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In 1961, the average full-time student at a 4-year college in the U.S. studied about 24 hours per week, while his modern counterpart puts in only 14 hours a week. Students now study less than half as much as universities claim to require. This dramatic decline in study times occurred for students from all demographic subgroups, overall and within every major, for students who worked and those who did not, and at 4-year colleges of every type, degree structure and level of selectivity. Most of the decline predates the innovations in technology that would be most relevant to education production, and thus was not driven by such changes. The most plausible explanation for these findings, we conclude, is that standards have fallen at post-secondary institutions in the United States.

JEL Codes: J22, J24

Key Words: Time Use, Human Capital, Education, College

I. Introduction

From the fact-based fiction of Tom Wolfe’s “I am Charlotte Simmons,” to the undercover anthropology of Rebecca Nathan’s, “My Freshman Year,” scholars, journalists, and educators, have begun to depict the college campus as a place where academic effort is scarcely detectable and the primary student activities are leisure-based. But if history is a guide, every generation has a tendency to slander its progeny with allegations of decadence and sloth. Do recent characterizations of a change in college culture reflect real, quantifiable changes over time in the choices and behaviors of students-or are they little more than the rants of curmudgeons, stoking the common prejudice with selective examples?

We answer with the question with hard data from time-use surveys that go back half a century. Figure 1 offers a condensed preview of the results. In 1961, the average full-time student at a 4-year college in the U.S. studied about 24 hours per week, while his modern counterpart puts in only 14 hours a week—a whopping 10-hour decline. As will be described in the main body of the paper, the study time drop depicted in Figure 1 has been adjusted for framing effects due to differences in the wording of survey questions, is clearly visible across a dozen separate datasets, and does not appear to be driven by changes over time in the composition of the college-going population. Study times fell for students from all demographic subgroups, overall and within every major, for students who worked and those who did not, and at 4-year colleges of every type, degree structure and level of selectivity. If a mountain of evidence is to be believed, the change in college culture is real.

While it is not clear why study times have fallen, we argue that the observed 10 hour-per-week decline could not have occurred without the cooperation of post-secondary institutions. It is common to use the word “standards” in reference to education outputs, such as student achievement or learning. But universities target inputs, as well as outputs. As we will document, universities commonly claim effort elicitation as a goal, and will even define a unit of academic credit in terms of the number of hours a student should have to study in order to earn it. We will

also present evidence that study time is meaningful and very much worth eliciting: Longer study times increase learning in college and are associated with significantly higher future productivity in the workplace. What we will call the “traditional effort standard” is the common rule, expressed by educators and administrators, past and present, that students study two or more hours outside of class for every hour of scheduled class time. Figure 1 juxtaposes the traditional effort standard against average study times of full-time college students in 1961 and 2003. The best available time-use evidence indicates that the traditional effort standard was nearly a realistic description of effort elicitation in 1961, but that since then, study times have plummeted.

II. Data and Findings

For brevity, we limit our focus here to four large datasets representing the time periods 2003-2005, 1987-1989, 1981, and 1961, and we restrict the samples to full-time students at four-year colleges in each of these periods. Each survey asked students to report the number of hours per week they spent studying outside of class. Data for time use in the early time period, 1961, come from Project Talent. For the 1981 sample, we use the National Longitudinal Survey of Youth (NLSY79). Data for the late 1980s comes from the Higher Education Research Institute (HERI). For the post-2000 years we use HERI data (2003-2005) and the National Survey of Student Engagement (NSSE, 2003). For convenience, we will refer to the multi-year samples by their midpoints. We emphasize that very recent data (for study times after 2003-2005) show a similar trend, and that the decline we document here can be replicated using 8 alternative datasets stretching all the way back to 1928.¹

Average study times calculated from these surveys are reported in Table 1, Panel A. The earliest samples are both nationally representative, so we compare these two data points directly:

¹ See Babcock and Marks (forthcoming). Additional datasets include Americans’ Use of Time (1965), Time Use in Economic and Social Accounts (1975) Americans’ Use of Time (1985), U.S. Bureau of Labor Statistics’ Statistics’ American Time Use Survey (2003) and several very early surveys from the 1920s and 1930s.

