Analysis of the Off-Campus Housing Search for CMU Students

36-303 | Team E
ZhiJun (Z) Huang, Cen (Kayco) Zhou, Jiaxi (Jessica) Cui, Terence Kwak, Emily Lee

TABLE OF CONTENTS

***Parts subject to change left as place holders or empty.**

Introduction

Research Question and Motivation

The purpose of this study is to identify CMU student housing preferences along with the most common difficulties that CMU students currently face in searching for off campus housing. Finding off-campus housing, a residence with less certainty and safety compared to common homes and school dormitories, is essentially the first independent search for the majority of college students. It is not hard to associate this searching experience with difficulty and frustration. Armed merely with such tools as "Craigslist.org", "Rent.com", and "CMU Misc. Market", CMU students can be jeopardized, especially by the lacking of efficiency, safety, and validity of information. This survey is intended to identify the existing difficulty and provide a strong basis for viable resolutions. Moreover, we are interested in the students' preference in off-campus housing. The result of this survey will be of great interest to many, such as CMU Student Affairs, property managers, college students and college student's parents.

Citations to Related Literature

We found several articles and studies relevant to our research question. Similar to our study, Duke University has conducted multiple off campus housing surveys, focusing on crime rates and housing conditions.[1] From this survey, Duke University has been able to provide students and other community members with information about different off-campus housing areas. Georgetown University has also conducted a housing survey to learn more about the trends and experiences of finding off campus housing.[2] Additionally, articles have been written concerning student's advice in the housing search and housing preferences. "Students share stories, advice about off-campus housing" by Victoria Ison is an article supplemented with various interviews concerning student advice in the off-campus housing search.[3] "Students Don't Often Consider Fire Safety", from the Connecticut Post by Linda Conner Lambeck and "Off Campus, with Elbow Room," by Joyce Cohen discusses important features that should be looked for by college students when looking for off-campus housing.[4]

Quick Summary of Main Results

This section will give a brief summary of our results

1. http://oip.georgetown.edu/isss/OFHsurvey.pdf
2. http://www.studentaffairs.duke.edu/communityhousing/resources/neighborhood-reports
3. http://www.bsudailynews.com/mobile/students-share-stories-advice-about-off-campus-housing-1.2684146

http://www.ctpost.com/local/article/Students-don-t-often-consider-fire-safety-2755535.php

don't forget to change to APA reference style.

please add page #'s to every page!

Methods

Target Population and Sample Collection

Our target population consisted of Carnegie Mellon University undergraduate and graduate students on the Pittsburgh campus. In particular, our target population is CMU students who have searched, are searching, or could potentially be interested in searching for off campus housing. We are limiting the population to just those who have searched or might search for off campus housing because those who are not interested in searching for off-campus housing will not give us the answers we wish to be answered in researching about preferences and difficulties in off campus housing search. In order to target this specific population, the first question of our survey asks respondents if they live off campus or would consider living off campus. If a respondent says no to both, they are taken to the end of our survey.

Our sampling frame is undergraduate and graduate students in the Carnegie Mellon C-Book. Our target population might be slightly different from our sampling frame, as we were not able to check if all students are included in the C-Book and not all students in the C-Book reside on CMU's Pittsburgh campus. To ensure the randomness of the sample, we generated series' of three random numbers using R. The minimum and maximum bounds were set to ensure that every student had an equal chance of being selected. The first number corresponds with the page number of the C-Book, the second with the column and the third with the name in that column.

We used stratified random sampling, breaking undergraduate and graduate students into different strata. We decided not to break down the undergraduate student population by year, as undergraduates have similar off campus housing options, preferences, and means of finding off campus housing. Rather, have chosen to break the student population into undergraduate and graduate students, as there are many differences in what graduate and undergraduate students are looking for in off campus housing and how they go about looking for such housing. The first difference is that graduate students are required to find off campus housing, while undergraduate students can live on or off campus. Graduate and undergraduate students also may have different financial situations. Additionally, graduate students and undergraduate students may look for different features in an off campus house or apartment.

is there a requirement that freshmen live on-campus? does this affect any of your design decisions?

