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ABSTRACT

This study examined how college students' attitudes toward women's roles change during college in order to clarify how colleges and universities may implement policies and programs to facilitate "positive" gender role attitude changes. The study employed a longitudinal design and data were drawn from the Cooperative Institutional Research Program surveys, a national survey of over 17,000 college freshmen in 1985 who were followed up in 1989. Data were analyzed through the use of cross-tabulations and stepwise multiple regression analyses. Although few students began their studies endorsing a traditional view of women's roles, those who did became increasingly egalitarian during their undergraduate years. Women were more likely than men to have egalitarian attitudes, both as freshmen and 4 years later. After controlling for students' background characteristics, the structural characteristics of institutions had little effect on students' attitudes. Rather it was involvement with others, particularly the faculty, and participation in certain majors and activities which had an impact on students' attitudes. Results also indicate that much of what influences students' attitudes toward women's roles takes place not only outside the college classroom but also outside the college environment. (Contains 29 references.) (Author/JB)

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The Impact of College on Students' Attitudes Toward Women's Roles

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This paper was presented at the annual meeting of the Association for the Study of Higher Education held at the Doubletree Hotel, Tucson, Arizona, November 10-13, 1994. This paper was reviewed by ASHE and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC collection of ASHE conference papers.

Abstract

The impact of college on students' attitudes toward women's role was examined. The study employed a longitudinal design, and the data were drawn from a national survey of over 17,000 1985 college freshman who were followed up in 1989. Data were analyzed through the use of cross-tabulations and stepwise multiple regression analyses. Although few students began their studies endorsing a traditional view of women's roles, those who did became increasingly egalitarian during their undergraduate years. Women were more likely than men to have egalitarian attitudes, both as freshman and four years later. After controlling for students' background characteristics, the structural characteristics of institutions had little effect on students' attitudes. Rather, it was involvement with others, particularly the faculty, and participation in certain majors and activities which had an impact on students' attitudes. The results indicate that much of what influences students' attitudes toward women's roles takes place not only outside the college classroom but also outside the college environment.

The Impact of College on Students' Attitudes toward Women's Roles

Statement of the Problem

American colleges and universities have traditionally been concerned with shaping students' attitudes, values, and beliefs (Rudolph, 1962). Because intellectual development is not the sole purpose of a college or university (Bowen, 1977), it is important to study the process, timing and conditions of psychosocial development. Although a substantial amount of research exists concerning the impact of higher education on students' political and religious attitudes, an area of relatively more recent interest has been the impact of college on students' attitudes toward women and gender roles.

There have been major shifts during the last twenty-five years in attitudes toward the marital and occupational roles of women, and more women than ever before are pursuing higher education and careers and are combining traditional family roles with employment in the labor force. With these changes have come shifts in attitudes concerning appropriate roles for women in the family and in the workplace. This paper examines how higher education shapes students' attitudes toward women's roles.

This study explores the following questions: To what extent do students' attitudes toward women's roles change while they are in college? Do changes in attitudes depend on student characteristics at entry to college? Are changes in attitudes related to particular college environments or experiences? Answers to these questions will provide higher education institutions with information that can be used to implement policies and programs which facilitate positive gender role attitude changes.

Literature Review and Theoretical Framework

Although early-socialized attitudes can be quite consistent across one's life span, basic attitudes can change whenever the dominant complexion of the individual's social environment changes (Sears, Peplau, & Taylor, 1991). According to Sears, *et al.*, such changes are more likely to occur among young adults, particularly when the individual is exposed to new group norms through higher education. According to social psychologists, most attitudes are anchored in group membership, and students' attitudes are likely to be directly influenced by peer group membership. Astin (1993) asserts that a student's peer group is the single most potent source of influence on the development of undergraduates, and that students' attitudes tend to change in the direction of the dominant attitudes of the peer group. Others have suggested that there is a more general environmental effect of exposure to a liberal university atmosphere including not only peers, but faculty, the curriculum, and/or extracurricular activities (Pascarella & Terenzini, 1991). It follows that the more involved a student is in the college environment and with the college experience and his or her peers, the greater the likelihood and extent of attitude change (Astin, 1993).

