being offered. However, faculty who have good rapport with students may be able to offer alternatives that are not rejected out of hand. This insight arises out of a number of comments where

students said something like this: "I knew my [roommate; RA; advisor, etc.] was a strongly committed Christian who was like me in many ways. However, they had a different view on [war; styles of worship; Calvinist theology; charismatic gifts; etc.]. That really caused me to wonder if that might be a viewpoint that I could adopt."

The mentoring role may be a key factor contributing to student growth. We are not speaking of standard academic advising; rather, we are focusing on mentoring as envisioned by Parks (1986), Perry (1970) and Levinson (1979). Young adults have developing images of "self, world, and God" called "dreams" which have the power to inspire an intensely personal process of meaning-making or "faith" development. A mentor is one who "addresses, awakens, and empowers" a young adult's dream in a friendly atmosphere of respect and "anticipatory collegueship" (Parks, 1986; Levinson, 1979). We wonder how many college students actually find mentors such as these?

When we asked seniors to identify aspects of their college experience that did the most to influence personal growth and maturity, the extracurriculum stood out in bold relief. In addition to the role played by mentors (which falls largely into the extracurricular

category), we heard responses about dorm life, friendships, dating relationships, and learning from past mistakes and failures. Although inspiring lectures, primary sources, and classic art, music, and literature may foster interesting images and ideas, it is within the extracurriculum that these ideas are tried on, assimilated, and lived out--and this reinforces the value of student development professionals.

There is also need for an educational structure that sets the stage for personal growth. Freshman orientation courses can be valuable for a number of reasons: 1) they introduce students to the value of liberal arts education; 2) they identify helpful resources for students, 3) they involve mentoring relationships, 4) they often involve teaching faculty and student development personnel working together; and 5) they often provide small group activities which challenge the student to explore and apply new ways of thinking and acting in an intimate and supportive context.

Other structural matters that come to mind are the general education requirements, classroom size, classroom activities, and faculty/student ratios. General education courses should be spread throughout the entire four years, and not simply "front-loaded" so

students can "get them out of the way." These courses should be periodically evaluated to see if they are truly fulfilling their liberal arts objectives.

If classroom sizes and faculty/student ratios are such that there is limited opportunity for mentoring, then the "meaning making" process which is so vital during the college years may be severely curtailed.

Parks' new stage of young adulthood.

Sharon Parks, in her book The Critical Years, makes a strong case for a new stage of young adulthood interposed between adolescence and adulthood. The postulation of such a stage is not new in and of itself; however, previous conceptions have wrongfully stigmatized this stage as some sort of "lost youth" or "subadult" who really ought to grow up.

She characterizes the young adult stage as a time of probing commitments, self-selected authorities, contextual relativism with the collapse of dichotomizing, and a tempered "idealism" of self and community. This is a person who having cast off long held views is tentative and less than fully secure or self-assured due to being embedded in a personal search for meaning and faith.

Whereas late adolescents of previous generations may have had smoother and less eventful transitions to adult commitments, there is much about the present sociocultural context that makes the young adult's wariness and tentativeness understandable. The rapid change of today's institutions, values, methodologies, and technologies coupled with social, economic, and political uncertainties (e.g. breakup of USSR; combining careers, marriage, and family; AIDS and safe sex; computerization and automation) appear to make any rush to form social, occupational, and ideological commitments (which allegedly characterize the identity achieved) ill-advised, if not foolhardy.

In the empirical work presented here, we see strands of evidence that may indeed support Parks' position. For example, the longitudinal studies of 10 to 20 years ago (see Tables 4C, 5C, and 6C) have few "moratorium" identities and 30 to 40% achieved identities by the senior year of college. By contrast, we have two to three times the number of moratoriums in our study. On the LCQ we find 77% of our entire senior sample in the cognitive stages of multiplicity or relativism. We also note from many seniors, after reviewing their freshman videotapes, comment on their loss of confidence or self-assuredness that is

nevertheless seen as a "higher ground." Although we hold to our conviction that one should at least be engaged in personal exploration of "self, world, and God" by the senior year, we may need to rethink how important it is for students to have firm commitments to occupations and ideologies by this time. Even with respect to religious faith, it may take longer than four years to integrate the claims of faith with the rapidly paced changes in occupations, social standards, and technologies of modern society.

