

GSC/WEST Quality of Life Survey Report The Honor Code

Summary

The results of the GSC/WEST Survey on the Quality of Graduate Student Life indicate a serious problem with the functioning of the Honor Code among graduate students. A total of 23% of the survey respondents (160 individual students), admit to breaking the Honor Code in one of the following academic areas: 1) Referring to materials not allowed on an exam/assignment, 2) Taking more time than allowed on an exam/assignment, or 3) Collaborating with another student on an exam/assignment when individual work was required. If the data are extrapolated to the general population, we estimate that approximately 270 current graduate students have broken the Honor Code in one of these three ways. A further issue occurs in cases in which students aren't sure whether they are following the Honor Code or not; 28% have felt that a Caltech course collaboration policy was unclear.

Students most frequently admitted to taking more time than allowed on an exam or assignment (18% of respondents, 118 students), while 9% (57 students) admit to referring to prohibited materials and 5% (35 students) to forbidden collaboration. The percentage of students admitting to breaking the Honor Code varies by division and option and by year of study. There is no significant variation by gender or by citizenship. The data suggest that these students are aware that their actions are in violation of the Honor Code; when asked if the Honor Code applies to classes, 97% of students answered "yes."

The vast majority of respondents also agree that the Honor Code applies to shared resources (90%) and research (93%), but a smaller number believe that it applies to relationships (58%).

The majority of students perceive that the Honor Code is followed in issues pertaining to the class 90% of the time or more. By their own admission, graduate students are following the Honor Code less frequently than 90% of the time, even if only three methods of cheating are considered. We conclude that the Honor Code is broken more often than students perceive, and the fact that the GRB has handled far fewer than 270 cases in the past 6 years implies that much of the cheating in courses goes undetected.

Results

To review the survey questions and methodology, please read the Report on Survey Methodology available at <http://www.its.caltech.edu/~survey/results.html>. Pairwise comparisons reported here employed a two-tailed z test. We chose a minimum confidence interval of 95% ($p = 0.05$) as our standard of significance.

Question D2: How many students do you think followed the Honor Code in issues pertaining to the class (e.g., homework, exams, reserved books in the library) when you were: a. taking the class; b. TAing undergraduates; c. TAing graduate students?

Most respondents perceive that the Honor Code is followed 90% of the time or more in issues pertaining to classes. Students more frequently suspected other students were breaking the Honor Code when they were taking the class than when they were teaching the class. Teaching Assistants perceive that undergraduates in their courses break the Honor Code more often than graduate students in their courses.

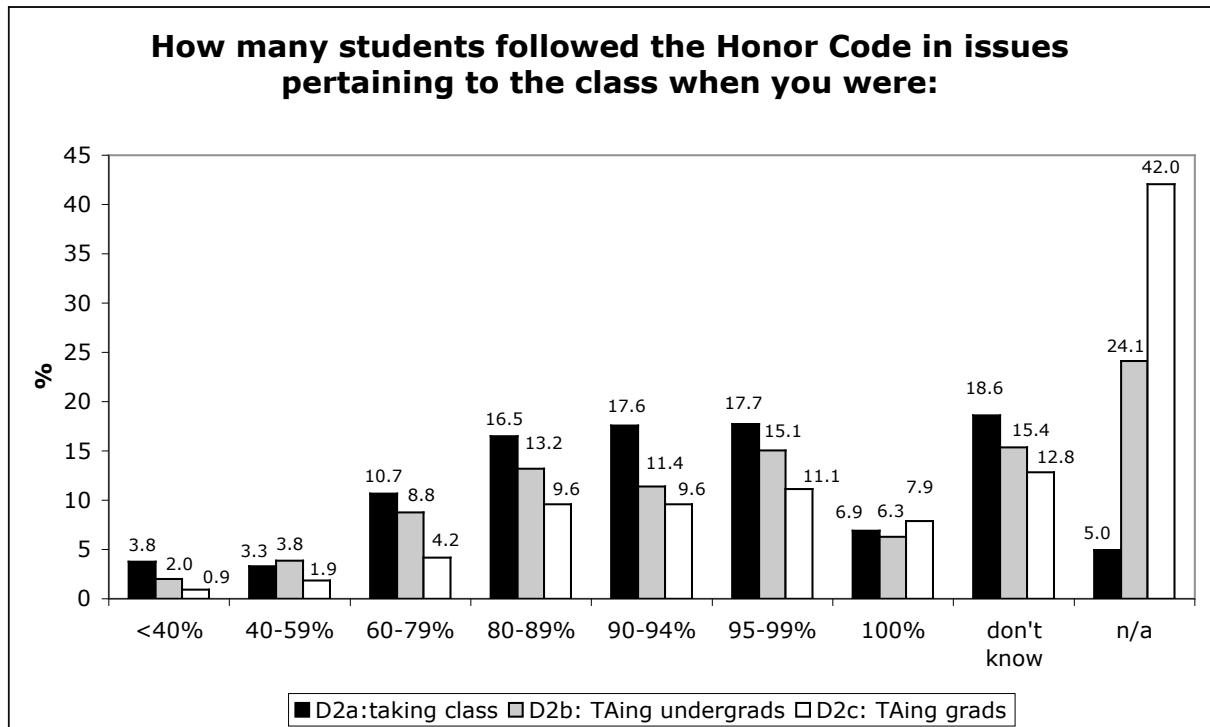


Figure 1. Questions D2a-d, “How many students do you think followed the Honor Code in issues pertaining to the class (e.g., homework, exams, reserved books in the library) when you were: a. taking the class; b. TAing undergraduates; c. TAing graduate students?”