Much of the previous research on students' attitudes toward women's roles reports the biographical predictors of attitudes. According to Pascarella and Terenzini (1991), more than 150 studies were conducted between 1970 and 1985 on the biographical and personality correlates of attitudes toward women. The numerous studies on demographic variables related to attitudes toward women and gender roles have found the following biographical predictors: sex, race, academic major, GPA, year in school, size of hometown, place of residency, church affiliation, religiosity, political orientation, mother's enjoyment of homemaking, mother's career, mother's educational level, and

family income (Astin, 1993; Etaugh, 1975; Etaugh & Gerson, 1974; Etaugh & Spiller, 1989, King & King, 1985; Thornton, Alwin, & Camburn, 1983).

Most studies have found that while students are in college, they become increasingly "modern" or liberal in their attitudes toward the equality of the sexes with respect to educational and occupational opportunities and roles, as well as to distribution of responsibilities within marriage and family relations (Pascarella & Terenzini, 1991). These conclusions are found predominantly in small-scale or single-institution studies (Benson & Vincent, 1980; Dambrot, Papp, & Whitmore, 1984; Dreyer, Woods, & James, 1981; Etaugh, 1975a; Etaugh & Bowen, 1976; Etaugh & Spandikow, 1981; Funk & Willits, 1987; Houser & Beckman, 1980; Hutt, 1983; Komarovsky, 1985; McKinney, 1987; Stein & Weston, 1976; Thornton, Alwin, & Camburn, 1983; Thornton & Freedman, 1979).

Fewer studies examining change in attitudes above and beyond that change which is attributable to students' background characteristics were found (Mason & Bumpass, 1975; Mason, Czajka, & Arber, 1976; Thornton & Freedman, 1979). In addition, several of these studies were based on cross-sectional designs that make it more difficult to attribute change in attitudes to the college experience, and among those based on longitudinal designs only one (Funk & Willits, 1987) controlled for students' initial attitudes. Moreover, most of these studies utilized limited single-institution and single-sex samples and failed to consider other variables that might provide alternative explanations for observed changes.

Studies which examined the effect of academic major had varying results, but generally found that students majoring in the humanities, arts, or social sciences were more likely to have egalitarian attitudes than students majoring in business, engineering, or education (Astin, 1993; Etaugh, 1975b;

Etaugh & Spiller, 1989; Stein & Weston, 1976). A number of studies indicated movement toward more egalitarian orientations as a consequence of course work in women's studies (Dabrowski, 1985; Jones & Jacklin, 1988; Steiger, 1981; Stevens & Gardner, 1983; Vedavato & Vaughter, 1980). Most of these studies, however, failed to control for initial attitudes.

Very little is known about how specific college experiences such as living in a campus dorm versus living at home, fraternity and sorority membership, or peer and faculty interaction affect students' attitudes toward women and gender roles. No studies examining the differential effects of institutional characteristics such as size, selectivity, or public versus private control were found.

In summary, the literature seems to indicate that college students' attitudes toward gender roles become more egalitarian during college. Much still remains unknown, however, especially with regard to the differential effects of institutional characteristics and environments and the specific student experiences that influence these changes. Further investigation of these areas using a national sample and a longitudinal design is warranted.

This study attempted to address some of the weakness of previous studies and gaps in the research literature by investigating the effects of institutional and environmental characteristics on college students' attitudes toward women's roles by using a large national sample and a longitudinal design and controlling for students' initial attitudes and background characteristics. Answers to the following questions were sought: To what extent do students' attitudes toward women's roles change from the time they enter college to four years later? What student characteristics predict changes in attitudes toward women's roles? What factors in the college environment and

what college experiences predict changes in students' attitudes toward women's roles? Do these effects differ for men and women?

This study was based on Astin's (1991) Input-Environment-Outcome (IEO) model. The IEO model provides a useful framework for assessing the impact of college attendance on students' attitudes by allowing one to control for a student's input or background characteristics and isolate the effects of environmental characteristics. Input refers to the characteristics of the student at the time of entry to college (e.g., sex, race, religion). Bridge variables are measured at the time a student enters college (input) but also signify environmental experiences that can continue to affect the student's development during the college years. The student's initial major and place of residence are examples of bridge variables. Environmental variables are the programs, policies, faculty, peers, and educational experiences and activities to which the student is exposed. Intermediate outcomes occur somewhere between initial entry to the college and assessment of the outcome variable, and often refer to environmental variables produced by the student (e.g., joining a student organization, taking a women's study course). Outcome refers to the student's characteristics after exposure to the college environment.

Design & Method

Data were obtained from the Higher Education Research Institute (HERI) at UCLA. The sample of over 17,000 students was taken from a national sample of respondents to the Cooperative Institutional Research Program (CIRP) surveys. Respondents completed an initial survey upon entering college as freshmen in the fall of 1985 and a follow-up survey in 1989-90.