Suggestions for future research.

Given the minimal amount of outcomes research that has been done on Christian college campuses, replications at other colleges using some of the same measures along with new and different measures would be helpful.

It would also be beneficial to reassess our own sample in four to six years. We know too little about cognitive, psychosocial, moral, and faith development after the student leaves college. Longitudinal research that extends into adulthood would give more insight into the dynamics of the developmental process. In some ways we feel we are stopping right at the point where the "story starts to get interesting." Surprisingly, the present study--as small as it is--may be the largest

longitudinal study to date using the identity status variable.

We also need carefully constructed research designs which explore factors in the college environment which are associated with advances in cognitive, psychosocial, and moral development. Factors such as the mentoring, student involvement in organizations, outreaches, and leadership activities, cross-cultural immersion experiences, freshmen orientation programs, and general education should be included.

Beneficial collaboration.

One of the richest fringe benefits of this four-year research activity was the opportunity it provided for collaboration among the three senior authors, with faculty colleagues at our own and other institutions, and with students who assisted in all phases of data collection, analysis, interpretation, and writing. No fewer than 11 faculty and 23 students participated in some phase of the study.

Another form of collaboration than has resulted from this study is the communication of results to various audiences. Summaries of this work have been presented to audiences at Houghton, Messiah, and Wheaton Colleges, and at numerous conferences (Conferences on the Freshman Year Experience at Cambridge University and

the University of South Carolina; a conference on College Student Values at Florida State University; CAPS International Conventions in Denver and Anaheim; an Eastern Psychological Association Conference in Boston). A summary of the 1987 research was published in the Journal of Psychology and Christianity (Buier et al., 1989) and additional published articles and conference presentations are planned for the upcoming year.

Although this document is a reasonably complete summary of the four-year research effort it is also more "moratorium" than "achieved" in that it raises more questions than it effectively answers. It is also more of a "working manuscript" than a completed project that will be useful as we continue make meaning of what we have uncovered.

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TABLE 1A  
VALUES PROJECT  
DEMOGRAPHICS  
Combined Sample, 1991

NUMBER OF STUDENTS (N)	75	100.0%
<b>SEX</b>		
male	29	38.7
female	46	61.3
<b>AGE</b>		
20	1	1.3
21	55	73.3
22	19	25.3
<b>HOMETOWN SIZE</b>		
farm	11	14.7
small town	39	52.0
city	21	28.0
large metro area	4	5.3
<b>PARENTS' STATUS</b>		
married	65	87.8
separated	1	1.4
divorced	3	4.1
remarried, one or both parents	1	1.4
deceased, one or both parents	4	5.4
<b>FATHER'S EDUCATION (highest level)</b>		
less than high school graduate	1	1.3
high school diploma	9	12.3
some college	10	13.7
college degree	13	17.8
some graduate study	9	12.3
graduate degree	31	42.5
missing	2	0.0
<b>MOTHER'S EDUCATION (highest level)</b>		
less than high school graduate	1	1.3
high school diploma	16	21.3
some college	16	21.3
college degree	22	29.3
some graduate study	8	10.7
graduate degree	12	16.0
<b>FATHER'S OCCUPATION</b>		
Arts	1	1.3
Business	21	28.0
Clergy/Religious Workers	11	14.6

Engineering	4	5.3
Farming	2	2.6
Health Professions	4	5.3
Homemaker	--	0.0
Laborer (skilled, semi-skilled, unskilled)	11	14.6
Research	2	2.6
Social service	1	1.3
Teaching (all levels)	10	13.3
Other	5	6.6
Missing	3	4.0

MOTHER'S OCCUPATION

Arts	2	2.6
Business	2	2.6
Clergy/Religious Workers	1	1.3
Engineering	--	0.0
Farming	--	0.0
Health Professions	8	10.6
Homemaker	25	33.3
Laborer (skilled, semi-skilled, unskilled)	13	17.3
Research	--	0.0
Social service	1	1.3
Teaching (all levels)	16	21.3
Other	7	9.3

FAMILY INCOME (annually)

< \$25,000	8	10.8
\$25,000 - \$49,000	27	36.5
\$50,000 - \$74,000	22	29.7
\$75,000 - \$99,999	9	12.2
> \$100,000	8	10.8
Missing	1	

HIGH-SCHOOL G.P.A.