Question D3a: At Caltech, have you ever felt a collaboration/reference policy was unclear?

Over a quarter of respondents (28%) have found a course collaboration/reference policy unclear. Domestic students answered “yes” to question D3a significantly ($p = 8.1 \times 10^{-7}$) more often than respondents with a student visa. The results vary by option, with Astronomy (65%, $p = 0.00053$) and Mechanical Engineering (52%, $p = 0.0018$) students answering “yes” significantly more often than average. Results for options with fewer than 15 total respondents are not included.

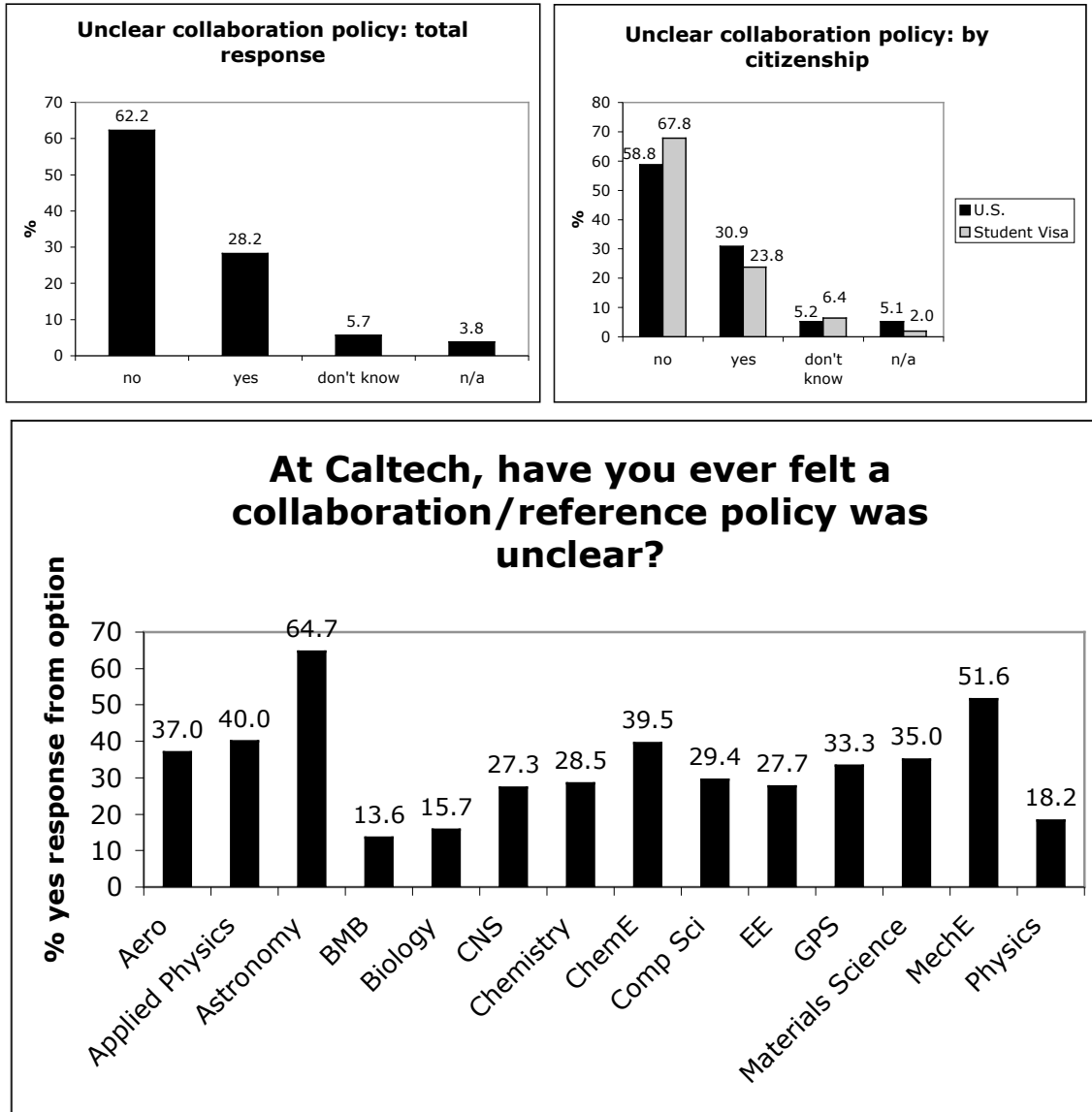


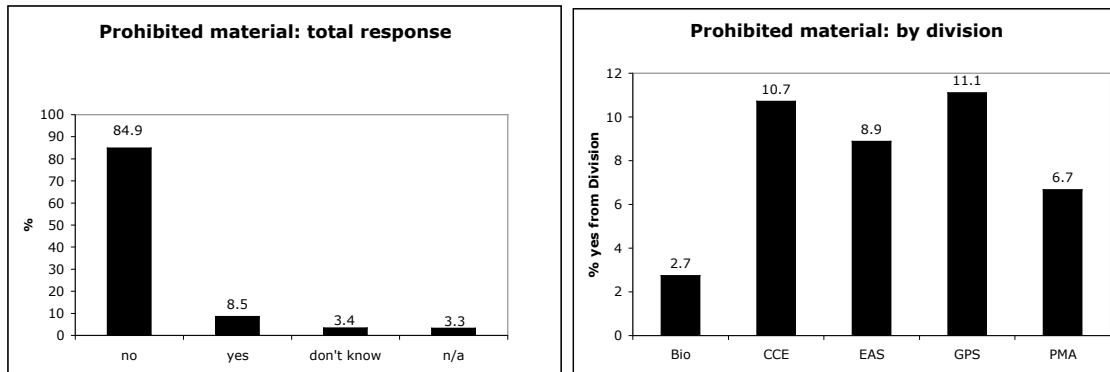
Figure 2. Question D3a, “At Caltech, have you ever felt a collaboration/reference policy was unclear?” Over a quarter of respondents (28%) answered “yes.” Response varies by citizenship and by division. Results are not shown for divisions and options with small numbers of respondents.

Question D3b: At Caltech, have you ever referred to material not allowed on an exam/assignment?

The majority of graduate students have never referred to prohibited material on an exam/assignment, but 9% (57 people) admit to having done so. Results broken down by division and option of the respondent show some differences, but