We manually found our sample by going through the C-Book with our list of random numbers and wrote down each selected person's andrewID. There was potential for slight error in our sampling method due to human error in finding the correct name in the C-Book and writing down the correct andrewID. With a margin of error of .08, we determined we should have a sample size of 147 undergraduate students and 109 graduate students (see Appendix A).

We have calculated a sample size as follows: We looked at the question, "When looking for a place to live off-campus, which method would you be most likely to use or which method have you used the most?" This question has four choices, housing and dining /

housing fair, Craigslist or other online agents, word of mouth, and other. We believe that Craigslist and other online agents will be the most popular response based on a small group survey. Therefore, we chose to code this problem as a yes or no type question, where "yes" would be coded as using Craigslist or online sources, and "no" would be coded as using housing and dining / housing fair, word of mouth, or other. For the undergraduate strata, we set the probability of "yes" equal to 0.5 based on our small group survey. For the graduate strata, we set the probability of "yes" equal to .75, as graduate students, particularly first year graduate students might be new to the area and have less access to the other options, like word of mouth. From the CMU Factbook, we found that there are 5,843 CMU undergraduate students and 5,670 CMU graduate students (excluding branch campus students). Based on the calculations below, we decided that the largest reasonable sample sizes are 147 undergraduate students and 109 graduate students, based on a margin of error of 0.08.

it looks like you hit the target 0.08 ME with separate SRS's in each sample rather than an overall stratified sample. That's ok, but say so explicitly.

Assuming a response rate of 25%, we planned to take a random sample of 588 undergraduate students and 436 graduate students ($147*4 = 588$ undergraduate students and $109*4=436$ graduate students). The random sample that we generated consisted of 557 undergraduate students and 415 graduate students. Our calculated sample size and selected sample size varied slightly due to sampling errors. For example, not all columns had the same number of student's listed, therefore, there were some lists of randomly generated numbers that did not correspond with a student's name.

Next, we emailed the randomly selected respondents a notification that he/she is selected to enter the survey (see Appendix B). This notification included a description of the survey, stating its purpose, raffle prize information and appropriate information such as privacy protection and respondents' right to not to respond the survey (see Appendix B). To incentivize our respondents, we are giving out two iPod shuffles in a raffle. We designed the raffle to maintain confidentiality. After taking the survey, the respondent is given an id number and key. Once the survey is closed we will randomly generate two of the id numbers. We will email our random sample with the winning id numbers and the respondents must respond via email with the key to claim to prize.

This is a great idea. I really like it

The survey itself was pretested on 11 students and amendments were made. The link to the survey was sent in a second email and follow up email that was sent out a week later (see Appendix B). Survey takers were able to click on the link, which took them to the survey homepage (See Appendix B). From the homepage, respondents were able to begin the survey.

(Final response rates will be included once survey is closed)

Questionnaire

The questionnaire is divided into different sections. These sections are divided to accurately capture the response that we wish to measure. On the website, the first sets of questions are about interest in off-campus housing and where people live. For Example, by having questions like, "Which Pittsburgh university do you belong to?" we see that it filters out students of our non interest. This is the important set of questions in that it will

Hmmm, if they are all from Cbook won't they all say CMU? If not, interesting...

differentiate those who are interested in off-campus housing and those who are not. For the survey, we would not need to measure who are not interested in off-campus housing. Therefore, these intro questions will enable us to get the data we would like. Afterwards, we see a general information section. This section will help us stratify the sample between undergraduate, and graduate. This way we will be able to see the different attitude between undergraduate and graduate towards off-campus housing search. After asking for demographic information, we will be able to see the different characteristics in the housings. The specific examples are apartment and house. The question that we have is "How important are the following things in affecting your decision to choose a particular house or apartment?" We argue that this will enable people to better categorize their preference and important characteristics. We will be able to see which and what is the most important factor that people consider. Overall, the survey questionnaire is designed not to be boring but to be engaging and make people think back upon their own housing search. The result, of this questionnaire will shed light on the important aspect and the portion of people looking for off-campus housing.