A or A+	17	22.7
A-	17	22.7
B+	22	29.3
B	11	14.7
B-	6	8.0
C+	1	1.3
C	1	1.3

PERCENTILE RANK IN HIGH SCHOOL CLASS

TOP 10%	25	33.3
TOP 20%	21	28.0
TOP 30%	9	12.0
TOP 40%	10	13.3
TOP 50%	2	2.7
TOP 60%	3	4.0
MISSING	5	6.7

<b><u>HIGHEST DEGREE SOUGHT</u></b>		
associate's	1	1.3
bachelor's	16	21.3
master's	39	52.0
doctorate	14	18.2
unsure	5	6.7
<b><u>THEOLOGICAL BELIEFS</u></b>		
very conservative	0	0.0
conservative	11	14.7
somewhat conservative	41	54.7
somewhat liberal	17	22.7
liberal	2	2.7
very liberal	3	4.0
Missing	1	1.3
<b><u>POLITICAL BELIEFS</u></b>		
very conservative	0	0.0
conservative	19	25.3
somewhat conservative	34	45.3
somewhat liberal	17	22.7
liberal	4	5.3
very liberal	1	1.3
<b><u>MAJOR SENIOR YEAR</u></b>		
Arts and Humanities		
Art	3	4.0
English	5	6.7
History	3	4.0
Music	1	1.3
Philosophy	3	4.0
Speech	6	8.0
Religion	5	6.7
Biological Science		
Biology	5	6.7
Business		
Accounting	1	1.3
Business Administration	4	5.3
Marketing	1	1.3
Education		
Business Education	2	2.7
Elementary Education	4	5.3
Music/Art Education	2	2.7
Education	1	1.3
Physical Science		
Math	3	4.0
Physical Science	1	1.3
Professional		
Home Economics	1	1.3
Nursing	2	2.7
Social Sciences		
Economics	2	2.7
Political Science	1	1.3
Psychology	13	17.3

Other social science	5	6.7
Other		
Other	1	1.3
<b>DENOMINATION</b>		
Assembly of God	5	6.7
Baptist	12	16.0
Brethren	1	1.3
Christian Missionary Alliance	4	5.2
Church of the Brethren	1	1.3
Epicopalian	3	4.0
Evangelical	2	2.7
Evangelical Free Church	4	5.3
Free Methodist	1	1.3
Independent	5	6.7
Mennonite	2	2.7
Nazarene	1	1.3
Nondenominational	8	10.7
Pentecostal	1	1.3
Presbyterian	10	13.3
Reformed	1	1.3
Salvation Army	5	6.7
United Methodist	3	4.0
None	6	8.0

TABLE 2A

## COMPARISONS BETWEEN THE VALUES SAMPLE AND OTHER COLLEGE POPULATIONS

Variable	Senior Sample	Selective/Private Non-sectarian Colleges *	Christian College Coalition **
<b>Sex</b>			
male	38.7%	47.4%	38.3%
female	61.3	52.6	61.7
<b>HS Grades</b>			
A/A+	22.7	15.5	15.0
A-	22.7	16.6	19.0
B+	29.3	24.9	22.1
B	14.7	22.0	23.9
B-	8.0	13.5	10.2
C+	1.3	4.5	6.4
C	1.3	2.8	3.2
<b>Income</b>			
<25,000	10.8	18.1	20.7
25-49,999	36.5	33.9	40.1
50-74,999	29.7	21.8	22.0
75-99,999	12.2	8.6	7.9
>100,000	10.8	17.6	9.2
<b>Marital Status</b>			
Married	89.2	75.3	82.8
Divorce/Sep	5.5	20.2	13.4
Deceased	5.4	4.5	3.8
<b>Degree Plans</b>			
associate	1.3	0.2	1.1
bachelor's	21.3	18.6	29.9
master's	52.0	42.7	42.2
doctorate	18.2	28.1	20.0
unsure	6.7	--	--
<b>Father's Education</b>			
< hi school	1.3	6.1	6.8
high school	12.3	15.1	17.8
some coll.	13.7	12.6	15.2
college deg.	17.8	24.0	25.1
some grad.	12.3	4.8	4.5
grad. degree	42.5	33.6	26.4