Average study time declined between 1961 and 1981. The HERI surveys are restricted to a subset of colleges for which data was available in 1988 and 2004. We hesitate to draw conclusions about the 1981-1988 interval, because non-random selection by colleges into the later samples may influence observed changes over this period. However, we are able to compare a consistent set of 46 HERI schools between 1988 and 2004. We find that study time fell over this period, as well. Lastly, we are able to compare a consistent set of schools between 1961 and 2003 using 156 NSSE colleges that have data available in both time periods. A first pass at the data, the top panel of Table 1 shows large and statistically significant long-run drops in average study times. However, the comparison of different surveys over time gives rise to important concerns about interpretation.

1. Different Questions on Different Surveys

Are we comparing apples with apples in Table 1? The relevant study time questions in the various time-use surveys were not identical. It could be that subtle differences in the framing of the questions evoked very different answers from students.² Idiosyncrasies in the way the questions were framed may have created the illusion of a study time decline. To account for this possibility, we estimated framing effects in an experiment. Surveys were administered to 4 large classes of students at a major public university in California. For each survey referenced in Table 1, we created a survey instrument that contained the same time-use question with the same wording, preceded by the same lead-in question, as was used in its historical counterpart. In a given class, students were randomly assigned to the different survey instruments. Given the design in this experiment, significant differences in student responses to the different surveys are attributable to idiosyncratic characteristics of the surveys.

Table 1, Panel B shows average study times adjusted for these framing effects (taking the Project Talent survey instrument as the baseline.) For example, in the experiment, the mean

² Sudman et al. (1996)

response of current students to the NLSY79 survey question was significantly higher than the mean response to the Project Talent question. Thus, the adjusted average in the NLSY79 column of Table 1, Panel B is lower than the unadjusted time. Based on the experiment, this adjusted average shows *the average response students who took the NLSY79 survey in 1981 would have given, had they been administered the 1961 survey instead.*

After accounting for differences between the surveys, we observe statistically significant declines in study time of about 8 hours per week between 1961 and 1981, about 2 hours per week between 1988 and 2004, and about 10 hours per week between 1961 and 2003. This evidence indicates, then, that the study time decline was not an artifact of the way the questions were asked in the different surveys. For the remainder of the paper, we will focus on the NSSE colleges, as these allow comparison over the longest period for a large, representative set of colleges. Again, we emphasize that the broad study time patterns we will document are not limited to these particular schools or these particular years. The patterns are clearly visible in datasets stretching from 1928 to 2008.

2. Changes in the College-going Population

The college-going population has changed in many ways that could be related to study choices. It has been documented that that a greater fraction of students work at jobs now than was the case in earlier eras. Are students studying less because they are working more? Working students do, indeed, study less on average than non-working students; however, only a small fraction of the change in study times can be accounted for by changes in work hours. As shown in Figure 2, study hours fell for students in every category of work intensity, *including those who did not work at all.* Holding work hours constant, then, students invested far less time studying in the 2000's than they did in 1961. The evidence indicates not only that college students are studying less than they used to, but that the vast majority of the time they once devoted to studying is now being allocated toward leisure activities, rather than paid work.

Are recent cohorts of students simply better prepared than they used to be? This would seem unlikely, as there is little evidence of rising preparedness in the test scores of entering students. Further, changes in parental characteristics do not explain the study time decline: Figure 2 shows that study times declined, holding parental education constant. How about gender? More women now go to college than did so in earlier eras. Are female students lazier or less serious, and does that explain the move away from studying? The answer is a resounding “No.” In Figure 2, we observe that women in recent cohorts *studied more than men* and that study times fell dramatically for both women and men. Could it be that college standards haven’t eroded, and that instead, students have simply begun to choose less demanding majors? Again, the answer is no. Although different majors feature different levels of academic time investment, study times plunged for all choices of major, as shown in Figure 3. Perhaps a few “low quality” colleges have begun to resemble diploma mills, but the higher quality colleges have maintained their effort standards. Is the erosion in studying restricted to a narrow class of colleges? The evidence indicates not: Although students at liberal arts colleges or highly selective universities did study more than other students, both in 1961 and in the 2000’s, Figure 4 shows that studying fell dramatically at universities of every type.

The bottom line: study times fell within every demographic subgroup, for every work choice, for every major, and at every type of college. Further, students do not appear to have reduced studying in order to work for pay. Students appear to be studying less in order to have more free time for fun.³

III. Why Have Study Times Fallen?

³ Not only did study times fall when work choice was held constant, but our best evidence indicates that time allocated toward leisure increased by about 9 hours per week between 1961 and the 2000s (Babcock and Marks, forthcoming).

