

**Improving Response Rates through Better Design:  
Rethinking a Web-Based Survey Instrument**

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**Abstract**

Institutional researchers often understand “survey design” as a process in which researchers translate broad research questions into specific survey items. Here, we go beyond this conception and search for ways to improve the experience of taking a web-based engagement survey. We present evidence from an experiment that this process can result in increased response rates and better quality data.

## **Introduction**

Cornell University has administered a survey of student engagement four times since 2003. This survey, titled the *Enrolled Student Survey* or the *ESS*, was developed in consortium with 30 other elite institutions and included over 250 individual items. Over the course of the four survey administrations, Cornell's response rate declined substantially, from 47% in 2003 to 29% in 2007.

In an effort to address declining response rates on our campus, we considered the role of survey instrument design and how it can contribute positively or negatively to the experience of completing a web-based survey of student engagement. In this paper, we describe how we: reduced the overall length of the survey; enhanced its visual appeal; and increased students' perceptions that the survey was relevant to their experiences. Evidence from an experiment on our campus indicates that the new survey generates a higher response rate with better quality data.

## **Conceptual Approach**

Existing research on survey design emphasizes that potential respondents evaluate signals from the survey instrument itself in deciding whether to respond. We focused on the following four considerations:

1) **Survey length.** The perceived burden of responding to a survey is tied directly to its overall length (Bogen, 1996; Handwerk, Carson, & Blackwell, 2000) as well as the number of questions that appear per web screen (Schonlau, Fricker, & Elliott, 2002). In the course of this project, we reduced a survey with over 250 items to one with fewer

than 100. In addition, we searched for ways to signal that the survey was not burdensome to complete, and that progress through the survey was swift (e.g. Schonlau et al., 2002).

2) **Survey content.** Researchers are advised to use a “top down” approach to survey construction where underlying research questions are identified and relevant survey questions follow. While there is considerable merit in this theory driven approach, we note that surveys enjoy higher response rates when their contents are seen as relevant to the respondents’ own experiences and values (Dillman, 1991; Groves et al., 2000; Groves, Presser & Dipko, 2004). To enhance the salience of our survey, we asked our interview participants what they thought of the questions we had developed and what *they wanted to tell us* in a survey. Consequently, we added a handful of new questions to the instrument.

3) **Visual appeal.** When survey design is viewed as relating narrowly to the choice and wording of questions, insufficient thought may be given to the process of converting those items into a web-based survey instrument. Yet extant research suggests the visual design of a web-based survey affects response rates (Couper, Traugott & Lamias, 2001; Dillman, 2000; Dillman, Tortora, Conradt & Bowker, 1998). In this project, we paid a great deal of attention to the overall look and feel of the survey, and responded to student feedback regarding the appearance of the pages.

4) **Delivery of survey results.** Providing respondents with survey results can help build rapport with respondents (Cook, Heath & Thompson, 2000; Groves, Singer & Corning, 2000; Ribisl et al., 1996). In this project, we took advantage of what the web makes possible, using Cold Fusion software to incorporate instant results into the survey-

taking process. In this way, we immediately rewarded survey respondents with a handful of findings at key points.

## **Process**

In consortium with 30 other elite institutions, Cornell University had administered the ESS four times since 2003. That survey included over 250 individual items, and had gone through one substantial revision (before the 2007 administration). While we had achieved a respectable 47% response rate in 2003, our 29% response rate in 2007 enhanced our desire to lessen the burden the survey placed on students.

We held a day-and-a-half face-to-face meeting with like-minded institutional research colleagues from peer institutions to establish the foundations for moving the project forward. Specifically, we held a sustained dialogue concerning, first, the core objectives of our institutions and their intersections and, second, the criteria we should use in deciding whether or not a specific item should be included in this survey.

As an illustrative example of “core objectives”: there was consensus that our institutions conscientiously emphasize vibrant intellectual communities (beyond the classroom), including: residential communities that foster the exchange of ideas, interactions with diverse kinds of students, and meaningful discussions with faculty. Thus, a survey that would enable us to hold ourselves accountable for the things we believe we should be doing would include measures relevant to intellectual communities.