we note that no one division or option answered yes significantly more or less often than the average response. (The results for divisions and options with a small number of total respondents are not included.) The differences *between* divisions and options, some of which are statistically significant, may perhaps be attributed to a heavier or more stressful course load in certain options.

The results also vary by year of study. First year students answer “yes” (5%) significantly ($p = 0.016$) less frequently than second year students (11%), which may, in part, be attributed to their having taken fewer classes. Similarly, the lower percentages of older students, many of whom are no longer taking classes, may in part be attributed to a fading memory. It could also be a real effect of changing perceptions of the importance of the Honor Code over time, perhaps connected to the quality of orientation events or other methods of Honor Code education. This point could only be clarified by a longitudinal study.

The variation in the results by citizenship or gender of the respondent is not statistically significant by our metric.



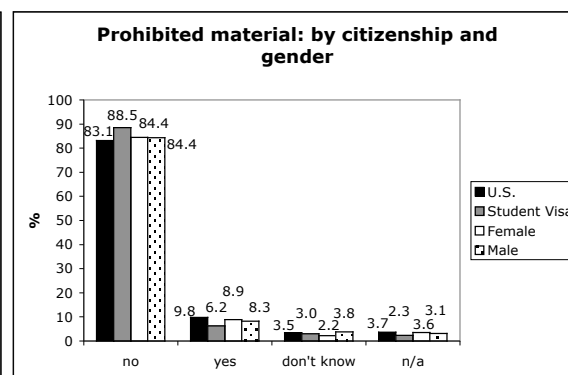
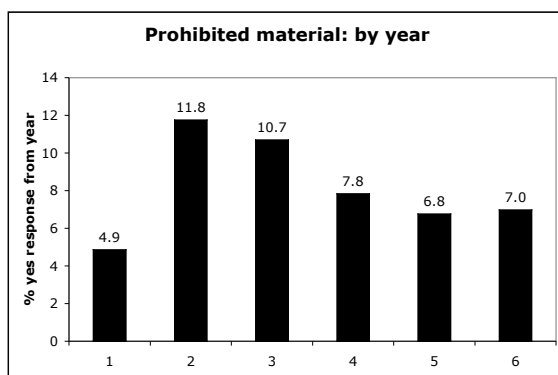
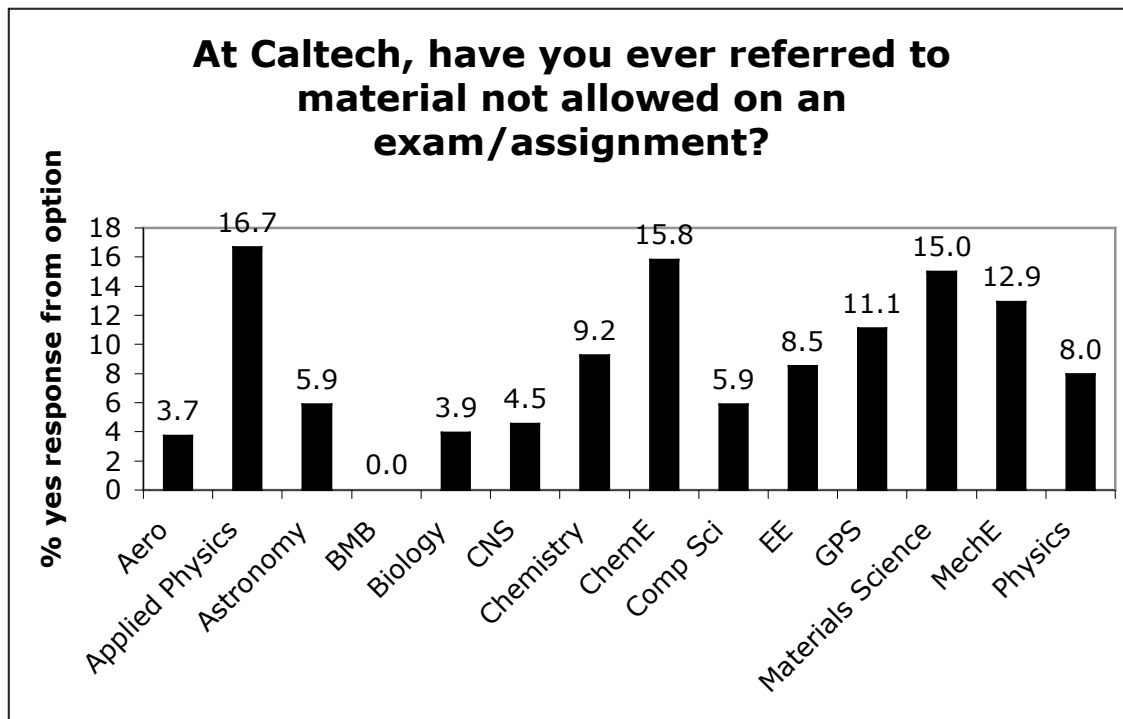