Data regarding the faculty were obtained from the comprehensive CIRP survey conducted in 1989-90 concurrently with the follow-up survey of the 1985 freshmen. Data regarding SAT or ACT scores were obtained by HERI from the

Educational Testing Services and the American College Testing Program, respectively. Data regarding institutional characteristics were obtained by HERI from the United States Department of Education's Higher Education General Information Survey.

The outcome or dependent variable was the student's attitude toward women's roles as operationalized by responses to two items from the 1989 follow-up survey: "the activities of married women are best confined to home and family", and "women should receive the same salary and opportunities for advancement as men in comparable positions." Students were asked to indicate one of the following response choices: "Disagree strongly," "disagree somewhat," "agree somewhat," and "agree strongly." The responses were scored from 1 to 4, respectively. Because a high score on the first item indicates a "traditional" attitude, the scores on this item were reversed in order to create an index. The scores on the two items were summed and an index with scores which ranged from 2 to 8 was constructed; those students who scored from 2 to 4 were categorized as traditional, those who scored from 5 to 7 were categorized as middle of the road, and those who scored an 8 were categorized as egalitarian. In other words, students with egalitarian attitudes rejected the proposition that married women belong in the home and supported sex equity in pay. The same items on the 1985 survey served as a pretest of the students' initial attitude toward women's roles.

Data were analyzed through the use of cross-tabulations and multiple regression analyses. Separate analyses were performed for men and women in order to investigate the possibility of interaction effects. Stepwise multiple regression analysis was used to control different blocks of variables according to the following temporal order of occurrence:

Block 1 - pretest or students' initial attitude

Block 2 - input variables or students' background characteristics (age, sex, race, marital status, SAT scores, high school GPA, religion, mother's educational level, mother's occupation, parental income)

Block 3 - bridge variables (student's freshman place of residence, initial major)

Block 4 - structural characteristics of the institution or environment (size; selectivity; public versus private control; university, four year college, or two year college; women's college)

Block 5 - faculty and peer environmental characteristics (peer mean feminism, faculty liberalism, student body political orientation, percentage of student body Catholic, percentage of student body born again Christian, percentage of faculty female)

Block 6 - intermediate outcomes or students' activities and experiences in college (socializing with friends, studying, discussing political/social issues, participating in campus protests/demonstrations, taking a women's studies course, joining a fraternity/sorority, getting married, playing intercollegiate football or basketball, attending religious services, holding a part-time campus job).

Results and Discussion

Change Over Time

Table 1 illustrates how students' attitudes changed between 1985 and 1989. In 1985, 52 percent of the students were categorized as egalitarian in their attitudes toward women's roles, and by 1989 approximately 71 percent were categorized as egalitarian. Thus, despite the large number of students who began college with egalitarian attitudes, an even larger number had become egalitarian four years later with a net increase of 18.9 percent.

Table 2 illustrates the differential changes in responses for men and women. Women were more likely than men to be categorized as egalitarian, both in 1985 (67.1% versus 29.7%) and in 1989 (82.1% versus 54.3%). The percentage of women categorized as egalitarian had a net increase of 15 percent while the percentage of men had an increase of 24.6 percent. The smaller percentage among the women was likely due to the high proportion of

women initially categorized as egalitarian. In other words, because such a large proportion of women were initially categorized as egalitarian, there was less room for movement into that category. Only nine percent of students were initially categorized as traditional, and the small number of students in the traditional category makes comparisons difficult.

Tables 3A-3C illustrate how these shifts in attitudes occurred. There was a high degree of stability among those initially categorized as egalitarian (86.6%) but a much lower degree of stability among those initially categorized as traditional (10.8%). In other words, most of those students who began college with traditional attitudes were no longer traditional four years later. For both men and women, there was a high degree of stability among those initially categorized as egalitarian and a much lower degree of stability among those initially categorized as traditional. Among those initially categorized as egalitarian, the degree of stability was greater for the women (88.8%) than for the men (79.1%). The degree of stability among those initially categorized as traditional was greater for the men (12.6%) than for the women (2.2%). In other words, among those students initially categorized as traditional, a greater percentage of the women than the men (53.3 % versus 23.8%) became egalitarian by 1989. Due to the small number of students initially categorized as traditional, however, these results may be misleading.