Variable	Senior Sample	Selective/Private Non-sectarian Colleges	Christian College Coalition
<b>Mother's Education</b>			
< hi school	1.3	4.7	4.0
high school	21.3	22.4	24.8
some coll.	21.3	16.9	20.6
college deg.	29.3	27.5	27.8
some grad.	10.7	5.4	4.6
grad. degree	16.0	15.7	10.8
<b>Majors</b>			
arts/human.	34.6	18.5	15.3
biol. sci.	6.6	6.2	4.2
business	8.0	17.3	16.7
education	12.0	4.5	20.3
engineer	0.0	9.2	3.2
phys. sci.	5.3	3.7	2.9
profession	4.0	12.2	9.2
soc. sci.	28.0	14.9	9.8
other	1.5	13.2	18.4
<b>Political Orientation</b>			
liberal	22.0	29.5	12.5

\* Cooperative Institutional Research Program - 1987 Freshmen  
(at highly selective private non-sectarian colleges. Note that the senior sample entered as freshmen in the fall of 1987)

\*\* Cooperative Institutional Research Program - 1990 Freshmen (at 15 colleges who are members of the Christian College Coalition N=3639)

TABLE 1B  
 VALUES PROJECT  
 DIT P SCORES  
 Distributions for our combined sample  
 and comparison scores (Rest, 1987)

Sample	average p score	SD
Freshmen (Fall, 1987) (N=74)	37.21	10.58
Seniors (Spring, 1991) (N=74)	46.83	12.66
Seniors (Fall, 1987) (N=93)	43.60	10.77
<u>Comparison scores--DIT Manual</u>		
Senior H.S. Sample (N=270)	31.03	13.90
General College Sample (N=270)	43.19	14.32
Church-affiliated, liberal arts colleges	50.49	N/A
Graduate Student Sample (N=270)	44.85	15.06

**TABLE 2B**  
**VALUES PROJECT**  
**FREQUENCY DISTRIBUTION OF**  
**MORAL JUDGMENT STAGES**  
**Freshmen cohort--Fall, 1987 and 1991 Followup**

Moral Judgment Stage	Freshmen cohort Fall, 1987 (N=74)	Followup Spring, 1991 (N=74)
1	7	1
2	17	2
3	37	22
3/4	1	10
4	9	24
4/5	1	7
5	2	8

**TABLE 3B**  
**VALUES PROJECT**  
**CROSSTABULATION OF MORAL JUDGMENT STAGES**  
**Freshmen cohort--Fall, 1987 by 1991 Followup**

		Moral Judgment Stages--1991 Followup							Row
		1	2	3	3/4	4	4/5	5	Total
Freshmen Fall, 1987 Moral Judgment Stages	1	1	1	4	0	1	0	0	7
	2	0	0	3	3	9	2	0	17
	3	0	1	12	5	11	3	5	37
	3/4	0	0	0	1	0	0	0	1
	4	0	0	3	1	2	2	1	9
	4/5	0	0	0	0	1	0	0	1
	5	0	0	0	0	0	0	2	2
<b>Column Totals</b>		1	2	22	10	24	7	8	74

**TABLE 1C**  
**VALUES PROJECT**  
**OVERALL IDENTITY STATUS ASSIGNMENTS**

Overall Identity status	Freshmen Fall '87 N=74 %		Followup Spr '91 N=75 %		Seniors Fall '87 N=60 %	
	Diffusion	27	36.5	5	6.7	2
Foreclosure	32	43.2	32	42.7	22	36.7
Moratorium	13	17.6	24	32.0	15	29.0
Achievement	2	2.7	14	18.7	21	35.0

  

Occupational Identity Status	Freshmen Fall '87 N=74 %		Followup Spr '91 N=75 %	
	Diffusion	29	39.2	3
Foreclosure	22	29.7	28	37.3
Moratorium	22	29.7	24	32.0
Achievement	1	1.4	20	26.7

  

Religious Identity	N	%	N	%
Diffusion	14	18.9	5	6.7
Foreclosure	49	66.2	30	40.0
Moratorium	10	13.5	21	28.0
Achievement	1	1.4	19	25.3

  

Political Identity	N	%	N	%
Diffusion	41	55.4	26	34.7
Foreclosure	28	37.8	25	33.3
Moratorium	5	6.8	11	14.7
Achievement	0	0.0	13	17.3

TABLE 2C

VALUES PROJECT  
 COMPARISON OF OVERALL IDENTITY STATUS ASSIGNMENTS  
 BETWEEN FRESHMEN AND SENIOR YEAR.