The criteria we adopted to make decisions as to whether or not any specific item would appear on the new survey included:

- The survey item should clearly relate to our shared research agenda.
- The survey item reflects the principles of quality survey design.
- The survey is of interest to several institutions.
- Previous use of the survey item produced results of practical importance on our campuses.
- Prior analyses have demonstrated that the item has a proven track record statistically: it has sufficient variance; it does not suffer from high item-nonresponse; it is not redundant with another indicator; it is an important predictor of key outcomes; and/or outcomes have changed over time such that timely data provide new insights.
- The wording and interpretation of new survey items have been thoroughly explored and pre-tested with students.
- There is utility in time-series data: we should not change ESS question wording or response categories without a compelling reason. That being said, the utility of legacy items needs to be assessed.

With careful attention to both our core objectives and our agreed upon criteria for inclusion, an engaged working group reduced the 250 item survey to a core of approximately 75 measures (including 13 measures—like race and gender—which could be supplied from administrative files when that is a possibility).

With input from a graphic designer, we worked with a Cornell-based survey service to mock-up a version of the survey instrument to use for the purposes of testing and evaluation. We then recruited students—with a \$20 payment for a one-hour interview—to come to our office to take the survey and provide their candid feedback about the *experience* of taking the survey. In total, we interviewed nineteen undergraduate students. After the feedback received in the first ten interviews, we made substantial revisions to both the aesthetics and the substance of the evolving survey instrument. This revised instrument was then pretested with nine more students, with only minor changes resulting.

As a final step in our research, we took the survey instrument that resulted from this process—now dubbed “PULSE”—and tested it head-to-head with the original ESS instrument. In this experiment, we drew a random sample of 300 summer session students and randomly assigned 100 to take the original ESS just as it had been administered in the spring semester of 2007 and 200 students to take the new PULSE. Results from that experiment are described in the section titled, “Did it Work?,” below.

### **Survey Redesign: A Look at Page 1**

Figures 1 and 2 are screen captures of the ESS (the original instrument) and PULSE (the revised instrument) respectively. In glancing across the figures, perhaps the first thing to note is that the first page of the ESS is notably longer than the first page of the PULSE. This is partly a reflection of the fact that the entire ESS is longer than the PULSE, but it is also the case that the single longest page of the ESS is the *first page*, with a total of 42 individual items. In contrast, we conscientiously elected to make the first page of the PULSE particularly short in an attempt to signal with the first impression that the PULSE was not a particularly lengthy or burdensome endeavor.

A second difference between the instruments is that we replaced the simple mechanical “progress bar” on the ESS with a more elaborate header on the PULSE. The PULSE header is not navigable; clicking on it will not take you to a different page of the survey. Rather, the goal of the header is to alleviate anxiety about “where the survey is going” by providing a succinct outline of the entire scope of the instrument.

Third, on the basis of student feedback, we replaced the black grid used on the ESS with a white grid and increased the spacing between items.

Fourth, and perhaps most substantively, the two instrument use different lead-off questions. This is not because the surveys differed substantively in content; in fact, the PULSE includes several of the items used to kick-off the ESS. Rather, this was a strategic choice in recognition of work by Dillman and others which indicates that the first question on a survey signals the nature of the survey and its salience to the respondent. With the PULSE, we elected to begin by asking for students' generalized opinions of their experience at the university rather than simply asking for unreflective reporting of behaviors. Further, given substantial evidence that academic engagement is positively correlated with survey response rates, we sought to avoid reinforcing this tendency by introducing the survey with a section on "Academics."

### **What Student Didn't Want to Tell Us, and What They Did**

In our initial extended interviews with students taking the PULSE, the single most common complaint with the survey had to do with the bank of "time budget" questions. On the ESS, this bank is launched with the following stem: "During the current school year, approximately how many hours do you spend during a typical week doing the following activities." As illustrated in Figure 3, this stem is followed by 28 individual items, and students are asked to respond regarding the time spent on each item using one of *ten* response categories.

In the PULSE, we limited ourselves to asking about eight behaviors, but students still told us unequivocally that it was both daunting to be faced with a "sea of bubbles" ten—or even eight—columns wide *and* quite burdensome to try to have any precision in their estimates of how much time they spent "exercising" or "hanging out." Indeed, those

of us who have had the experience of having to account for our time use—such as for reporting purposes at work—may be able to relate to their irritation on this note.

Accordingly, on the PULSE we sacrificed some precision and limited ourselves to just five broad response categories (see Figure 4). We were able to get more coverage out of five categories by dividing the time-use questions across two different banks, with behaviors tending to occupy a large amount of time (such as studying) using a different response scale than behaviors typically consuming less time (such as community service).

As a part of the sustained interviews with our nineteen pre-testers, we asked respondents if there were things that they felt we omitted from the survey—things that they would want to tell us about their undergraduate experience that we had not asked about.