The findings above raise puzzling questions about the practices of post-secondary institutions. Given that the elicitation of academic effort has been, and continues to be, an explicit part of the university mission, why have post-secondary institutions allowed this decline to occur? Possible explanations fall into two broad categories.

1. Improvements in Education Technology

Because there exists no uniform measure of student learning in college--no "exit exam" for undergraduates, it is difficult to determine conclusively whether students are, in fact, learning less in college than they used to. It is possible that achievement standards have not declined, even though student effort has. College instructors may have become so masterful at infusing knowledge into their charges that today's students are able to match or exceed the achievement of their predecessors without putting in much effort. (As college professors, ourselves, we are flattered by the idea that we possess these magical talents, but find it hard to believe.) On a less fabulistic note, it could be argued that information technologies have simply reduced the time required for some study tasks. Term papers have certainly become less time-consuming to write with the advent of word processors, and the search for texts in libraries has become faster with help from the internet. We acknowledge these factors, but seriously doubt that they tell the whole story. A major reason for our skepticism is that most of the study time decline took place prior to 1981 (well before the relevant technological advances could possibly have been a factor). Moreover, the study time decline is visible across disciplines, despite the fact that some disciplines feature little or no writing of papers or library research (e.g., mathematics or engineering). We conclude from the evidence that the internet and word processors are, at best, a very small part of the answer.

2. Falling Standards

The remaining—and to our thinking more plausible—of the two institutional explanations for the study time decline is that colleges have lowered achievement standards. Once again, because we don't have exit exams and thus cannot measure learning, we can't prove that achievement standards have fallen. However, if we take universities at their word about the average level of academic effort necessary to produce the appropriate level of learning in college, we can examine their performance based on this metric. The traditional effort standard, virtually unchanged for the better part of a century, is that students put in 2 or more hours of study time per week for every hour of class time (or course unit). Early formulations of this standard date to 1928. Recent formulations abound in college catalogues and websites, in the writings of educators, and in university regulations that define how units of academic credit are to be awarded.⁴ Based on average course loads in national datasets, this effort standard equates to a requirement that full-time students study 30 hours per week. College students used to come close to meeting this standard, but they now study 14 hours per week rather than the 30 hours universities claim to require. So even though we lack the data to observe directly whether college has been “dumbed down,” we are able to draw from the data a solid conclusion about university practices: Standards for effort have plummeted—in practice, if not in word.

Why has this happened? A few theories have been put forth by educators. David L. Kirp, in Hersch and Merrow's “Declining by Degrees,” emphasizes student empowerment vis-à-vis the university, and argues that increased market pressures have caused colleges to cater to students' desires for leisure. Murray Sperber (in the same volume) emphasizes a change in faculty incentives: “A non-aggression pact exists between many faculty members and students: Because the former believe that they must spend most of their time doing research and the latter often prefer to pass their time having fun, a mutual non-aggression pact occurs with each side agreeing

⁴ Early formulations of this standard can be found in Goldsmith and Crawford (1928) and Lorimer (1962), while a more recent formulation appears in Kuh (1999). For up-to-the-minute examples of the effort standard taken from the websites of specific colleges or college systems (Auburn, Penn State, Ohio State University, Purdue, North Carolina State, University of California, University of Michigan, University of Mississippi, University of New Hampshire), see references in the Appendix.

not to impinge on the other.” Consistent with this explanation, recent evidence suggests that student evaluations of instructors (which exploded in popularity in the 1960s and 70s) create perverse incentives: “Easier” instructors receive higher student evaluations, and a given instructor in a given course receives higher ratings during terms when he or she requires less or grades more leniently. Because students appear to put in less effort when grading is more lenient, grade inflation may have contributed to the decline.⁵ Perhaps it is not surprising that effort standards have fallen. We are hard-pressed to name any reliable, non-internal reward instructors receive for maintaining high effort standards—and the penalties for doing so are clear.

3. Student Incentives

If standards have fallen at colleges, and if the explanation is that colleges are catering to leisure preferences of their students, as argued above, this raises the question of why students would demand more leisure and fewer study hours in the first place. After all, time investment in college is supposed to benefit the students themselves. If students study less, they learn less, and in this way reduce their future earning power (if learning is a determinant of earnings).