Overall Identity Status  
 Senior Followup

Identity Status Freshmen (Fall'87)	Diff	For	Mor	Ach	Row Total
Diffusion	5*	10	10	2	27
Foreclosure	0	17*	9	6	32
Moratorium	0	4**	5*	4	13
Achievement	0	0	0	2*	2
Column total	5	31	24	14	74

\* Subjects who remained in same identity status as seniors (29 of 74 = 39.2%).

\*\* The only four subjects who regressed in identity status from moratorium to foreclosure.

The remaining 41 of 74 or 55.4% advanced by at least one identity status by the senior followup.

TABLE 3C

VALUES PROJECT  
GENDER DIFFERENCES IN OVERALL IDENTITY STATUS

Overall Identity Status	Freshmen Males (N=29)	Freshmen Females (N=45)	Senior Males (N=29)	Senior Females (N=36)
Diffusion	12	15	3	2
Foreclosure	9	23	14	18
Moratorium	8	5	7	17
Achievement	0	2	5	9

TABLE 4C

COMPARISON NORMS  
 NUMBER OF SUBJECTS IN EACH IDENTITY STATUS  
 FRESHMEN AND FOUR-YEAR FOLLOWUP  
 \* (Waterman & Goldman, 1976)

Identity Status	Freshmen		Senior	
	#	%	#	%
<b>Occupational Identity</b>				
Diffusion	20	37.0	11	20.4
Foreclosure	16	29.6	19	35.2
Moratorium	13	24.1	2	3.7
Achievement	5	9.3	22	40.7
<b>Religious Identity</b>				
Diffusion	14	26.9	19	36.5
Foreclosure	19	36.5	9	17.3
Moratorium	6	11.5	7	13.5
Achievement	13	25.0	17	32.7
<b>Political Identity</b>				
Diffusion	26	53.1	25	51.0
Foreclosure	8	16.3	8	16.3
Moratorium	2	4.1	2	4.1
Achievement	13	26.5	14	28.6

\* 134 freshmen at Hartwick College from either the class of 1970 or 1971 completed the identity interview. 59 or 134 completed a senior followup assessment. However, data available for 54, 52, and 49 subjects for occupation, religious, and political identity respectively.

**TABLE 5C**  
**COMPARISON NORMS**  
**FREQUENCY DISTRIBUTION OF IDENTITY STATUS**  
**SUNY (BUFFALO) JUNIORS & SENIORS**  
**(Cushing, 1971)**

Identity Status	Number	Percentage
Diffusion	41	31.1
Foreclosure	28	21.2
Moratorium	16	12.1
Achievement	47	35.6
<b>Total</b>	<b>132</b>	<b>100.0</b>

**TABLE 6C**  
**COMPARISON NORMS**  
**PERCENTAGE OF SUBJECTS IN EACH**  
**IDENTITY STATUS BY 5 AGE GROUPS**  
**(Meilman, 1979)**

Identity Status	Age Group				
	12	15	18	21	24
Diffusion	68	64	48	28	24
Foreclosure	32	32	24	16	8
Moratorium	0	0	4	12	12
Achievement	0	4	20	40	56

TABLE 7C  
VALUES PROJECT

SENIOR IDENTITY STATUS AND RESPONSES TO PACE ITEMS

Item # Description

---

1	Achs and Mors are more apt than Fors and Diffs to disagree that lasting peace depends on the strength of the U.S. and its allies. (p<.05)
12	Achs, Mors, and Diffs are more apt than Fors to agree that women should have the same benefits and opportunities as males. (p<.05)
13	Achs and Mors are more apt than Fors to agree that married women should be allowed to follow their own interests even if they have young children at home. (p<.01)
14	Achs and Mors are more apt than Fors to agree that we need more women in government. (p<.05)
17	Mors are more apt than Diffs, Fors, and Achs to agree that glamour ads and beauty contests put down women. (p<.05)
19	Mors are more apt than Diffs, Fors, and Achs to disagree that anyone regardless of color who works hard can get ahead in life. (p<.01)
23	Mors are more apt than Diffs, Fors, and Achs to agree that minorities do not receive equal treatment from the police and in the courts. (p<.005)
25	Mors and Achs are more apt than Difs and Fors to agree that a society more concerned with law and order than with liberty and justice is oppressive. (p<.05)
29	Mors are more apt than Diffs and Fors to agree that rational analysis is sometimes an inappropriate way to gain insight and understanding. (p<.05)
30	Mors and Achs are more apt than Diffs and Fors to agree that a sense of mystery should be more highly cherished in our society. (p<.005)