Figure 3. Question D3b, “At Caltech, have you ever referred to material not allowed on an exam/assignment?” 8.5% of respondents admit to having cheated in this way. Response varies by division, option, and year of respondent. Results are not shown for divisions and options with small numbers of respondents.

Question D3c: At Caltech, have you ever taken more time than allowed on an exam/assignment?

A total of 18% of respondents (118 people) admit to taking more time than allowed on an exam or assignment. The results again vary by the division of the respondent, with the Divisions of Engineering and Applied Sciences having a significantly higher than average percentage of respondents answering “yes” (22%, $p = 0.0017$). Options with significantly higher “yes” response are Computational and Neural Systems (41%, $p = 0.0023$) and Applied Physics (33%, $p = 0.013$).

The variation in the results by year of study, citizenship, and gender is not statistically significant.

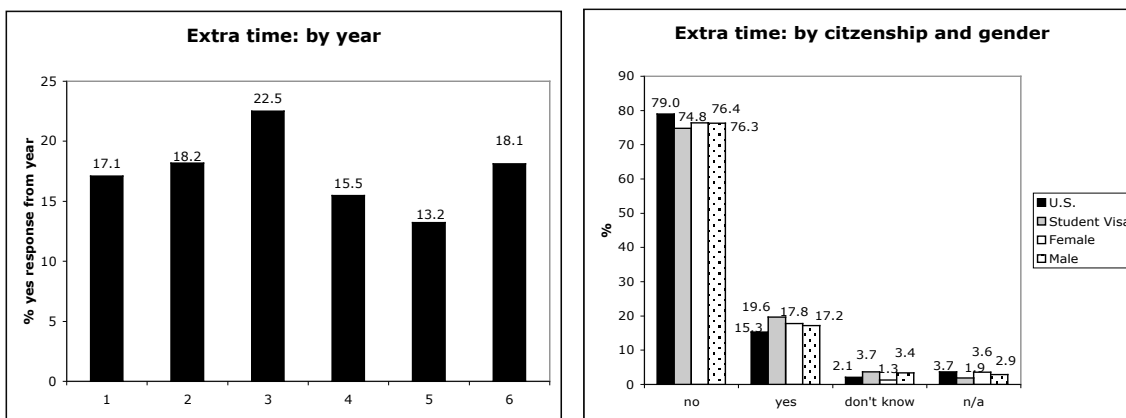
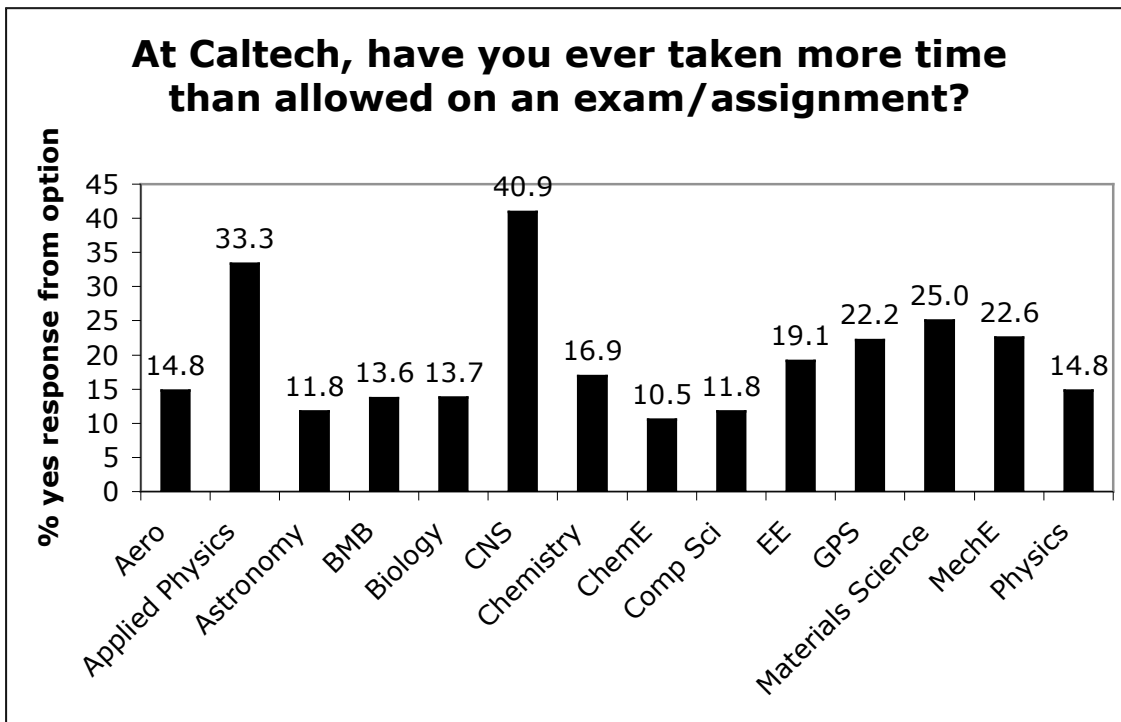
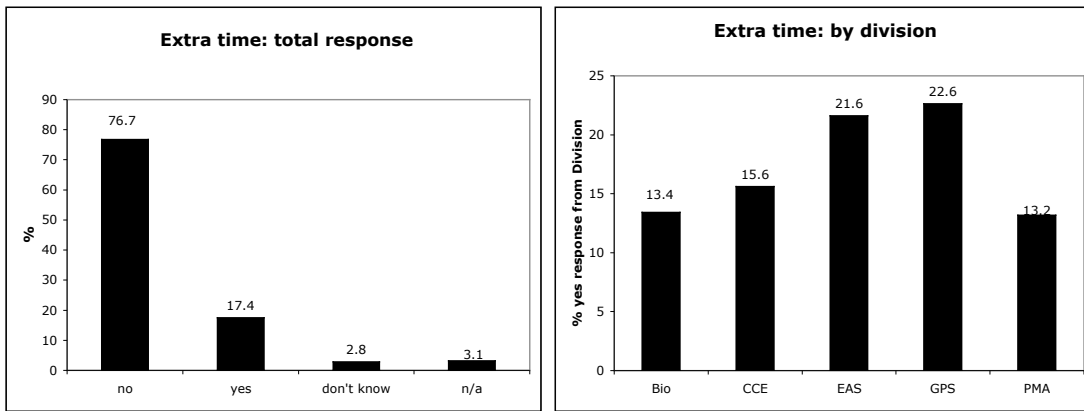


