**What Determines Involvement at Carnegie Mellon?**

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***A. Why is this topic interesting? Is there a client for whom you might do the survey?***

Carnegie Mellon is not known for its school spirit. In particular, we have noticed low attendance at sporting events and the creation of the Tartan Rewards Program, which aims to increase attendance at Carnegie Mellon events. Understanding how groups form on campus can be used to unify the student body and improve attendance at school events. CMU sports teams and clubs and the Tartan Rewards Program could be possible clients of this survey because the information could improve their attendance rates. This study needs to be done now to benefit incoming classes of students and attract more students to come to Carnegie Mellon

***B. What question(s) do you propose to study?***

Our survey would ask questions about the student’s current involvement on campus. Questions would include which factors student’s find most influential in choosing groups to participate in:

* Friends involved
* Advertising
* Major
* Past participation
* Career goals
* Dorm activities
* What main mode of contact do you use for involvement (email, facebook, text, call, in person)
* Do you live on or off campus? Have a car?
* Nationality/International Status?

We would also ask about a student’s grade level, hometown and gender to see if these are confounding variables. We can do additional research into the size of students’ virtual social networks versus “real” social networks. How do you mainly interact with others: classes, clubs, social life, office hours/study groups, other?

***C. Previous Research***

This is a website that allows students to rate their social lives by major. There

is no analysis, it is just raw data but it shows the affect of major on social life for

Carnegie Mellon students. - **Maggie Soderholm**

Carnegie Mellon University. *Break Down of Social Life at Carnegie Mellon* [Data File]. Retrieved from http://www.studentsreview.com/specific\_detail.php3?uid=1150&f=Social&d\_short=CM&d\_school=Carnegie+Mellon+University

This article from the Tartan tells how the new school mascot, the Scotty, has improved

attendance at school sporting events and other on campus activities.

Porter, Sabrina. (September 15, 2008). Scotty brings out spirit around campus. *The Tartan*. Retrieved from http://thetartan.org/2008/9/15/news/- **Bruce Jackson**

“A Journey Through Adult Student Involvement on Campus” by Wendy Morgan explores how involvement has a positive influence on development and learning. Additionally, it leads to a greater satisfaction with the college experience overall. - **Ellie Gurary**

Morgan, Wendy. A Journey Through Adult Student. Retrieved from

<http://www.colostate.edu/Depts/SAHE/JOURNAL2/2001/Journey.htm>

This article explains the role that residential housing has on students' involvement in the university and the university's location.  The article shows that students tend to not involve themselves in the community at large and delves into how the community perceives them.-**Chrissy Swierkocki**

Seasonal Sub-Communities: The Impact of Student Households on Residential Communities

Kenyon, Elizabeth L. (Jun., 1997). Seasonal Sub-Communities: The Impact of Student Households on Residential Communities. *The British Journal of Sociology*
Vol. 48(2). Retrieved from

<http://www.jstor.org/stable/591753?&Search=yes&searchText=involvement&searchText=university&searchText=student&searchText=campus&list=hide&searchUri=/action/doBasicSearch%3Facc%3Don%26Query%3Dcampus%2Bstudent%2Binvolvement%2Buniversity%26gw%3Djtx%26acc%3Don%26prq%3Dcampus%2Bstudent%2Binvolvement%2Bengagement%26Search%3DSearch%26hp%3D25%26wc%3Don%26acc%3Don&prevSearch=&item=1&ttl=8004&returnArticleService=showFullText>

This article explains the role that students from different countries play in the university community and how their presence affects the experience of other students-**Jen Sung**

Chun-Mei Zhao, George D. Kuh and Robert M. Carini. (Mar. - Apr., 2005). A Comparison of International Student and American Student Engagement in Effective Educational Practices.