We will not be using any identifiers when collecting data from respondents. However, since participants will take our survey in the location of their choosing, it will be up to the participants to ensure their privacy while responding. Data will be collected through the use of an online survey, hosted on ZhiJun's team member's website, franscape.com. The raw data we collect will be stored online and will only be accessed by the Team E members and the SURG team. Since identifiers are not used, we do not disclose any of the respondent's information.

Post Survey Processing
Given that the questionnaire is designed to only accept complete responses, the most useful form of post survey processing to use for the purpose of this study is weighting. An initial look at the data prompts us to use post-stratification weighting in order to better reflect proportions of students in the general CMU body. For example, the female-to-male ration among undergraduates in the sample (Appendix D, Table 2) significantly differs from that found in the CMU Factbook (49.2% and 49.2% in sample versus 42.0% and 57.9% in population). Most notably, the distribution of residency status among undergraduates, which is a key demographic data for this study, is skewed towards on-campus students. The proportion of undergraduates living off-campus in the sample is lower than it is in the target population (25.4% versus 36.5%). Implementation of the new weights found the mean satisfactions by platform to change by [x units].
-will be updated once final data are collected

Please also discuss response rates, and how/whether they changed through the course of data collection. Do non-respondents fit any sort of pattern? I'm especially curious about all this for your project.

would be interesting to break nonreseponse down into

- how many didn't go to survey site

- of those who went to survey site, how many didn't complete survey.

Results

Our primary research interest is to identify the difficulties CMU students have experienced in searching for off-campus housing and to suggest possible solutions to improve students' off-campus housing research experience. To meet our research purpose, we take students' satisfaction regarding their housing search experience as our primary response variable. Specifically, we would like to investigate the associations between students' satisfaction and the following variables:

- Searching platforms
- Attributes of searching platforms
- Type of off-campus residency of interest
- Class levels: Undergraduate vs. Graduate

*Please refer to Appendix D for graphs, outputs, and tables.

Satisfaction vs. Platforms

For students who have searched for off-campus residencies, we would like to know whether satisfaction level is different among search platforms. Based on our survey data, we created a boxplot of satisfaction by platforms. We observe that word-of-mouth gives the highest satisfaction level, followed by other, online, and Housing and Dining. To further confirm our observation from the boxplot, we conduct a Tukey Multiple Comparisons of Means test to see if the difference of satisfactions with respect to any two platforms used is significantly different from zero. Our research hypothesis is summarized below.

Null Hypothesis: Mean difference between any of the variables is zero.
Alternative Hypothesis: At least one of the differences is different from zero.

The result shows that none of platforms gives a significantly higher expected satisfaction than other platforms on a 95% confidence level.

Satisfaction vs. Attributes of Searching Platform

After examine the satisfaction with respect to specific platform, we then change our perspective and focus on the association between satisfaction and attributes of the platform. We include four attributes: accessibility, adequacy, accuracy, and likelihood of success.

From Figure 2, we are not surprised to see that all the attributes are positively correlated with satisfaction. However, the correlation is not very strong. The highest correlation coefficient is only 0.51 (for both accuracy and adequacy). We can also see there is an issue of multicollinearity between the attributes. Despite the multicollinearity in the preliminary data, we ran two regressions

As seen in Output 1, the first model plots the four attributes against satisfaction. Adequacy and likelihood of success are significant in predicting satisfaction (at an alpha level of 0.5). However, the adjusted R-squared is only 34.86% (i.e. the attributes do not predict satisfaction very well).

We then included the variable platform in the second model. We used the category "online" of the platforms available as a reference group because it is the largest group. As we observe in output 2, adequacy and likelihood of success remained significant. The adjusted R-squared increased slightly more than 5%.

From the previous section, we showed that "none of platforms gives a significantly higher expected satisfaction than other platforms on a 95% confidence level". However, in this section, we can see that platform helps explain the level of satisfaction. We will need to collect more data to draw more precise conclusions.

Expectation of Searching Experience

For people who have not searched for off-campus housing, we are interested in what platform they would most likely to choose and how they consider those platforms.

both of these are interesting results, esp. the second one...

Most people with no experience searching for off-campus housing tend to choose Housing and Dining (27.3%) and Word-of-mouth (27.3%) as the primary information source. From the boxplots in Appendix C, we see that people seem to consider word-of-mouth and online platforms most accessible. Housing and Dining is considered to provide the most adequate and accurate information. Students consider Housing and Dining, online platforms, and word-of-mouth almost equally likely to succeed.