More than half of our pre-testers indicated in one way or another that they wanted to tell us more about *what is like to be a Cornell student*. Specifically, they wanted to tell us that they work hard, that they sacrifice sleep, and that they are stressed. Further, they wanted to tell us not just about binge drinking—a single question on the survey—but about the role of alcohol in social life and how they have managed to navigate that. Finally, they wanted to tell us about the importance of Greek life on Cornell’s campus. In response to this feedback, we dismissed our own hesitancy to inquire into quite personal issues such as drinking and mental health and added new questions that tapped these aspects of undergraduate life.

## **Web Surveys: More than a Paper Survey Put on the Web**

As we searched for ways to improve the experience of taking the new PULSE survey, we invited ourselves to think about how we could use the fact that is a web-based survey to our advantage. As one of our early collaborators suggested, we should think about a web survey as being “more than just a paper survey put on the web.” We seized three opportunities.

First, entirely generic survey instruments that ask about “your institution” or “your college” may reflect the economies of scale inherent in the mass production of paper surveys. With the web, however, the costs of customization are substantially less. In the PULSE, we ask about satisfaction with “Cornell University” rather than with “your institution,” and we expect that our peer institutions will do similarly.

Second, we have tended to use random draws for prizes as incentives for our surveys. Our past practice had been to wait until the survey closes to draw winners. The trouble with this practice, however, is that it separates the behavior and its reward (stimulus and response) by days or even weeks. Indeed, we have contacted prize winners in the past who have told us they had completely forgotten they had taken the survey! While this might be the best possible model for drawing winners with a paper survey, the web makes it possible to program lottery selection right into the survey itself. Thus, for the PULSE, we indicated that every tenth respondent would know instantly if they had won \$20. By notifying respondents *at the time they complete the survey*, we create the possibility that they will share their delight over winning with other students thereby encouraging others to participate in the survey as well.

Third, there is considerable evidence in the literature that respondents want to hear about the results of the study in which they participated. Indeed, our students told us as much as well. However, the effective *delivery* of study findings has proven to be more problematic than one might immediately assume. Further, as with post-survey lottery drawings, the lag between taking the paper survey and receiving a summary of findings can be substantial. Here again, the power of computing can be used to address the issue. At three points in the PULSE, we offered students “instant results” about a question they had already answered. For example, after responding to a question about their own satisfaction on one page of the survey, respondents are told on the next page, “X% of students who have taken the PULSE so far also rated their entire educational experience at Cornell as ‘Excellent.’” And, upon hitting “submit” on the last page of the survey, respondents are provided a full page of bar charts and pie graphs portraying the responses “thus far” to key items of interest on the PULSE.

We also found that on our campus, students were sensitive to the notion of going to a URL outside of Cornell to take a Cornell survey. By hosting the survey ourselves – rather than using a single survey provider for the whole consortium – we were able to allay concerns that the survey was anything other than a Cornell-based effort to inform Cornell administrators about the Cornell experience.

### **Did it Work?: Impact on Response Rates and Data Quality**

As described above, in order to test whether our efforts would make a difference in the response rate to the survey, we drew a random sample of 300 summer session students and randomly assigned 100 to take the original ESS and 200 students to take the

new PULSE. Nearly identical emails were sent from the Dean of Students inviting the students to take the surveys; the only differences in the text were the names of the surveys and the estimated time it would take to complete the survey. Thus, 100 students were asked to complete the ESS with instructions that the “The questionnaire typically takes 20 to 25 minutes to complete,” and 200 students were invited to take the PULSE with the comment “The survey typically takes around 10 minutes to complete.”

Under any definition of “survey response,” the PULSE fared better than the ESS. For example, if we define a student as a respondent if he or she answered just one or more questions, the PULSE attained a response rate of 47%, while the ESS response rate was just 39%.

More remarkable, however, is the data we observed on persistence through the survey, as is illustrated in Figures 5 and 6. Aside from the sentence in the invitation email cluing students to the estimated length of time to take the survey, there is little reason to expect that fewer students would even *open* the ESS as compared to the PULSE. Thus we were somewhat surprised to find any difference at all in the percent of students who even *entered* the survey (48% of those taking the revised PULSE as compared to 42% taking the original ESS).<sup>1</sup> The difference grew from there, however: 45% of the sample asked to take the PULSE reached the final page of the survey, compared to just 36% of those taking the ESS. Moreover, among those who responded,

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<sup>1</sup> The programming for the ESS did not allow us to observe how often a student followed the link to the survey and then left without any further action. However, we did observe that three of the 110 students opened the survey, went to the bottom of page one without answering any questions and clicked the submit button there without going on to answer any later questions or submit any other pages. Only one student acted analogously with the PULSE.

nearly all (94%) of those answering the PULSE provided answers for 90% or more of the questions asked, compared to just 60% of ESS respondents doing so.

