

1. Proposal I.3 - On Campus

Spatial and Analytical Study of Student Housing at Carnegie Mellon

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A. Topic

Carnegie Mellon is an urban university with many students living off-campus. Finding housing off-campus is generally left up to individual students, who take into account many variables when choosing a house or apartment. Many students list their off-campus addresses in the C-Book directory published by Alpha Phi Omega (APhO). We are interested in investigating the possibility of a correlation between where students choose to live and what they choose to study. The results of the survey will be a valuable tool that would be useful to the university for the planning of shuttle routes, campus police coverage, and future housing projects. Students would also be able to use the survey results to find neighborhoods in the city that are popular with other students like themselves.

B. Questions of the study

We are seeking to answer questions about the dynamics of student housing at CMU. Some questions that we want to investigate include:

- Is there a correlation between address (either on-campus building or off-campus neighborhood) and major? Do students in certain majors cluster together?
- What is the distribution of CMU students by neighborhood?
- What off-campus areas are most popular with undergraduates? With graduate students?
- What percent of off-campus students live within X miles of a shuttle or bus stop.
- What is the average commute distance for undergraduates? For graduate students?

C. Research

1. Title: The Causal Effect of Campus Residency on College Student Retention
Author name(s): Lauren T. Schudde
Date: Summer 2011
Source: *The Review of Higher Education*, Volume 34, No. 4, pp. 581-610
http://muse.jhu.edu/journals/review_of_higher_education/v034/34.4.schudde.html
Summary: Assessing demographics and certain characteristics among those college students who live on and off campus, particularly how campus residency affects retention of students. Our survey could draw on some of the insight for possible survey measures and execution in looking at campus residency and characteristics among CMU's student population.
Team member: Terra Mack
2. Title: Campus Housing Construction and Renovation
Author name(s): James C. Grimm, Norbert W. Dunkel
Date: June 1999
Source: Full-length book published by *The Association of College and University Housing*
Summary: This book investigates the relationship between college students and their physical environments by specifically looking at 42 projects in 36 different universities. Housing characteristics studied in the book could be incorporated into the questions asked in our survey.
Team member: Shannon Lauricella

3. Title: Housing: A Financial Look
 Author name(s): Michael R. Fitzgerald
 Date: September 25, 2006
 Source: CMU's *The Tartan*
http://thetartan.org/2006/9/25/news/housing_realestate
 Summary: This article, published in Carnegie Mellon's own newspaper, specifically highlights some of the points we want to survey students on-campus. It talks about the price differential in living on-campus versus off-campus as well as the nature of housing prices in close proximity to Carnegie Mellon. Most importantly, this article shows that CMU students have an interest in their housing options, making our suggested survey more relevant.
 Team member: Alejandra Munoz Munoz

4. Title: A Quasi-Experimental Approach to Estimating the Impact of Collegiate Housing
 Author name(s): Ryan Yeung
 Date: 2010
 Source: <http://student.maxwell.syr.edu/ryyeung/college.doc>
 Summary: Yeung attempts to identify the relationship between on/off-campus housing with GPA and social and academic integration. This is relevant to studying how areas of academic study play into college housing and proximity to campus.
 Team member: Ariel Liu

5. Title: The Disengaged Commuter Student: Fact or Fiction?
 Author name(s): George D. Kuh, Robert M. Gonyea, Megan Palmer
 Date: 2001
 Source: <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.182.9974&rep=rep1&type=pdf>
 Summary: This paper present the findings of a survey that wanted to answer if students that live off-campus are less engaged with studies compared to students that live on campus. Engagement is defined as an important part of the academic experience and it is believed that off-campus housing interferes with this process.
 Team member: Sam Lavery

D. What is the sampling frame? What population or populations do you plan to sample from? (This is the question many tend to miss).

The sampling frames comes from the administrative records of the university registrar, John Papinchak, and the C-book. We have been in communication with John Papinchak who has agreed to provide the administrative records as long as we maintain the confidentiality of students' information. We plan on looking at housing information from undergraduate and graduate students enrolled at Carnegie Mellon.

E. What is the target population? To what population(s) do you wish to make inferences?

The target population is undergraduate and graduate students enrolled at CMU. It is the same population that we are looking to make inferences about from our survey. The target population differs from the sampling frame in that the registrar is only providing a sample of students enrolled at CMU. Thus, we won't have access to information for the entire population enrolled. Therefore, our sampling frame will include only those students who comply with the registrar's office or volunteered their information to CMU.

What possible sampling and non-sampling errors could arise in the survey that you plan to conduct? Explain each possible error, how it could occur, and how you suggest tackling it.

This survey could encounter coverage error if the registrar's records are incomplete. The target population coverage depends on the completeness of the registrar office records. When a student leaves on-campus housing, they are asked to update their address on SIO but many probably fail to do so. Additionally, some people may change addresses again and not update this information. If we do not have enough complete records or information for students then we might need to interact with students or use another type of less invasive method of survey. One solution to this problem would be to find the ratio of current students living in on-campus housing and weight our sample to account for any discrepancies. We could easily find the correct ratio by dividing the number of students living in dorms by the total student body.

F. What is the mode of data collection? How do you plan to carry out the survey (e.g., by telephone, e-mail) and why?

We plan to collect the data from administrative records provided by the office of the registrar. However, if the data set provided is too large, then we plan to randomly select a representative subsample of students to "survey". We believe surveying data records is a more accurate and reliable method in comparison to directly asking students. This mode of collection and survey can help reduce high non-response and coverage errors.

G. What variables

We want to study the following variables:

School (MCS, CIT, HSS, etc)

Major

Location (address)

Class Year / level (graduate, undergraduate)