---

TABLE 8C

VALUES PROJECT  
SENIOR POLITICAL IDENTITY STATUS AND RESPONSES TO ITEMS  
ON THE PACE SCALE OF MAJOR SOCIAL ISSUES.

Item # Description

---

- |    |   |
|----|---|
| 9  | Achs and Mors are more apt than Fors and Diffs to agree that people with unpopular or extreme ideas should be allowed to speak on campus. (p<.05)                   |
| 11 | Achs and Mors are more apt than Fors and Diffs to agree that to suppress dissent is a denial of democracy. (p<.01)  |
| 13 | Achs and Mors are more apt than Fors to agree that married women should be allowed to follow their own interests even if they have young children at home. (p<.005) |
| 25 | Mors and Achs are more apt than Difs and Fors to agree that a society more concerned with law and order than with liberty and justice is oppressive. (p<.05)        |
| 32 | Achs and Mors are more apt than Fors and Diffs to agree that dumping waste in oceans and rivers is like sweeping dust under the rug. (p<.05)                        |
-

**TABLE 9C**  
**VALUES PROJECT**  
**SENIOR IDENTITY STATUS AND AVERAGE VALUE PRIORITY**  
**ON THE ROKEACH VALUE SURVEY**

Rokeach Value	Diffusion (N=5)	Foreclosure (N=32)	Moratorium (N=24)	Achiever (N=14)	p<
Equality	13.0	10.4	8.2	7.0	.01
Salvation	1.0	1.3	3.3	1.0	.05
Imaginative	14.2	12.7	9.6	13.7	.01
Helpful	12.4	6.5	5.8	5.6	.01
Broad-minded	14.2	11.5	6.8	9.9	.001
Capable	5.8	10.8	9.9	9.0	.05

For the above numerical rankings, 1 represents the highest priority, 18 represents the lowest.

TABLE 10C

VALUES PROJECT  
 A COMPARISON OF PERSISTENT FORECLOSURES WITH THOSE WHO  
 ADVANCE IN IDENTITY STATUS ASSIGNMENT

Variable	Persistent Foreclosures (N=17)	Foreclosure to Mor or Ach (N=15)
Gender	7 male; 10 female	2 male; 13 female
Freshmen DIT	38.4	39.1
Senior DIT	41.2	52.7
Senior LCQ score	3.72	4.24
Freshmen moral judgment stage	2.70	3.03
Senior moral judgment stage	3.40	4.10

TABLE 11C

VALUES PROJECT  
DISCRIMINANT FUNCTION ANALYSIS

Summary Table

Step	Action Entered	Removed	Vars In	Wilks' Lambda	Sig.	Label
1	FTERM13		1	.74425	.0060	RANK - PLEASURE (ROKEACH)
2	FINST16		2	.65380	.0049	RANK - POLITE (ROKEACH)
3	RPS1		3	.54291	.0019	COLLABORATIVE SCORE (RPS)
4	FINST2		4	.50571	.0026	RANK - BROADMINDED (ROKEACH)
5	FINST12		5	.43430	.0041	RANK - INTELLECTUAL (ROKEACH)
6	FRDIT		6	.40788	.0057	FROSH DEFINING ISSUES TEST SCOR
7	FFREEDOM		7	.38172	.0076	OPINION QUESTIONS - HUMAN RIGHT
8	FENVIRON		8	.34031	.0070	OPINION QUESTIONS - ENVIRONMENT
9	FCRIME		9	.29820	.0059	OPINION QUESTIONS - LAW AND ORD
10	SES		10	.27913	.0084	SOCIAL CLASS/STATUS
11	ARTS		11	.25989	.0114	MAJOR - LIBERAL ARTS

Canonical Discriminant Functions

After Function	Pct of Lambda	Cum Chisquare	After DF	Wilks' Sig
0	.2612	27.524	11	.0038
Function	Eigenvalue	Variance	Percent	Correlation
1*	2.8291	100.00	100.00	.8596

\* marks the 1 canonical discriminant functions remaining in the analysis.