One theory is that the population has become wealthier over time, and that this “wealth effect” has caused students to demand more leisure. Oddly, though, students are spending more time working for pay while in college than they did before. This does not seem to fit well with the story of a wealthier student population that demands more free time. Further, as shown in Figure 2, advantaged students from educated families appear to study more than other students. This, too, casts doubt on the theory that increased wealth and advantage has caused lower study times. Another theory is that the opposite has occurred, and students feel poorer due to tuition increases: In response to a perceived increase in the cost of college, students could be working more and studying less. But this seems very odd, given that students are studying less even when work choices are held constant. In other words, students do not appear to be studying less in order to

⁵ Babcock, forthcoming

work more. They appear to be studying less and spending the extra time on leisure activities. This is a choice not commonly associated with being poor and constrained. Thus, neither of these human capital explanations seems very convincing.

Leisure, as used above, means time that is spent neither working (for pay) nor studying. Another theory is that some components of “leisure” entail activities that build human capital, and that today’s students are doing more of this. Volunteer work has been suggested as a main example. Though we do not have the breakdown for leisure activities by subcategory in the early datasets, it doesn’t look as though students in the current era are spending much time on this activity. Students in the post-2000 era appear to spend about 2 hours per week on volunteer work. (By contrast, students in 2006 in the University of California system spent 11.4 hours per week playing on their computers “for fun”—a category of leisure that would not have existed in 1961.⁶) We see little evidence volunteer work (or other work-like leisure activities) account for the decline in study time.

An alternative to the human capital stories above is that students acquire a degree for the signal it sends to future employers, regardless of whether they have learned anything. It has been documented that differences **between** colleges in student ability have increased over time, while differences in student aptitude **within** a given college have decreased (Hoxby, 2000). Loosely speaking, colleges differ more from one another, whereas students in a given college differ less from one another than they once did. In the past, then, some students may have worked hard to signal they were high ability types, relative to the other students in their college. But if students within a given college are now of similar ability, grades or rankings may have come to lack content as a signal. Perhaps there’s no longer as great a reward for distinguishing yourself during your years in college because most of what an employer needs to know he learns from the name of your alma mater.

⁶ Brint and Cantwell (2008).

Supporting this explanation is the finding that employers in recent years have come to rely less on college grades in their hiring decisions (Rosovsky and Hartley, 2002). Also, students appear to put more time than they once did into preparing for college entrance exams, tailoring their high school resumes for purposes of college admission, hiring college admissions consultants, and filling out their college applications.⁷ Students, then, appear to be allocating more time toward distinguishing themselves from their competitors in order get into a good college, but less time distinguishing themselves from their schoolmates academically once they get there.

We have discussed only a few of many possible explanations for why students may be demanding more leisure and fewer study hours. Based on the data, we are not able to prove conclusively which one—if any—is right. As educators, we remain somewhat puzzled by students' apparent demand for leisure and the reduced education quality it would seem to necessitate.

IV. Implications

Should one be alarmed by the study time decline? The answer depends on whether studying is an important input to the production of knowledge, skills, and human capital. From personal experience, we believe that it is (we learned more when we studied more.) There is also strong empirical evidence to this effect. Stinebrickner and Stinebrickner show that randomly induced decreases in study time of about 40 minutes per day produce a decrease in student GPAs of .24 points.⁸

Studying is clearly related to knowledge or learning, as captured by grades. But perhaps this kind of learning is irrelevant, telling us little about skills and productivity. A more compelling question is whether study times are good predictors of productivity in the long run.

⁷ See, for example, Williams, "Lost Summer for the College-Bound," New York Times, June 4, 2006.

⁸ These decreases in study time were associated with having been randomly assigned a roommate who had an X-box.

Evidence can be brought to bear on this question as well. The NLSY79 includes data on time use in college and long-run wages. To construct Figure 5, we combined time use data from students who were in college in 1981 full time with subsequent wage data for these students at two-year intervals from 1986 to 2004. We regress log hourly wage from each of these years on hours studied per week in 1981, and then plot the coefficient on “hours studied” against the year referenced by the wage.⁹ As is clear in the figure, there is a positive association between weekly study time in college and future wages. The estimates are not statistically distinguishable from zero in early post-college years, but the increase in wages associated with studying grows larger over time and becomes statistically significant in later samples. If productivity-enhancing characteristics that are difficult to observe by employers exert a stronger influence on wages as individuals spend more time in the workforce (and employers learn more about the individual’s productivity), then this would be the expected pattern.