Given the shift toward more egalitarian attitudes toward women's roles during students' four years in college, brief consideration must be given to whether this change is due simply to the maturation of the student, changes in society as a whole, or actually due to the college experience. Because students' age did not carry significant weight in the regression equation after controlling for background characteristics, the effect of maturation can be reasonably ruled out. It remains difficult however, to rule out the effects of

general social change. Indeed, changes in college students' attitudes toward women's roles are likely to a great degree affected by changes in societal values. In other words, change in students' attitudes toward women's roles cannot be attributed to the college experience alone. This caveat having been noted, the factors that predicted students' attitudes toward women's family and work roles will next be examined.

Multivariate Analysis

Regression analysis was used to control different blocks of variables according to their order of occurrence. The first stage of the analysis statistically "matched" students according to their input characteristics, eliminating any correlation between input and environmental characteristics. The results of the stepwise multiple regression analysis are illustrated in Table 4. After the initial 1985 attitude entered the regression equation, fifteen additional variables added significantly ($p < .01$) to the prediction of students attitudes in 1989, raising the multiple R from .36 to .44. Although none of these additional variables was as powerful a predictor as the initial attitude, each carried significant weight after controlling for the effect of freshman attitude. The final R^2 was .20, and it is important to note that much of the variance remains unexplained.

After controlling for the students' initial attitudes, the following background characteristics were found to predict egalitarian attitudes: being female, a high score on the verbal portion of the SAT, a high GPA in high school, and being Mexican/Chicano. On the other hand, being a born again Christian or Seventh Day Adventist, and having a mother who was a homemaker or unskilled worker were negatively associated with egalitarian attitudes. Although the finding that being Mexican/Chicano was associated with egalitarian attitudes was surprising, the other findings replicated some of the results of previous studies. However, not all the expected variables, for

example, mother's educational level, entered the regression equation.

Regardless, these background variables not only provide a biographical profile of the students who tend to hold particular attitudes, but more importantly allow us to control for their effects in the following blocks of the regression analysis.

As expected, majoring in engineering was found to predict traditional attitudes. Although no other academic majors entered the main regression equation, when separate analyses were performed for men and women (see Table 5), majoring in education was found to be a significant predictor of traditional attitudes for women as was majoring in business for the men. These results and possible interaction effects will be further discussed below.

Living in the dorms during the freshman year was found to predict egalitarian attitudes. This finding suggests the importance of the student's exposure to and involvement with peers and the college environment.

The only environmental variable to enter the main regression equation was the mean liberalism of the faculty. The faculty liberalism measure is the mean response of the faculty at an individual institution to particular items on the faculty survey conducted in 1989-90. The liberalism factor consists of a tendency to label oneself either liberal or far left, and to support a national health care plan, abolition of the death penalty, greater taxation of the wealthy, legal abortions, and the active involvement of colleges in solving social problems. A more liberal faculty was found to be associated with increased egalitarianism.

Although the liberalism of the faculty was found to be a positive predictor, a measure of peer group feminism did not enter the regression equation. This measure was defined by three items on the survey: women should receive the same salary and opportunities for advancement as men in comparable positions; the activities of married women are best confined to home and family;

and coming to college in order to meet new and interesting people. This variable was still significant after controlling for initial attitude and background characteristics, but no longer significant after faculty liberalism entered the equation. The high simple correlation between faculty liberalism and peer feminism ($r = .68$) suggests that one might be serving as a proxy for the other.

Five intermediate outcome measures added significantly to the prediction of students' attitudes toward women's family and work roles. Although it is important to note the tentative nature of any causal conclusions and the ambiguities in interpreting these variables, it is worthwhile to examine them for possible indirect effects. Participation in the following activities was found to predict egalitarian attitudes: holding a part-time job on campus, discussing political and/or social issues, and the number of hours per week spent studying. The number of hours per week spent attending religious services was negatively associated with egalitarian attitudes. The betas for these variables drop after controlling for initial attitude and background variables, indicating a predisposition of students with particular attitudes to engage in these activities.

Although taking a women's studies course did not enter the regression equation, its beta coefficient was still significant and relatively strong in the expected direction after controlling for initial attitude and background characteristics. In other words, taking a women's studies course shared predictive power with students' input characteristics. As is likely the case with attending a women's college, it is possible that students with egalitarian attitudes toward women's roles choose to take women's studies courses. While these courses do not appear to be causing students to become more egalitarian, they are certainly not causing students to become more traditional. It would be interesting to investigate what happens when students are required to take a women's study course.

Interaction Effects

Table 5 illustrates the results of the separate regression analyses which were performed for men and women in order to investigate any possible interaction effects. A possible interaction effect with race was revealed. Being black had a significant association with egalitarian attitudes among the men, but a nonsignificant association with traditional attitudes among the women. This is an interesting finding which warrants further investigation.