Students who have not searched for off-campus housing yet seem to have a very high expectation from Housing and Dining. However, students who have searched before indicate low satisfaction with Housing and Dining.

*Note: The result section is subject to change with more data. More tests will be run once the survey is closed. *

Section 4: Discussion

Discussion of Research Questions

For this survey, we were looking at two main questions related to the off campus housing search by Carnegie Mellon University students. First, our survey asked about CMU students' means of searching for off campus housing, what searching methods students have used, and their experience with such housing search methods. Second, we looked at CMU students' off campus housing preferences and what students look for when searching for off campus housing.

-Briefly describe results. This section will be based on the results and will be revised once our survey is closed.

Expected and Unexpected Results

-This section will be based on the results and will be written once our survey is closed.

Strengths

We had strengths that helped us decrease error and strengthen our survey results. First, we were able to decrease non response error through offering an incentive for taking our survey. We also required respondents to answer all questions once they began the survey, which helped minimize error and improved accuracy in our results. Finally, our survey questions were pretested on a diverse group. Following recommendations from our pre-testers, we were able to clarify multiple points in our survey questions so that they could easily be understood by a wide range of audiences. In addition, we were able to modify our survey so that it explored the research question more accurately and completely.

-This section will be revised once our survey is closed

Weaknesses

We had weaknesses mainly in our survey questionnaire and in our sampling method. For the survey, we had a few open response questions. The open response questions were difficult to code, making it difficult to truly capture the respondent's answer. Our sampling weaknesses came from sampling using the C-book. Although we generated random numbers using a computer, we built our sample by going through the C-book manually and entering the selected sample's email addresses in a spreadsheet. As we were dealing with a large set of randomly generated numbers, our method of extracting contacts from the book was highly subject to human error. 11 of the email addresses were unable to be found when sending out emails.

-This section will be revised once our survey is closed

Recommendations for Future

Based on our strengths and weaknesses, we have two main recommendations for future groups. First, if taking a sample of the Carnegie Mellon student population, we

recommend finding an online or computerized way to obtain the sample. Automating the process of generating a sample will save time, as well as reduce the human error of doing the same task. Second, when working with human samples, researchers should expect delays in constructing and executing their study, relative to studies with non-human objects. Extra effort must be made to ensure that the study is compliant with IRB specifications, and all members of the research team must have completed ethics training from CITI or equivalent programs.
-This section will be revised once our survey is closed

Take-home Messages
-This section will be based on the results found once our survey in closed.

Appendix

Appendix A – Sample Size

Undergraduate Students:
p=0.5
standard deviation = [p(1-p)]0.5=0.5
n' = (Za22)(SD2)(ME)2
n' = (1.962)(0.52)(ME)2
n (N)(n')(N + n')
n (5843)(n')(5843 + n')

MOE cases:
ME = .06: n = 255.12 → 256
ME = .07: n = 189.64 → 190
ME = .08: n = 146.30 → 147
ME = .09: n = 116.20 → 117

Graduate Students
p=0.75
standard deviation = [p(1-p)]0.5=0.43
n' = (Za22)(SD2)(ME)2
n' = (1.962)(0.432)(ME)2
n (N)(n')(N + n')
n (5670)(n')(5670 + n')

looks like you are doing separate SRS sample size calculations in each stratum so that the within-stratum ME will be 0.08 or less.

your overall ME (when you combine strata, using pre-stratum weights) should be somewhat smaller than 0.08

MOE cases:
ME = .06: n = 190.67 → 191
ME = .07: n = 141.34 → 142
ME = .08: n = 108.85 → 109
ME = .09: n =   86.36 → 87

Total:
ME = .06: 256 + 191 = 447
ME = .07: 190 + 142 = 332
ME = .08: 147 + 109 = 256
ME = .09: 117 + 87 = 204

* We chose ME = .08, as it's the smallest ME we can have without making our total sample size too large to handle for the scope of this project.