By 2004, a student who had studied an hour more per week in 1981 earned a wage premium of about .6%. The standard deviation of hours studied in the NLSY79 is 14.6. Thus, a standard deviation change in hours studied in 1981 is associated with a wage gain of 8.8% in 2004. We do not claim to have proven a causal effect, but conclude—consistent with common sense and the intuitions of educators—that increased effort in college is associated with increased productivity later in the lifecycle. If one believes that declining study time signifies declining acquisition of human capital, as suggested by the evidence here, then the study time trend is a serious problem. Human capital is extremely important, both for the individuals who acquire it and for the spillovers it provides to the nation as a whole: Evidence indicates that increases in the human capital of the workforce accounted for most of economic growth in the U.S. over the 20th century.¹⁰

⁹ All regressions also include controls for gender, a mental aptitude score, and year in college in 1981 (i.e., dummies for freshman, sophomore, and junior year) and recommended weightings.

¹⁰ DeLong, Goldin, and Katz (2003)

On the plus side, declining study time implies increased access to college. Returns to a college degree remain high. Because less time per week is required to earn a degree, college attendance now requires a much smaller sacrifice in terms of lost wages. This makes college more affordable to more people. The common perception that college is becoming less affordable ignores the reduction in this opportunity cost. Our evidence indicates that for most people (i.e., those who choose public institutions) college is actually cheaper now than it was in 1961. The savings in time cost (based on the average wages for workers with a high school degree) more than compensate for rising tuition. Though it may be good news that college is cheaper than most people think, the reduction in the cost of college appears to have been a byproduct of lowering standards. We would question whether this is the optimal way to make college more affordable.

V. Conclusion

We have argued that academic effort is an important input to the production of education. Based on their rhetoric, educators would seem to agree with this assessment. But whether or not student effort matters, the pattern in the data is clear. Postsecondary institutions in the United States are falling short of their self-stated standard for academic time investment, and the gap between actual effort elicited and the requirements or expectations articulated by these institutions has quadrupled over time. We submit that if academic effort is, in fact, a crucial input to the production of knowledge, and its elicitation an important part of the university's mission, then this widespread deterioration of the standard for student effort demands attention and considered action from educators, administrators, accreditation committees, parents, donors, and all who have a stake in the quality of higher education in the United States.

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Appendix

Below is a sampling of college websites, accessed 12-19-2009, that contain formulations of the Traditional Effort Standard:

Auburn

<http://www.auburn.edu/semesters/stdhrs.html>

Penn State

<http://www.ed.psu.edu/educ/for-current-faculty-and-staff/outreach-office/new-course-instructor-approvals/time-formats>

The Ohio State University

http://74.125.155.132/search?q=cache:QbwOhKzY02MJ:senr.osu.edu/Future_Students/Orientation_at_SENR.html+time+outside+of+class+per+credit+hour&cd=33&hl=en&ct=clnk&gl=us&client=safari

Purdue

http://www.purdue.edu/registrar/pdf/Credit_Hour_Guidelines.pdf

North Carolina State

<http://www.ncsu.edu/uap/academic-standards/courses/crsguidetail.html>

University of California

<http://www.universityofcalifornia.edu/senate/manual/rpart3.html#r760>

University of Michigan - Flint

http://www.umflint.edu/advising/surviving_college.htm

The University of Mississippi -Tupelo

<http://www.outreach.olemiss.edu/tupelo/tupelo-faq.html>

University of New Hampshire

<http://www.unh.edu/fac-senate/pub/StudyHours-5-2-05-IX-M21.htm>

Table 1
Average Study Time (Hrs/Wk)

	Talent	NLSY79	HERI	HERI	Talent	NSSE
	1961	1981	1988	2004	1961	2003
Panel A						
Unadjusted	24.43	19.75	12.96	11.23	24.38	13.28
[Dif]		4.67		1.73		11.10
		(.41)		(.11)		(.24)
Panel B						
Adjusted	24.43	16.86	16.61	14.88	24.38	14.40
[Dif]		7.56		1.73		9.98
		(.56)		(.11)		(.31)
Sample Size	17985	1314	5012	20612	4665	3195

Standard errors of differences in means (from Two-sample t-test) in parentheses.