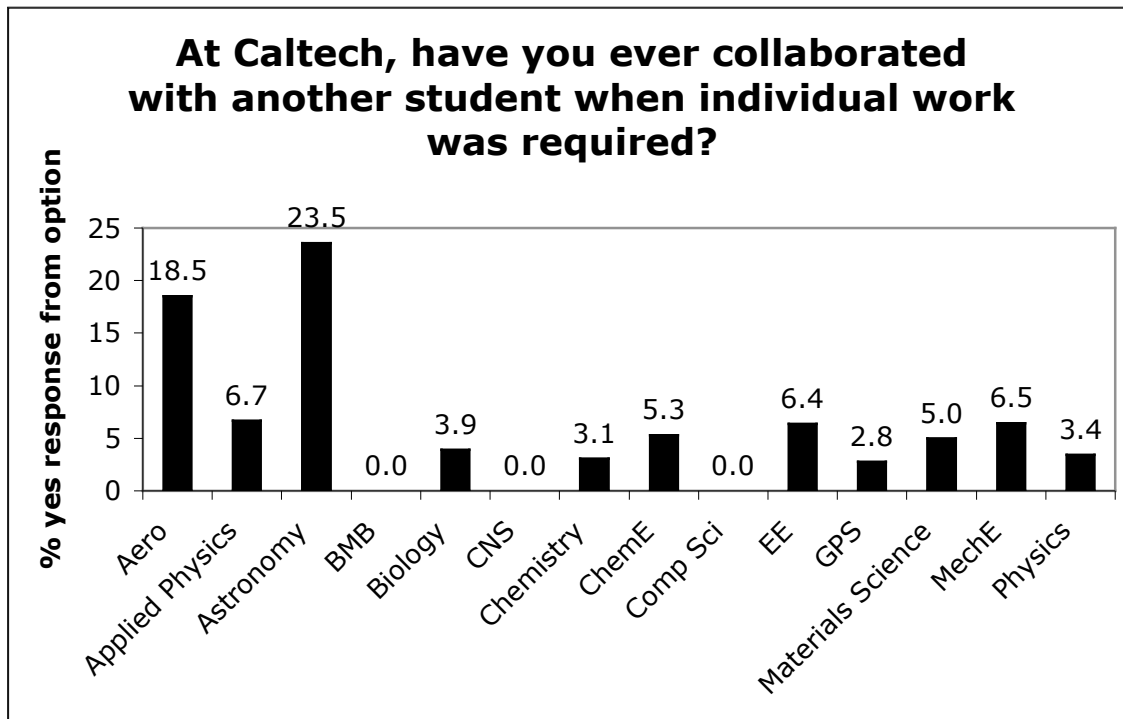
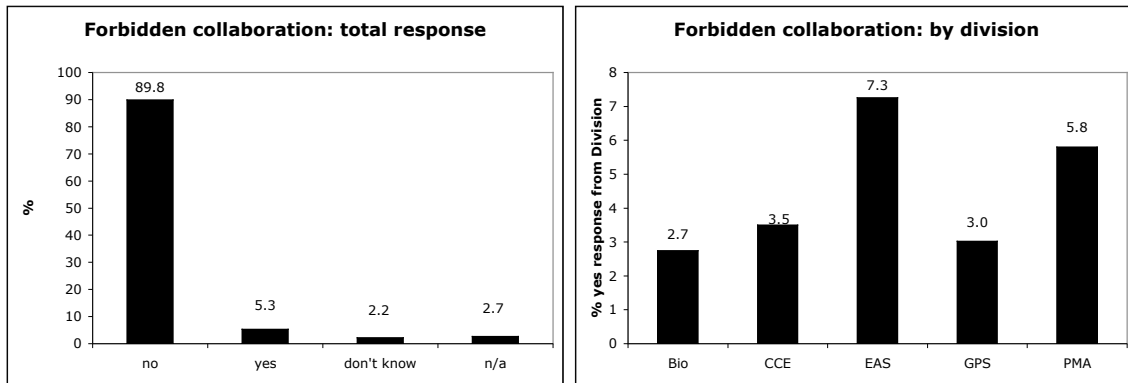
Figure 4. Question D3c, “At Caltech, have you ever taken more time than allowed on an exam/assignment?” 17.4% of respondents answered “yes.” Response varies by division, option, and year of respondent. Results are not shown for divisions and options with small numbers of respondents.

Question D3d: At Caltech, have you ever collaborated with another student when individual work was required?

The majority of students have not collaborated when individual work was required, although 5% (35 people) admit to having done so. The results again vary by the division of the respondent, with the Division of Engineering and Applied Sciences and having a significantly ($p = 0.031$) higher than average percentage of