Appendix B – Emails and Consent Form

Email 1 (promotional):

Subject: Housing Survey with iPod Touch Raffle

Dear CMU Student,

We are interested in **improving the off-campus housing search** through our project in 36-303, a statistics class.

We have randomly selected undergraduate students and graduate students to help us in **identifying the difficulties and preferences in the off-campus housing search** through an online survey.

Each one of your responses is valuable to us and crucial to our results. **By completing our survey, which takes less than 10 minutes, you will automatically be entered into a raffle to win an *iPod touch***. There will be **two** winners.

You will be receiving the link to the survey via email within next few days. More information concerning the project and the raffle can be found at the following link: http://promos.franscape.com/houselife/

Thank you,
Jessica Cui (jcui@andrew.cmu.edu)
ZhiJun Huang (zhijunh@andrew.cmu.edu)
Terence Kwak (tkwak@andrew.cmu.edu)
Emily Lee (erlee@andrew.cmu.edu)
Cen Zhou (cenz@andrew.cmu.edu)

Email 2 (with survey):

Dear CMU Student,

As stated in our previous email, we are interested in improving the off-campus housing search for our project in a statistics class, 36-303.

To ensure the success of this project, we need your help in filling out the following survey: http://promos.franscape.com/houselife/

By completing our survey, which takes less than 10 minutes, you will automatically be entered into a raffle to win an **iPod touch.** There will be two winners who will be announced in the next two weeks.

If you have any questions or concerns about the survey, please feel free to contact us via

email.

Thank you,
Jessica Cui (jcui@andrew.cmu.edu)
ZhiJun Huang (zhijunh@andrew.cmu.edu)
Terence Kwak (tkwak@andrew.cmu.edu)
Emily Lee (erlee@andrew.cmu.edu)
Cen Zhou (cenz@andrew.cmu.edu)

Email 3 (Follow up email):

Dear CMU Student,

Thank you for those who have completed the Off-Campus Housing Survey. Your contribution means a lot to us!

For those who have not completed the survey, the survey will be closed in less than one week (INSERT DATE). The link to the survey is as follows:
http://promos.franscape.com/houselife/

As a reminder, you have a chance to win an iPod touch upon the completion of the survey.

Thank you for your time!

With much appreciation,

Jessica Cui (jcui@andrew.cmu.edu)
ZhiJun Huang (zhijunh@andrew.cmu.edu)
Terence Kwak (tkwak@andrew.cmu.edu)
Emily Lee (erlee@andrew.cmu.edu)
Cen Zhou (cenz@andrew.cmu.edu)

Consent Form:

This survey is intended to identify existing difficulties and preferences in off-campus search among college students in Pittsburgh. Ultimately, from the survey, we wish to find possible ways to improve the off-campus housing search process.

The selected participants will be provided the link for the survey. The survey should take less than 10 minutes. After the completion of the survey, the respondent is entered into a raffle for the chance to win an iPod touch. There will be two iPod touches given to two different winners of the raffle. The raffle will be a fair and random drawing.

Refusal or discontinuation of the survey will only take away the opportunity to enter the raffle. However, entitlement to other rights or privileges remains the same.

After sending the survey link to the sampled group, the survey will be completely anonymous and conducted on an external website. No personal information will be extracted and all sensitive information will be kept confidential. See further details and specifications at (INSERT LINK).

If you have any questions concerning the study or confidentiality, please contact us via the following emails:

ZhiJun Huang
zhijunh@andrew.cmu.edu

Emily Lee
erlee@andrew.cmu.edu

Jessica Cui
jcui@andrew.cmu.edu

Terrence Kwak
tkwak@andrew.cmu.edu

Cen Zhou
cenz@andrew.cmu.edu

Appendix C – Questionnaire (Only a few snapshots for now. Will formulate in complete text in the final report. Complete Version Available at http://promos.franscape.com/houselife/)

Part 0: Introduction

0.1. Which Pittsburgh university do you belong to?   [Choose.   ▼]

0.2. Please specify your home zip code.   [   ]

0.3. Do you currently reside in campus housing? (i.e., anything that requires a university housing contract, whether physically on- or off-campus)   yes   no

Next

Part 1: General Information

1.1. What is your gender?   male   female   other

1.2. Please specify your ethnicity.   [Choose.   ▼]

1.3. Please specify your level of academic study   undergrad   masters   doctoral

1.4. Please specify your year of academic study   [Choose.   ▼]

1.5.1. Do you hold an international student VISA?   yes   no

1.6. Do you have regular access to a car in Pittsburgh?   yes   no

Previous   **Next**

Part 2: Housing Search Discussion

2.1. Have you tried searching for off-campus housing?   yes   no

When looking for a place to live off-campus, which method have you used the most?