Figure 1

**Average Study Time
(Hrs/Wk)**

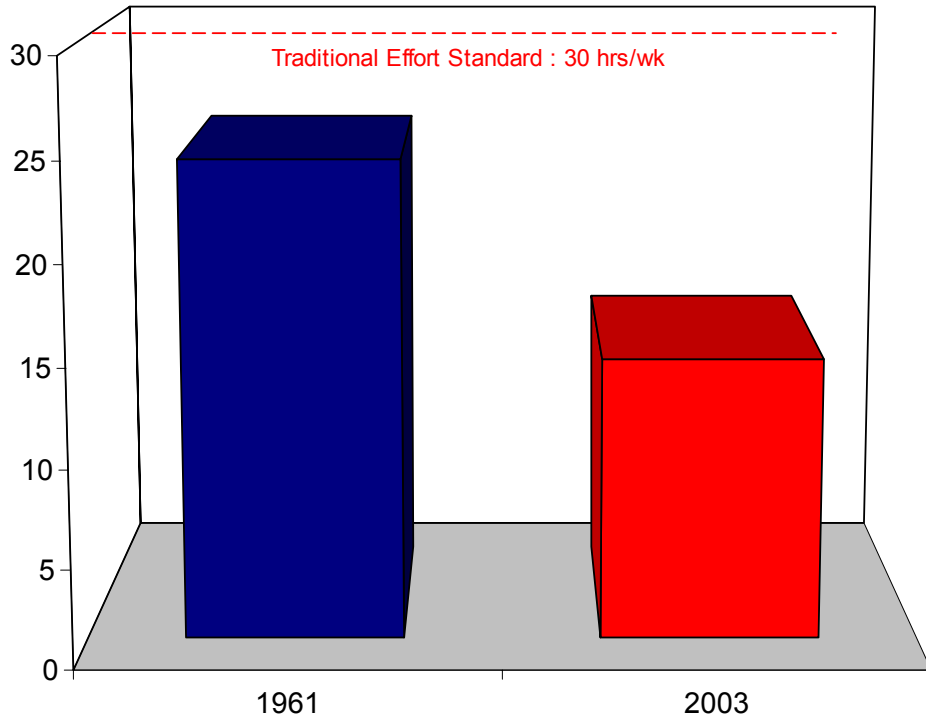


Figure 2

Study Time 1961-2003
(Hrs/Wk - by Work Status, Parental Ed, and Gender)

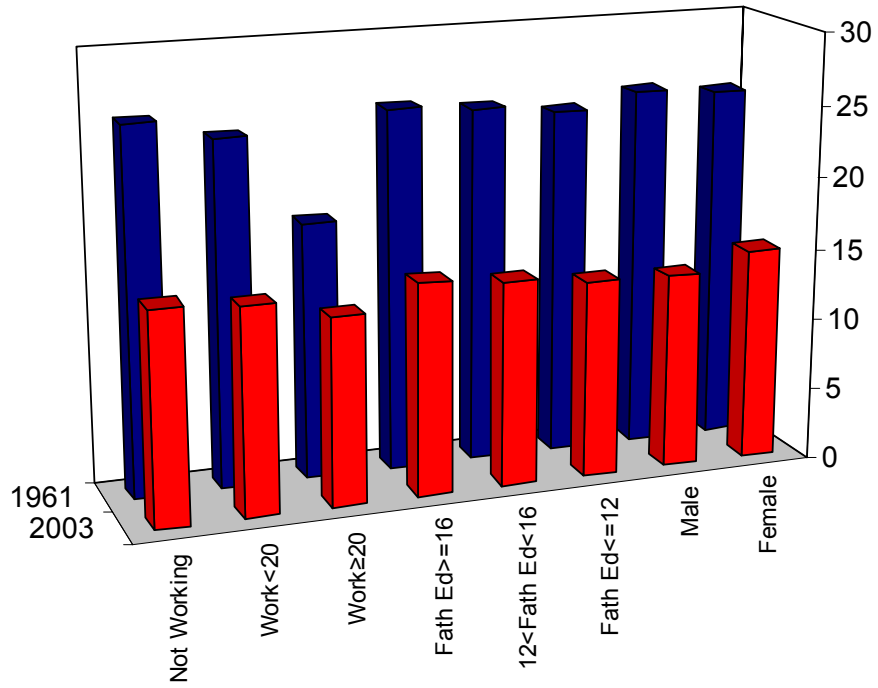


Figure 3

Study Time 1961-2003
(Hrs/Wk - by Major)