respondents answering “yes” (7%). Options with significantly higher than average “yes” response rates include Astronomy (24%, $p = 0.00084$) and Aeronautics (19%, $p = 0.0022$).

The results also vary by year of study; first year students admit to forbidden collaboration significantly ($p = 0.028$) *less* often than other students.

Finally, the answers to this question do not vary significantly with respect to citizenship of the respondent.



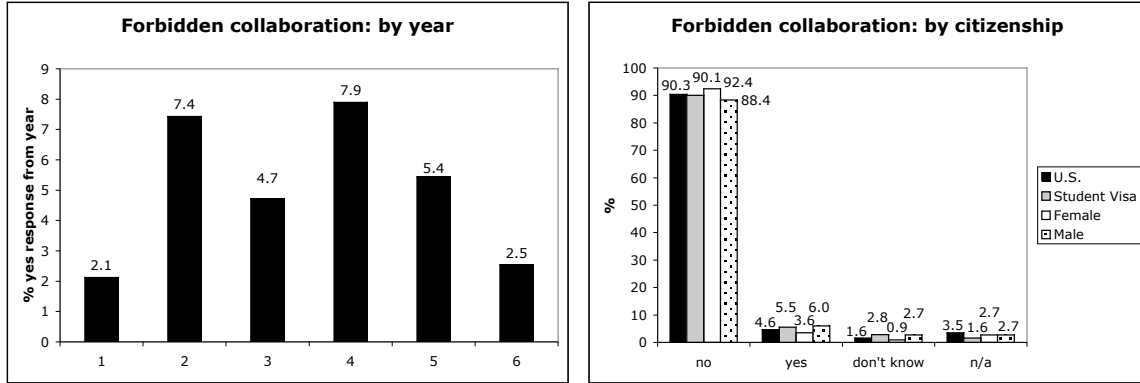


Figure 5. Question D3d, “At Caltech, have you ever collaborated with another student when individual work was required?” 5.3% of respondents answered “yes.” Response varied by division, option, and year of respondent. Results are not shown for divisions and options with small numbers of respondents.