Standardized Canonical Discriminant Function Coefficients

FUNC	1
FFREEDOM	.38967
FINST12	.68925
FTERM13	-1.44389
FINST2	1.09483
FINST16	2.27663
FCRIME	1.07319
FENVIRON	-.89985
SES	-.79334
ARTS	.55659
FRDIT	-1.33216
RPS1	.66797

**TABLE 1D**  
**VALUES PROJECT**  
**NUMERICAL RANKING OF ROKEACH'S VALUES INSTRUMENT**  
**TERMINAL VALUES**  
**Freshmen (1987) v. Seniors (1991), Combined Sample**

Terminal Value	Freshmen Ranking*	Senior Ranking
Salvation	1	1
True Friendship	2	2
Wisdom	5	3
Self Respect	4	4
Mature Love	6	5
Inner Harmony	8	6
Family Security	3	7
Happiness	7	8
A Sense of Accomplis	9	9
Equality	11	10
Freedom	10	11
An Exciting Life	13	12
A World at Peace	12	13
A World of Beauty	14	14
National Security	16	15
Social Recognition	15	16
Pleasure	18	17
A Comfortable Life	17	18

\*Based on only two of three schools

**NUMERICAL RANKING OF ROKEACH'S VALUES INSTRUMENT**  
**INSTRUMENTAL VALUES**  
**Freshmen (1987) v. Seniors (1991), Combined Sample**

Instrumental Value	Freshmen Ranking*	Senior Ranking
Honest	2	1
Loving	1	2
Forgiving	3	3
Responsible	4	4
Helpful	5	5
Courageous	8	6
Ambitious	12	7
Cheerful	10	8
Capable	14	9
Broadminded	7	10/11
Self Controlled	6	10/11
Independent	11	12
Obedient	9	13
Intellectual	15	14
Imaginative	17	15
Polite	13	16
Logical	16	17
Clean	18	18

\*Based on only two of three schools

TABLE 2D

VALUES PROJECT  
RANK ORDER OF TERMINAL VALUES (low to high r value)

---

.0833	A comfortable life
.1306	Salvation
.1805	A sense of accomplishment
.1912	Inner harmony
.2220	Freedom
.2469	A world at peace
.2681	True friendship
.2766	Social recognition
.2790	Pleasure
.2872	Self respect
.3314	Happiness
.3550	Mature love
.4273	A world of beauty
.4299	National security
.4519	Equality
.4523	Family security
.4680	An exciting life
.5873	Wisdom

RANK ORDER OF INSTRUMENTAL VALUES (low to high r value)

---

.0000	Responsible
- .0893	Courageous
.1014	Loving
.2246	Cheerful
.2370	Helpful
.2572	Honest
.2687	Logical
.2830	Polite
.3204	Broadminded
.3206	Forgiving
.3390	Obedient
.3904	Capable
.4087	Self Controlled
.4597	Intellectual
.4828	Independent
.4865	Clean
.5627	Imaginative
.6092	Ambitious

**TABLE 3D**  
**VALUES PROJECT**  
**TOP FOUR TERMINAL VALUES - SENIORS 1991**

College A	College B	College C
Salvation Wisdom Self Respect True Friendship	Salvation Wisdom True Friendship Self Respect	Salvation True Friendship Self Respect Family Security

**TOP FOUR INSTRUMENTAL VALUES - SENIORS 1991**

College A	College B	College C
Honest Responsible Loving Courageous	Honest Loving Forgiving Responsible	Honest Loving Forgiving Helpful

**TABLE 4D**  
**VALUES PROJECT**  
**TOP FOUR VALUES - ROKEACH COLLEGE STUDENT DATA (1973)**

Terminal Values	Instrumental Values
Freedom Happiness Wisdom Self Respect	Honest Responsible Broadminded Ambitious