An analysis not shown here suggests that PULSE respondents were also less select vis-à-vis non-respondents than the ESS respondents as compared to non-respondents. That is: the gap between the GPAs and SAT scores of respondents and non-respondents was substantially smaller for the PULSE group than for the ESS sample. This suggests that the PULSE data may be more representative of the population as a whole.

### **Implications**

Inarguably, the content of a survey should be dictated, first and foremost, by the research questions the instrumented is intended to address. Clearly articulating the core research objectives underpinning a survey and establishing criteria to evaluate the utility of specific survey items are two important steps in developing surveys that are both relevant to our purposes and concise. Like other researchers (e.g., Bogen, 1996; Handwerk et al., 2000; Schonlau et al., 2002), we found that students are quite sensitive to the effort required to participate in a survey – whether measured by estimated time for completion, total number of questions, or the complexity of the response categories employed in particular questions. Dropping survey response rates suggest that our students are less and less willing to give up their time to complete a survey. Together, these points argue for being very sure that we are asking the *right* questions on our surveys and *only* those questions that really need to be asked.

But survey design should not be driven by content considerations alone. We may know *what* we want to ask our students, but *how* we present those questions within a web

instrument may well affect the likelihood that students will choose to participate in the survey and the quality of the data we ultimately collect. Consistent with past research (e.g., Couper et al., 2001; Dillman, 2000), our study found that visual design elements – such as the borders and spacing used in questions, and the number of questions presented per page – elicited strong reactions from our pretesters. And ultimately, differences in survey length and visual design seem to have accounted for significant differences in the proportion of students responding to the original and revised versions of our survey, as well as differences in the proportion of survey questions completed. Visual design elements are most under our control when we are developing local survey instruments. Even when using externally-authored web-based instruments where the content has been predetermined, there may be opportunities for visually presenting this content in ways that can positively affect survey participation and for hosting the survey on a local domain. If so, the cost of programming such changes would seem to be well worth the potential benefits in survey response and completion rates.

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**Figure 1. Page 1 of Enrolled Student Survey (ESS)**


Cornell University

Progress: 1 2 3 4 5 6 7 8 9 Complete

### Academics

**1. During the current school year, how often have you done each of the following?**

Course or classroom experiences	Never	Occasionally	Often	Very Often
Worked on a class assignment, project, or presentation with other students	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked on a paper or project that required integrating ideas or information from various sources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in class discussions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Made a formal presentation in class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared for class with an informal study group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared a major written report, such as a thesis, honors project, or significant research paper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Taken a course with a component in a large lecture hall	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had a graduate student as a teaching assistant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed intellectual ideas with other students outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Research, Writing and the Arts</b>	Never	Occasionally	Often	Very Often
Conducted research using historical archives, surveys, field work, or other primary sources on a project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prepared two or more drafts of a paper or assignment before turning it in	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Published or presented a paper or research off campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attended a concert or other music event, on or off campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in a music activity (orchestra, chorus, etc.) on or off campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participated in art (pottery, painting, etc.) or theatrical production (acted, danced, etc.) on or off campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Written a poem, story, or other creative writing for a class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read or discussed the opinions of art, music, or drama critics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Math, Science &amp; Technology</b>	Never	Occasionally	Often	Very Often
Completed an experiment or project using the scientific method	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Practiced to improve your skill using a piece of laboratory equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Read articles about scientific or mathematical concepts not assigned for a class or class project	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used mathematical terms or formulae to express a set of relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used a computer to produce visual displays of information (charts, graphs, spreadsheets, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used a computer to analyze data (statistics, forecasting, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developed a Web page	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Faculty</b>	Never	Occasionally	Often	Very Often
Worked harder than you thought you could to meet the instructor's standards or expectations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with a faculty member on a research project for credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked with a faculty member on a research project not for credit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed your career plans and ambitions with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed your academic work with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discussed your course selection plans with a faculty member	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had intellectual discussions with a faculty member outside of class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Interacted with a faculty member at a social event	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Library</b>	Never	Occasionally	Often	Very Often
Asked a librarian or staff member for help in finding information on some topic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worked on a project that used a special collection of books, materials, or papers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Found something interesting while browsing in the library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used the library as a quiet place to read or study materials you brought with you	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Used a computer to retrieve materials from a library or source not at this institution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