Question D4: Does the Honor Code apply to a. classes; b. shared resources (e.g., library, gym, rec rooms, ITS); c. research (e.g., ethics, lab equipment, publishing); d. relationships (e.g., student dating, co-workers, Caltech roommates)?”

A large majority of respondents agree that the Honor Code does apply to classes (97%), shared resources (90%), and research (93%). A significantly ($p \leq 6.2 \times 10^{-77}$) smaller majority of students believe that it applies to relationships (58%). While “. . . the domain of the Honor System includes our relations and interactions with every member of the community”[1], our results may reveal a need to reconsider this role.

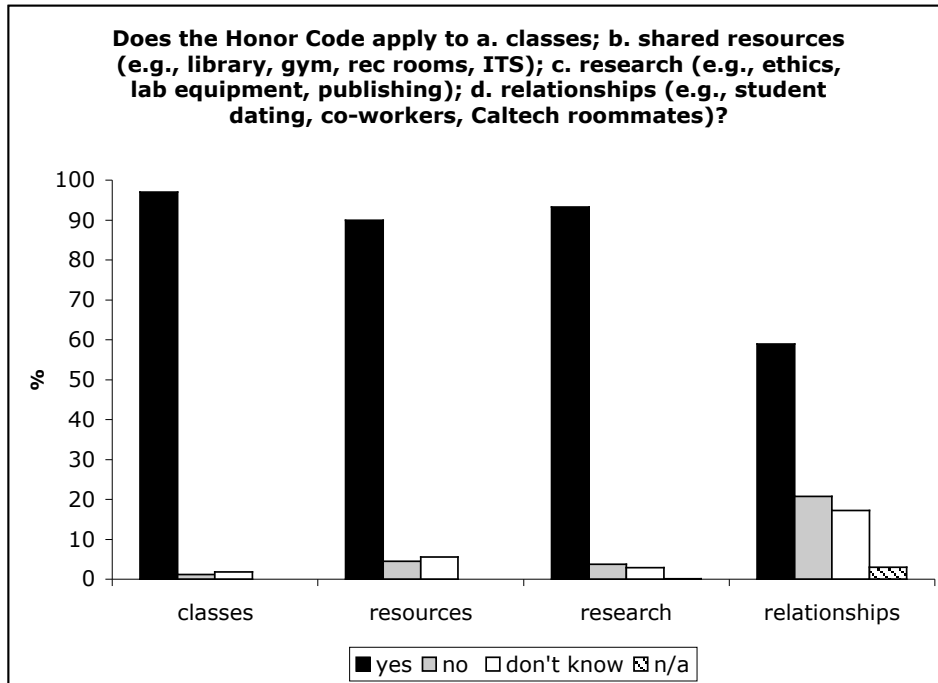


Figure 6. Question D4a-d, “Does the Honor Code apply to a. classes; b. shared resources (e.g., library, gym, rec rooms, ITS); c. research (e.g., ethics, lab equipment, publishing); d. relationships (e.g., student dating, co-workers, Caltech roommates)?” The vast majority answered “yes” when considering classes, shared resources, and research, but a smaller majority believes that the Honor Code applies to relationships.

Conclusions and Recommendations

The Honor System is most frequently expressed as the phrase “Never take unfair advantage of another member of the Caltech community”[1]. It is clear from the Faculty, Undergraduate, and Graduate handbooks on the Honor System that this phrase has long been interpreted to apply equally to both academic and non-academic realms of campus life. Practically, however, classroom cheating is the most obvious way to violate the Honor Code and is generally viewed as the most serious. For this reason, we chose to ask our survey respondents whether they had engaged in three specific examples of classroom cheating on an exam or assignment: referring to prohibited materials, taking too much time, or collaborating with other students when individual work was required. By their own admission, 23% of graduate students have cheated in one of these three ways during their time at Caltech. This figure does not include other types of classroom cheating (e.g., plagiarism) or any other type of Honor Code violation (e.g., unethical research, theft). It is also likely that the actual fraction of students who have cheated in the three tested manners is higher than 23%; it has long been assumed that survey respondents bias their answers toward social desirability[2], and Scheers and Dayton[3] found that underreporting of five academic cheating behaviors ranged from 39% to 83% on an anonymous questionnaire.