**COMPARATIVE DATA - SELECTED STUDIES**

Terminal Values			
Linder and Bauer (1983) College Students		Feather (1975) Israeli Students	Rokeach (1968) NORC 20-29 yrs
<u>Men</u>	<u>Women</u>		
Self Respect Freedom Inner Harmony Happiness	Self Respect Happiness Family Security Inner Harmony	World at Peace National Security Happiness Freedom	World at Peace Family Security Freedom Happiness

Instrumental Values

Feather (1975) Israeli Students <hr style="width: 50%; margin: 10px auto;"/> Honest Responsible Logical Capable	Rokeach (1968) NORC 20-29 yrs <hr style="width: 50%; margin: 10px auto;"/> Honest Responsible Ambitious Broadminded
--	--

TABLE 1E

## ANSWERS TO PACE QUESTIONS CHANGES 1987-1991

COMBINED SAMPLE (N=75)

Questions	Fresh		Senior		Percent Change
Q 1. Strength for peace	67	DIS	76	DIS	
Q 2. UN binding decisions	71	AGR	73	AGR	
Q 3. US self sufficient	60	DIS	61	DIS	
Q 4. Military strength	23	DIS	25	DIS	
Q 5. Security in sharing	84	AGR	69	AGR	-15%
Q 6. All should be in UN	69	AGR	75	AGR	
Q 7. Literature not question	87	DIS	92	DIS	
Q 8. Complex issues	92	AGR	97	AGR	
Q 9. Free speech	81	AGR	93	AGR	+12%
Q10. Need censorship	7	DIS	5	DIS	
Q11. Free protest	72	AGR	84	AGR	+12%
Q12. Sex equality	100	AGR	99	AGR	
Q13. Careers for married women	63	AGR	63	AGR	
Q14. Women in government	81	AGR	87	AGR	
Q15. Women working is bad	28	DIS	30	DIS	
Q16. Birth control/abortion of	3	AGR	15	AGR	+12%
Q17. Sexist advertising	47	AGR	59	AGR	+12%
Q18. Blacks suffer by whites	35	AGR	44	AGR	
Q19. No race discrimination	24	DIS	52	DIS	+28%
Q20. More funds for minorities	77	AGR	83	AGR	
Q21. Pro school integration	85	AGR	92	AGR	
Q22. Reverse discrimination	8	AGR	8	AGR	
Q23. Bias in courts	57	AGR	75	AGR	+18%
Q24. Government crime	72	AGR	73	AGR	
Q25. Law and order repressive	69	AGR	80	AGR	+11%
Q26. White collar crime	47	AGR	34	AGR	-13%
Q27. Technology causes problms	53	AGR	63	AGR	+10%
Q28. Questions materialism	76	AGR	81	AGR	
Q29. Rational thought inappr.	56	AGR	59	AGR	
Q30. Cherish emotions	65	AGR	69	AGR	
Q31. Need to protect environ.	61	AGR	69	AGR	
Q32. Anti-dumping (lakes)	99	AGR	99	AGR	
Q33. Population control	49	AGR	35	AGR	-14%
Q34. Concern for environ.	91	AGR	89	AGR	
Q35. Man made waste	87	AGR	80	AGR	
Q36. Good life cause eco prob.	87	AGR	84	AGR	

TABLE RPS  
RELIGIOUS PROBLEM SOLVING SCALES AND OTHER VARIABLES

Variable	Religious Coping Style		
	Collaborative RPS 1	Self-Directing RPS2	Deferring RPS3
Total Sample Means	19.69	12.77	14.05
Pargament Sample Means (1988)	13.01	14.85	12.91
Male	20.41	12.90	14.69
Female	19.24	12.70	13.65
College A	19.64	13.32	14.22
College B	20.78	11.70	13.96
College C	18.62	13.41	14.00
Religious Identity Status (Means)			
Diffuse	15.60	14.40	12.80 *
Foreclosed	20.93	11.63	15.57
Moratorium	18.23	14.38	12.43
Achieved	20.42	12.36	13.79
Non-Crisis (Diff/Fore) and Crisis (Mor/Ach) (Means)			
Non-Crisis			15.5 **
Crisis			13.0
Correlations among RPS scales and selected variables			
Freshman DIT	-.0741	-.2230	-.1075
Senior DIT	-.1871	.0096	-.2900**
Learning Context Questionnaire	-.2540	.1008	-.2684

\* p < .05

\*\* p < .01