*The Journal of Higher Education*. Vol. 76(2). Retrieved from

<http://www.jstor.org/stable/3838723?&Search=yes&searchText=university&searchText=student&searchText=engagement&list=hide&searchUri=/action/doBasicSearch%3Facc%3Don%26Query%3Dstudent%2Buniversity%2Bengagement%26gw%3Djtx%26acc%3Don%26prq%3Dcampus%2Bstudent%2Binvolvement%2Buniversity%26Search%3DSearch%26hp%3D25%26wc%3Don%26acc%3Don&prevSearch=&item=3&ttl=18975&returnArticleService=showFullText>

***D. Sampling Frame***

Undergraduate Students in randomly sampled classes. We will use a simple random sampling without replacement method to select students to take our survey. Attached are the classes we randomly selected through a random number generator. There are three classes for each college for a total of 18 classes. We plan to survey all the students in these 18 classes.

***E. Target Population***

All Carnegie Mellon Undergraduate Students. There can be a coverage error if a large part of the class does not show up that day, or a non-response error if they do not fill out the survey. A measurement error may occur based on the questions asked, and a natural tendency to inflate certain values (how much social time one spends weekly); we can account for that by modeling appropriately. If we correctly implement a random sample, we should minimize sampling error to negligible amounts. Also, coverage error can be avoided with cooperation of professors in encouraging the survey.

***F. Mode of Data Collection***

In-class surveys of randomly selected classes from the undergraduate course offerings. We felt that this was the best method of collecting data because it will minimize errors and lead to the best random sample of undergraduate students with the highest response rate.

***G. Variables of Interest***

* Friends involved
* Advertising
* Major
* Past participation
* Career goals
* Dorm activities
* What main mode of contact do you use for involvement (email, facebook, text, call, in person)
* Do you live on or off campus? Have a car?
* Nationality/International Status?

***I. IRB Form***

Attached.

***J. Confidentiality***

Confidentiality is a matter of trust, and our data collection process will include gathering personal information from our respondents. This information, however, will be unbeknownst to us as surveyors and, therefore, will not be released in conjunction with the survey results. Furthermore, we will protect the identities of those who take part in the survey by assuring anonymity. Finally, we can attest that the particular course names and numbers included in the survey will not be disclosed.

***K. Sampling Scheme***

Undergraduate Students in randomly sampled classes. We will use a SRS without replacement sampling scheme in order to conduct our survey. We will randomly select classes from this website: < <https://enr-apps.as.cmu.edu/open/SOC/web/images/documents.htm>> through a random number generator in R. We will email the respective professors for permission to come in and administer the survey (hopefully at the end of class, so as not to disrupt the lecture). Once we gain permission, we will be conducting self-administered pen-and-paper questionnaires that the students can take.

 We decided on SRS without replacement because we would like to give equal chances to all the undergraduate classes (minus the graduate classes). Since our target population is Carnegie Mellon Undergraduates, it would be best to not stratify and give all the undergraduates an equal chance. We chose to do SRS without replacement since once we choose a class for our sample we are not replacing the chosen class back into our random number generator.

***L. Questions***

See Attached Document

***M. Sample Size***

 We assumed that there 5,705 CMU undergraduates on campus this year (which was given to us in lecture). We decided on a 40% response rate (to oversample) and 5% margin of error (p).

Standard Deviation = $\sqrt{(0.5)(0.5)}$ = 0.50

N0 = $\frac{(1.96)^{2}(0.25)}{0.0025}$ = 384.2 = 385

N0 = Sample size for SRS with replacement

BUT since we’re conducting SRS without replacement:

N ≥ $\frac{5705\* 385}{5705+385}$ = 360.6 = 361

N = Sample size for SRS without replacement

We will inflate the sample size by 20% because we are doing clustered sampling:

 361\*1.2=433.2

Because of 40% response rate, we will divide the new N by that:

433.2/0.4 = 1083

We need to sample 1083 CMU undergraduate students for our survey.

Since we assumed 40% response rate, we believe that this is a good sample size. However, if our actual response rate is different from our hypothetical one, then we will adjust our sample size to reflect that.

We are assuming that there are at least 35 students per class at CMU (accounting for no shows and small discussion classes). There may be lectures that we may be sampling, but there also may be classes where there could be fewer than 30 students. So, with that low average, we are randomly choosing 31 classes. If we see that that is not the case, we will adjust the number of classes accordingly. Here are the 31 classes that we randomly chose (with discretion) to be in our sample: See Attached