[Choose.   ▲▼]

For the above method that you chose above, please rate that method according to the following attributes (1 = "disagree strongly", 5 = "agree strongly").

	1	2	3	4	5
It was easy to use/accessible.	1	2	3	4	5
It provided adequate information.	1	2	3	4	5
It provided accurate information.	1	2	3	4	5
I successfully found residence.	1	2	3	4	5

How would you rate your overall experience of searching off-campus housing? (1 = "awful", 5 = "awesome").   1   2   3   4   5

What are some other features you would look for in a website that specializes in the housing search process?

Part 3: Desired Housing Attributes

Which of the following do you prefer to live in?   house   apartment

Would you prefer to live by yourself or share the residence with others?   alone   shared

Which of the following do you prefer to live with?   Friends   Acquaintances   Unfamiliar people   Don't care

Ideally, how many other people would you prefer to share the residence with?   [   ]

Would you prefer to share a room with a roommate or have a single?   Shared   Single   Don't care

If you decided to look for off-campus housing, up to how much are you willing to pay for an off-campus housing per month? $ [   ] to $ [   ]

What is your preferred means of monthly rent payment?   Cash   Check   Credit Card

What is your preferred method of monthly rent payment?   Mail   Online   In-person
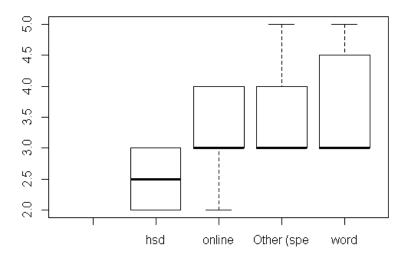
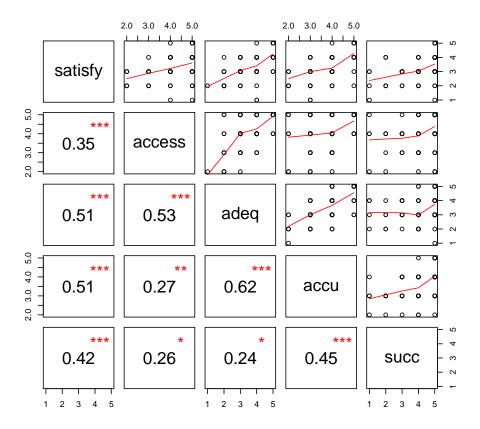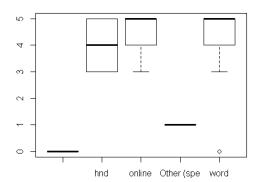**Previous**   **Submit**

Appendix D – Results: Graphs/Outputs/Tables nice initial analyses

Satisfaction by platforms

Figure 1

Figure 2

Figure 3: (a)-(d)

Output 1: formula = satisfy ~ access + adeq + accu + succ

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.54595    0.41785   1.307   0.1949
access       0.08109    0.09577   0.847   0.3996
adeq         0.24643    0.11226   2.195   0.0309 *
accu         0.21495    0.12280   1.750   0.0837 .
succ         0.16991    0.07154   2.375   0.0198 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6573 on 84 degrees of freedom
Multiple R-squared: 0.3782, Adjusted R-squared: 0.3486
F-statistic: 12.77 on 4 and 84 DF,  p-value: 3.639e-08
```

Output 2: formula = satisfy ~ access + adeq + accu + succ+word+hsd+other