Majoring in engineering had a significant association with traditional attitudes among the men and a nonsignificant association among the women. In other words, majoring in engineering had a negative effect on men's attitudes toward women's family and work roles, while majoring in engineering had very little or a slight positive effect on the women. A similar situation is also revealed among those students majoring in business.

An interaction effect between sex and attending a private two-year college was found. Attending a private two-year college had a significant association with traditional attitudes among the women and a nonsignificant association with egalitarian attitudes among the men. This finding may be due to the large percentage of two-year colleges which are Catholic colleges or which are essentially "finishing schools" for women.

Conclusion

This study addressed some of the weakness of previous studies by using a large national sample and controlling for students' initial attitudes and background characteristics while investigating the effects of institutional and environmental characteristics on college students' attitudes toward women's roles. The results indicate that much of what influences students' attitudes toward women's roles takes place not only outside the college classroom but also outside the college environment. In addition, the structural characteristics

of institutions have little effect on students' attitudes toward women's roles. Rather, it is involvement with others, particularly the faculty, and participation in certain majors and activities which have an impact on students' attitudes. Although there were no direct peer group effects, peer group effects may be operating indirectly through involvement in particular majors and activities.

There are some limitations to this study, however, that should be noted. A serious limitation derives from using extant data from a survey which was not designed specifically for this project. This limitation particularly creates a problem with the dependent measure. Using only one item, or even an index of two items, likely does not adequately measure students' attitudes toward women's roles. Attitudes are multidimensional and include a variety of components, and further research using multiple outcome measures is necessary.

In addition, it should be noted that this study does not examine the degree of correspondence between the attitude expressed by the student and his or her actual behavior. Although a student may express the socially desirable attitude, his or her actual behavior may be quite different. Nor does this study address whether the changes in attitudes which occur during college endure after the student leaves the college environment. Additional research in these areas is recommended.

In summary, this study replicated many of the results of previous studies regarding biographical predictors of attitudes toward women's roles and provides a profile of students who tend to hold particular attitudes. While the structural characteristics of institutions seem to have little effect on students' attitudes, the results affirm that involvement in the college experience, particularly living in the dorms, the liberalism of the faculty, and participation in certain activities do have some impact on students' attitudes. The results also

suggest that further research regarding interaction effects, not just with gender but also with ethnicity, may be a profitable avenue to explore. Information regarding these topics will provide institutions with knowledge which can be used to implement policies and programs which facilitate positive changes in attitudes toward women's roles.

Table 1
Changes in Attitudes toward
Women's Roles for 1985 Freshman

Response	Percent in		Change, 1985-1989
	1985	1989	
Egalitarian	52.0	70.9	+18.9
Middle of the Road	44.8	28.0	-16.8
Traditional	3.2	1.1	-2.1

Note: N = 17,506

Table 2
Differential Changes in Attitudes toward
Women's Roles for 1985 Freshman by Sex

Response	Percentage Among				Change, 1985-1989	
	Men in		Women in		Men	Women
	1985	1989	1985	1989		
Egalitarian	29.7	54.3	67.1	82.1	+24.6	+15.0
Middle of the Road	63.8	43.4	32.0	17.7	-20.4	-14.3
Traditional	6.5	2.4	.9	.2	-4.1	-.7

Note: Based on Ns of 7,066 men and 10,440 women.

Table 3A
Attitudes toward Women's Roles
in 1985 and 1989

Freshman Response (1985)	N	Percentage in 1989 Responding		
		Egalitarian	Middle	Traditional
Egalitarian	9,106	86.9	13.2	.2
Middle of the Road	7,846	55.6	43.0	1.4
Traditional	554	28.7	60.5	10.8

Note: N = 17,506

Table 3B
Men's Attitudes toward
Women's Roles in 1985 and 1989

Freshman Response (1985)	N	Percentage in 1989 Responding		
		Egalitarian	Middle	Traditional
Egalitarian	2,097	79.1	20.4	.5
Middle of the Road	4,507	45.8	52.0	2.2
Traditional	462	23.8	63.6	12.6

Note: N = 7,066

Table 3C
Women's Attitudes toward
Women's Roles in 1985 and 1989

Freshman Response (1985)	N	Percentage in 1989 Responding		
		Egalitarian	Middle	Traditional
Egalitarian	7,009	88.8	11.0	.1
Middle of the Road	3,339	68.8	30.8	.4
Traditional	92	53.3	44.6	2.2