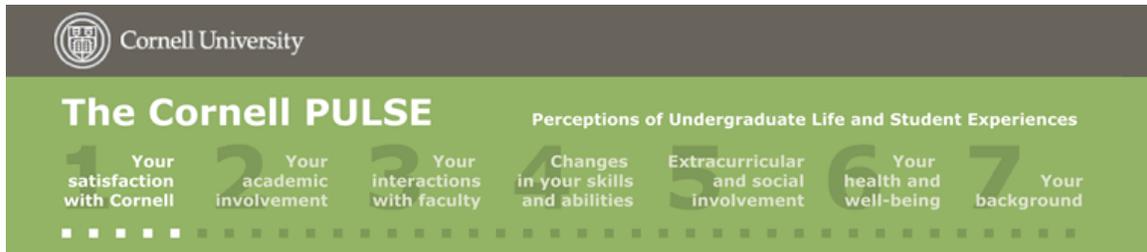
**2. During the current school year, how much has your coursework emphasized the following mental activities?**

	Very little	Some	Quite a bit	Very much
<b>Memorizing</b> facts, ideas or methods from your courses and readings so you can repeat them in pretty much the same form.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Analyzing</b> the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Synthesizing</b> and organizing ideas, information, or experiences into new, more complex interpretations and relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Making judgments</b> about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Applying</b> theories or concepts to practical problems or in new situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Click Next to save your entries on this page and proceed to the next page.

**Figure 2. Page 1 of the PULSE**



**How would you evaluate your entire educational experience at Cornell University?**

Excellent
  Good
  Fair
  Poor

**How satisfied are you with the following aspects of your Cornell experience so far?**

	Very dissatisfied	Generally dissatisfied	Generally satisfied	Very satisfied
Overall quality of instruction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Academic advising	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Administration's responsiveness to student concerns	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social life on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of community on campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of community where you live during the academic year	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submit (page 1 of 7) >>

See how quickly this goes??

**Figure 3. The Time-Budget Bank on the ESS**

**7. During the current school year, approximately how many hours do you spend during a typical week doing the following activities?**

	None	Less than 2 hours	2-4 hours	5-10 hours	11-15 hours	16-20 hours	21-25 hours	26-30 hours	31-40 hours	More than 40 hours
<b>Academic</b>										
Attending scheduled classes or labs	<input type="radio"/>									
Working on scheduled courses outside of class or lab (i.e., homework)	<input type="radio"/>									
Doing other academic work (e.g. thesis, internship, research)	<input type="radio"/>									
<b>Health and Athletics</b>										
Participating in Intercollegiate Athletics (during practice and playing season)	<input type="radio"/>									
Participating as a cheerleader, mascot, or member of the marching band	<input type="radio"/>									
Playing on intramural athletic or club sport team(s)	<input type="radio"/>									
Exercising or using a fitness or weight room	<input type="radio"/>									
Competing informally on a team or sport (e.g., "pick-up" game)	<input type="radio"/>									
Eating meals	<input type="radio"/>									
<b>Extracurricular Activities</b>										
Participating in student government	<input type="radio"/>									
Working on a campus newspaper	<input type="radio"/>									
Working on a literary magazine	<input type="radio"/>									
Participating in a Fraternity or Sorority ("Eating Club" or "Secret Society")	<input type="radio"/>									
Playing or singing in an orchestra, band, choral or other musical group	<input type="radio"/>									
Working on a theatrical production	<input type="radio"/>									
Participating in a religious organization or religious service	<input type="radio"/>									
Volunteering in the community	<input type="radio"/>									
Participating in a political organization	<input type="radio"/>									
Participating in a minority or ethnic organization	<input type="radio"/>									
Participating in another organized student activity or club	<input type="radio"/>									
<b>Job</b>										
Working at a job that was part of a financial aid package (e.g., work-study program)	<input type="radio"/>									
Working at a job that was not part of a financial aid package	<input type="radio"/>									
<b>Recreation</b>										
Socializing and talking with friends	<input type="radio"/>									
Watching TV	<input type="radio"/>									
Using a computer for non-academic activity (e.g., video games, Facebook, IM)	<input type="radio"/>									
Reading for pleasure	<input type="radio"/>									
Visiting with a family or friend off campus	<input type="radio"/>									
Relaxing by yourself	<input type="radio"/>									