Even if we ignore the likely underreporting of this sensitive behavior, the fact that nearly a quarter of our graduate students admit to academic cheating indicates that we are facing a serious, previously unrecognized problem with the Honor System at Caltech. The Graduate Review Board has handled far fewer than 270 cases in the past 6 years, and even the graduate students themselves perceive that the Honor Code is broken with less frequency than the data reveal it to be. Although the frequency of cheating may come as a surprise to us here at Caltech, we are actually doing well when compared with other American universities. Recent studies report that as many as 71% of students at schools without Honor Codes admit to cheating, while the numbers at schools with Honor Codes are lower, from 44 – 54%[4, 5]. In a famous recent case at the University of Virginia, a school with one of the oldest and most strict Honor Codes, a professor of physics employed a computer program to reveal 158 cases of suspected plagiarism in five years of term papers; he identified 60 of these papers as “nearly identical”. Forty-eight students were eventually expelled after two years of investigation[6, 7].

At Caltech, where the Honor Code is taken very seriously, a situation in which a quarter or more of our students are cheating is still unacceptable. It is clear that the Honor System is not currently functioning as it applies to graduate students; most of the academic cheating that occurs is either unrecognized or unreported. Widespread cheating is not only a serious ethical issue, but it is unfair to those students who are not engaging in academic dishonesty. A serious evaluation of the Honor System is required. Maintenance of the Honor System requires dedication to the system and active participation from all segments of the campus community, and not just students themselves. It is not sufficient to hold campus forums to discuss the issue, but rather it is necessary to take direct action.

We recommend the immediate formation of an Institute Committee to review the Honor System as it applies to graduate students. The committee should include, but is

not necessarily limited to, the Chair and Secretary of the Graduate Review Board (GRB), other graduate student representatives, the Dean of Graduate Studies, other faculty representatives, and the Vice President for Student Affairs. It would be the responsibility of this committee to study, in depth, the current state of the Honor System, including the frequency of both academic and non-academic violations and the frequency of reporting suspected or discovered violations to the appropriate authority, the GRB. This committee would be charged with determining if, and by what measures, proper functioning of the Honor System can be rescued.

We have compiled a short list of topics the committee may wish to consider.

1. A reconsideration of the scope of the Honor Code. What does our community want from the Honor System as it applies to graduate students? If requiring the Honor Code to extend to personal relationships dilutes the strength of the Code in the minds of students, perhaps a reformulation into an Academic Honor Code is warranted.
2. More education on the Honor Code. It might be wise to reinforce the Honor Code education that happens during New Student Orientation with year-round seminars, a booklet of “case studies” to show what honor code violations are and how they are handled, or an ethics course for scientists.
3. Clear course collaboration and reference policies. The Board of Control has recently drafted a form to be used by faculty when drafting course collaboration policies for undergraduate courses. A similar process in graduate courses may address the high rate of respondents reporting unclear collaboration policies.
4. More reasonable time limits and difficulty levels on exams/assignments. Research on academic integrity reveals that students often cheat out of a perception that it is the only way to “keep up” with all of the other students who are cheating[8]. When students are given exams that they are not expected to finish within the time limit, but suspect that other students will finish, the temptation to cheat is very high. Faculty and TAs should measure how much students should reasonably be able to accomplish and write intelligent exams to assess real student understanding.
5. More vigilant review of exams/assignments for suspected Honor Code violations. It is clear that much of the cheating that occurs goes undetected or unreported. Adequate functioning of the Honor Code is only possible when all community members actively support it. A longitudinal review of term papers or scores on re-used exam questions, a comparison of in-class versus out-of-class exam performance, or a careful review of assignments for plagiarism may reveal current cheating and will certainly discourage it in the future.
6. More frequent reporting of suspected Honor Code violations to the GRB. If faculty perceive that the current system for handling Honor Code violations is flawed, it is their responsibility to review and correct that system rather than working around it. Ignoring cheating or handling it through unofficial channels undermines the system and dilutes the strength of the Honor Code. It is also unfair to suspected Honor Code violators, who have been informed that their alleged transgressions will be evaluated by their peers, to handle cases in a different manner.

References

1. Billen, M., ed. *The Honor System: Graduate*. 4th ed. 2000, The Graduate Student Council of California Institute of Technology: Pasadena, CA.
2. Sudman, S. and N.M. Bradburn, *Response Effects in Surveys*. 1974, Chicago: Aldine.
3. Scheers, N.J. and C.M. Dayton, *Improved estimation of academic cheating behavior using the randomized-response technique*. *Research in Higher Education*, 1987. **26**(1): p. 61-69.
4. McCabe, D.L. and L.K. Trevino, *Academic dishonesty: Honor codes and other contextual influences*. *Journal of Higher Education*, 1993. **64**: p. 522-538.
5. McCabe, D.L. and L.K. Trevino, *Individual and contextual factors influences on academic dishonesty: a multicampus investigation*. *Research in Higher Education*, 1997. **38**: p. 379-396.
6. Schemo, D.J., *U. of Virginia hit by scandal over cheating*, in *The New York Times*, May 10, 2001: New York. p. A1.
7. *Plagiarism Investigation Ends at Virginia*, in *The New York Times*, November 26, 2002: New York. p. A24.
8. McCabe, D.L., L.K. Trevino, and K.D. Butterfield, *Cheating in academic institutions: a decade of research*. *Ethics & Behavior*, 2001. **11**(3): p. 219-232.