Note: N = 10,440

Table 4
Predicting College Students' Attitudes
toward Women's Roles
(N = 8,338)

Step/Variable	R	r	Beta after Entering						
			Pretest	Input Variables	Bridge Variables	Environmental Variables	Intermediate Outcomes		
<i>Input</i>									
1 Pretest	36	36	36	26	26	25	24		
2 Sex: female	39	26	15	18	17	17	17		
3 SAT verbal	41	18	12	13	12	11	09		
4 Born again Christian	41	-08	-06	-06	-06	-04	-03		
5 Mom a homemaker	42	-07	-04	-05	-05	-05	-04		
6 7th Day Adventist	42	-05	-04	-04	-04	-04	-04		
7 Mom an unskilled worker	42	-04	-04	-03	-03	-03	-04		
8 HS GPA	42	13	09	03	04	04	04		
9 Mexican/Chicano	42	03	03	03	03	03	03		
<i>Bridge</i>									
10 Major: engineering	42	-08	-05	00	-03	-03	-03		
11 Live in dorms	42	07	05	03	03	03	02		
<i>Environment</i>									
12 Mean faculty liberalism	43	14	10	06	06	06	03		
<i>Intermediate Outcomes</i>									
13 Attend religious services	44	-11	-09	-09	-09	-08	-09		
14 Part-time campus job	44	11	08	06	06	05	04		
15 Discuss political/social issues	44	11	08	05	05	04	04		
16 Hrs study/do homework	44	09	06	04	04	04	04		
<i>Not Entering</i>									
Mother's education	08	08	04	01	01	00	00		
Mean peer feminism	16	16	10	04	04	-01	-02		
Women's college	05	05	03	00	-01	-01	-01		
Women's studies course	13	13	08	04	03	02	01		
Fraternity/sorority	-03	-03	-02	-01	-02	-02	-02		

Note: Decimals before numbers have been omitted.
The coefficient for any variable not yet in the equation shows the beta that variable would receive if it were entered into the equation at the next step.



Table 5
Summary of Stepwise Regressions on Selected Variables by Sex
Predicting Attitudes toward Women's Roles
for Men (N = 3,357) and Women (N = 4,981)

Variable	Beta after Entering												
	r		Pretest		Input Variables		Bridge Variables		Environmental Variables				
	M	F	M	F	M	F	M	F	M	F	M	F	
<i>Input</i>													
Pretest	35	21	35	21	30	17	30	17	29	17	29	17	
SAT Verbal	24	18	17	14	17	13	17	13	15	11	15	11	
Born Again Christian	-08	-11	-06	-09	-04	-08	-04	-08	-04	-08	-04	-08	
Mom a homemaker	-09	-04	-07	-03	-07	-03	-07	-03	-07	-03	-07	-03	
7th Day Adventist	-06	-02	-06	-02	-06	-02	-06	-02	-05	-02	-05	-02	
Black	04	-05	02	-04	05	-01	05	-01	04	-03	04	-03	
Mom an unskilled worker	-04	-04	-04	-03	-05	-02	-05	-02	-04	-02	-04	-02	
<i>Bridge</i>													
Major: Business	-11	-01	-03	00	-05	01	-06	00	-05	01	-05	01	
Major: Engineering	-04	01	-03	01	-04	00	-06	-01	-05	00	-05	00	
Major: Education	-03	-07	-02	-06	00	-02	-01	-04	-01	-03	-01	-03	
<i>Environment</i>													
Public 4 year college	-08	-02	-07	-02	-04	00	-04	00	-04	01	-04	01	
Private 2 year college	02	-06	02	-01	03	-04	03	-04	03	-04	03	-04	
Faculty liberalism	15	14	10	12	06	08	05	07	03	07	03	07	
<i>Intermediate Outcomes</i>													
Part-time campus job	15	06	12	03	10	03	10	03	09	02	09	02	
Attend religious services	-14	-15	-11	-13	-09	-11	-08	-11	-08	-09	-08	-09	
Hours study/do homework	13	05	10	03	08	01	08	01	08	00	08	00	
Discuss political/social issues	17	08	12	06	09	02	08	02	07	01	07	01	
Hours socialize with friends	03	08	02	07	01	06	00	06	00	05	00	05	

Note: Decimals before numbers have been omitted.
The coefficient for any variable not yet in the equation shows the beta that variable would receive if it were entered into the equation at the next step. Betas for variables entering the equation are in bold.

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