## Figure 4. The Time-Budget Banks on the PULSE

Page 2:

**During the typical week this academic year, approximately how many hours do you spend on your academic work?**

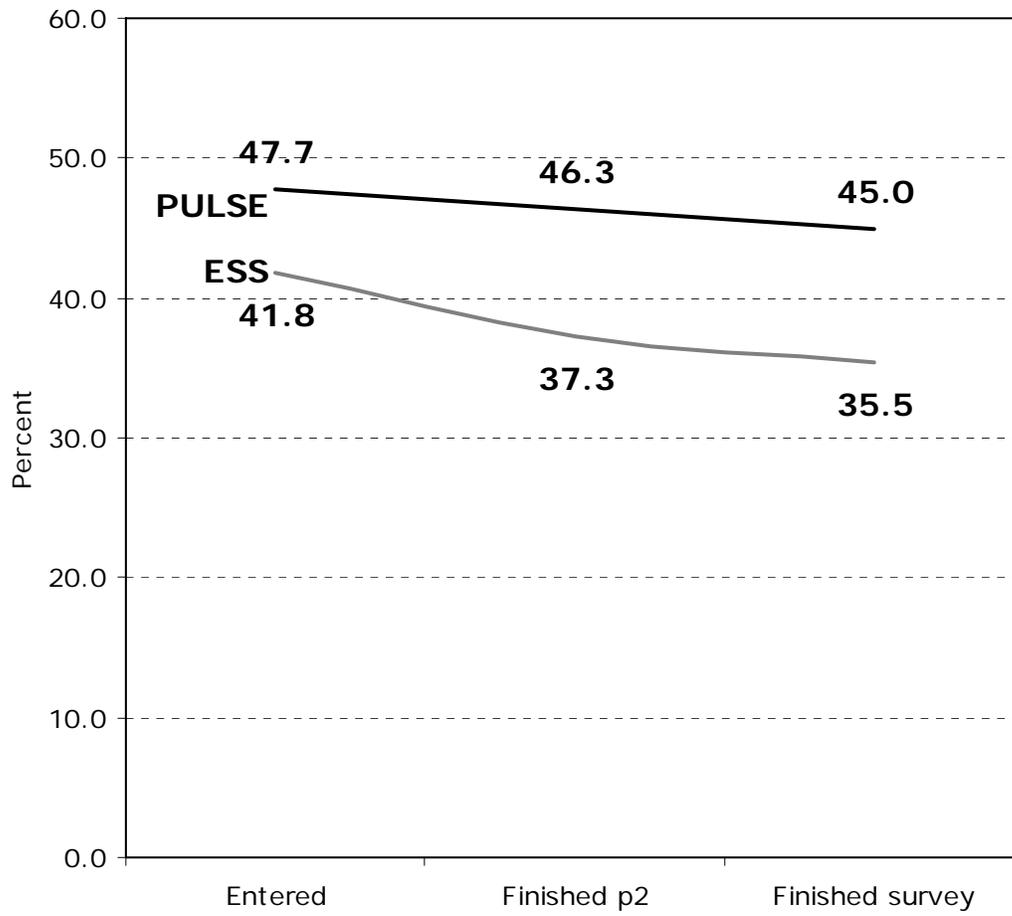
	Hours per week:				
	0-10	11-15	16-20	21-30	30+
[s2q1a] Attending scheduled classes or labs	<input type="radio"/>				
[s2q1b] Working on academic work outside of class or lab (e.g., homework, research project, etc.)	<input type="radio"/>				

Page 5:

**During the typical week this academic year, approximately how many hours do you spend doing the following activities?**

	Hours per week				
	None	1-5	6-10	11-20	21+
[s5q1a] Working for pay	<input type="radio"/>				
[s5q1b] Physical fitness (exercise, sports, etc.)	<input type="radio"/>				
[s5q1c] Community service	<input type="radio"/>				
[s5q1d] Participating in other extracurricular activities (student organizations, fraternity or sorority, etc.)	<input type="radio"/>				
[s5q1e] Partying	<input type="radio"/>				
[s5q1f] Other relaxing or socializing (e.g., watching TV, playing video games, hanging out)	<input type="radio"/>				

**Figure 5. Percent of Sample Entering, Submitting Page 2 and Submitting Final Page, by Survey**



**Figure 6. Histogram of Proportion of Questions Answered, by Survey**