```
Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  0.75351    0.40783   1.848   0.0683 .
access       0.09016    0.09312   0.968   0.3358
adeq         0.22204    0.10995   2.020   0.0467 *
accu         0.19129    0.11903   1.607   0.1119
succ         0.13988    0.06961   2.009   0.0478 *
word         0.32242    0.18137   1.778   0.0792 .
hsd         -0.88152    0.38064  -2.316   0.0231 *
other        0.27267    0.26332   1.035   0.3035
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.6311 on 81 degrees of freedom
Multiple R-squared: 0.4471, Adjusted R-squared: 0.3993
F-statistic: 9.358 on 7 and 81 DF,  p-value: 1.896e-08
```

Research Test: Difference in mean satisfaction by platforms
Table 1:Tukey Multiple Comparisons of Means

Tukey multiple comparisons of means			
	diff	lwr	upr	p adj
online-hsd	0.61111111	-0.9987680	2.220990	0.7284992
Other (spe-hsd	1.16666667	-0.8050245	3.138358	0.3851386
word-hsd	1.12500000	-0.5825346	2.832535	0.2939029
Other (spe-online	0.55555556	-0.7913659	1.902477	0.6753656
word-online	0.51388889	-0.4038834	1.431661	0.4329922
word-Other (spe	-0.04166667	-1.5039120	1.420579	0.9998255

Table 2:Demographics: Undergraduate   very useful to have this

Current Residency
  Off-campus Housing   25.4%
  On-campus Housing   74.6%
Gender
  Female   49.2%
  Male   49.2%
  Other   1.6%
Ethnicity
   African American   4.7%
  Asian   36.5%
  Caucasian   41.2%
  Hispanic   4.7%
  Other   12.6%
   Asian/Caucasian   3.2%
   Ewok   ?? *smile*   1.58%
   Indian   4.7%
Grade
  Freshman   28.6%
  Sophomore   30.1%
   Junior   20.6%
   Senior   15.9%
   Fifth   4.7%

  U.S. students   88.9%
  International Students   11.1%
Access to Car
  Yes   17.4%
  No   82.6%
Experience of searching off-campus Housing
  Yes   49.2%
  No   50.8%
   Platform most likely to choose
    Housing and Dining   27.3%
    Online   22.2%
    Word-of-mouth   27.3%
     Other   3.0%

Table 3:Demographics: Graduate

Current Residency	
Off-campus Housing	98.3%
On-campus Housing	1.7%
Gender	
Female	42.4%
Male	57.6%
Other	1.6%
Ethnicity	
African American	5.1%
Asian	33.9%
Caucasian	49.2%
Hispanic	8.5%
Other	3.3%
Asian/Caucasian	1.65%
Indian	1.65%
Class Level	
Masters	35.6%
Doctoral	64.4%
U.S. students	57.6%
International Students	42.4%
Access to Car	
Yes	45.8%
No	54.2%
Experience of searching off-campus Housing	
Yes	94.9%
No	5.1%
Platform most likely to choose	
Housing and Dining	1.7%
Online	74.6%
Word-of-mouth	16.9%
Other	6.8%

Appendix E – Screenshot of Website

looks great

Franscape
Sponsored Promotions

Enter for your chance to win electronic prizes from the "HouseLife ~ Off-Campus Housing Study" project, in association with Carnegie Mellon University and the eSite Entrepreneurship Fund

Contest details. A total of *two* individuals, from Carnegie Mellon University, University of Pittsburgh, Carlow University, or Duquesne University, will be selected to each win one of two Apple iPod Touch devices (valued at $199.99 each). This is in connection with the *Student Housing Study* initiative, launched in 2011, as a graduate research project at Carnegie Mellon

Entry directions. Take our online survey; click the button below.

The prizes will be two 8GB iPod touches. Two respondents will win one of these prizes, determined by a fair and random drawing. Each respondent to the survey will be granted an opportunity to enter this raffle. Each person may only respond to the survey once. Upon the completion of the survey, the respondent will receive a User ID number and a randomly-generated validation key.

In order to claim your prize, you must present your ID numbers with the corresponding key. We are not responsible for lost keys and will not attempt to validate the entry otherwise.

The survey will be closed (on 04/19/12 at 11:59pm ET). After this, a list of all ID numbers will be compiled, and the drawing

Grand Prize (two winners):
"*Student Housing Study 2012* Grand Prize Pack" which includes one Apple® iPod™ Touch device. (1 grand prize – estimated grand prize value: $199.99)