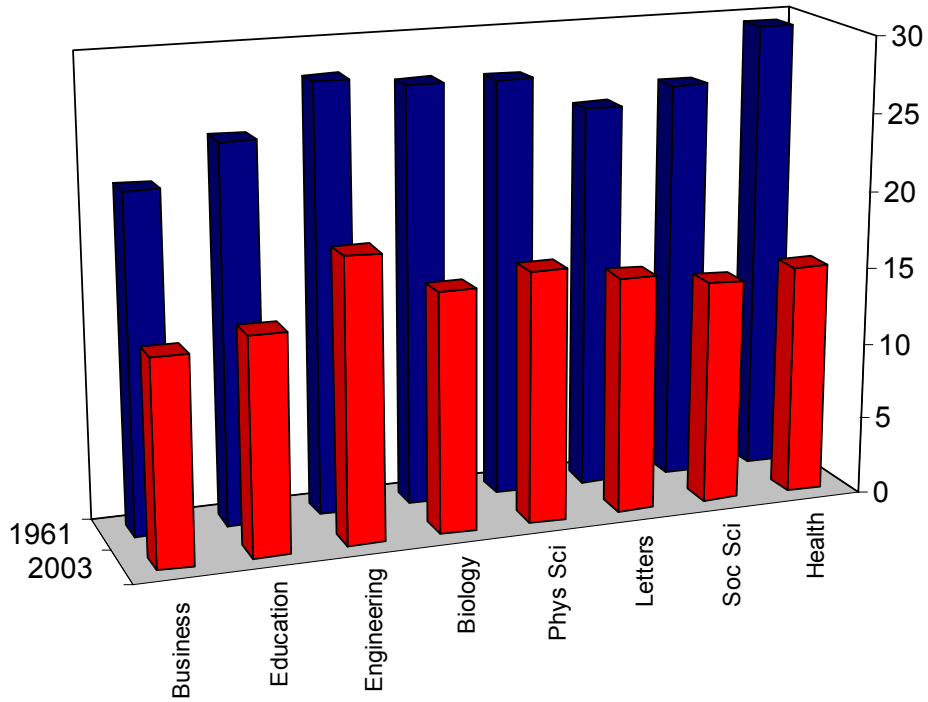


Figure 4

Study Time 1961-2003
(Hrs/Wk - by Institution Type, Selectivity)

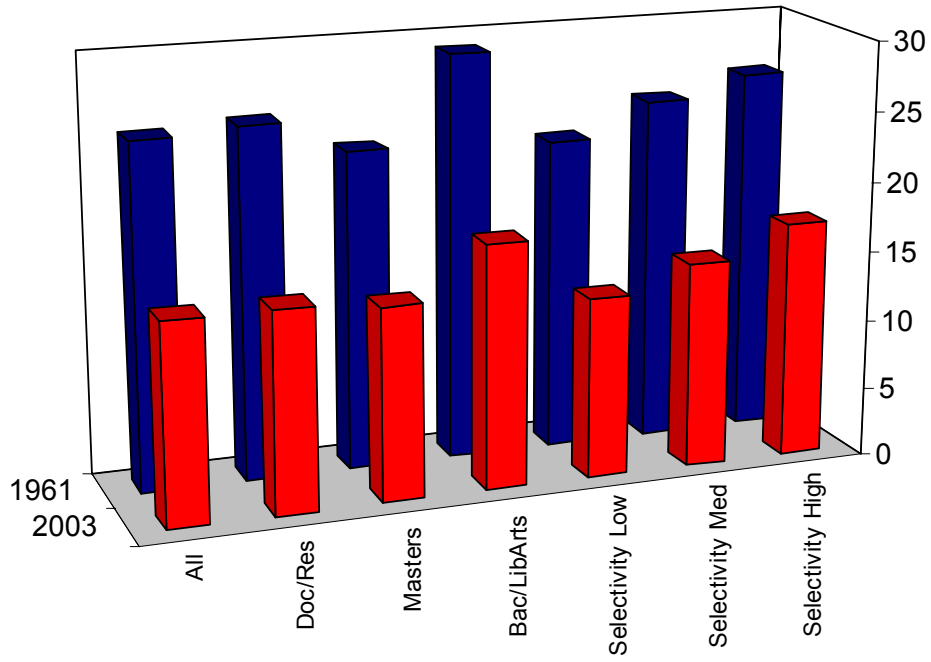


Figure 5

Wages and Hours Studied

