

Art in the Staircase

A Step Toward Sustainability

(Image from: <http://glassart.craftgossip.com/2012/06/16/gorgeous-mosaic-stairs-in-san-francisco/>)

Art in the Staircase: A Step Toward Sustainability

April 2013

Sasha Stewart, College of Sustainability, Department of International Development Studies, Dalhousie University

Makayla Mosher, College of Sustainability, Department of International Development Studies, Dalhousie University

Charles Vey, College of Sustainability, Department of Political Science, Dalhousie University

Brittany Calder, Department of Biology, Department of Environmental Science, Dalhousie University

Grace McCaffrey, College of Sustainability, Department of Environmental Science

Alexa Serafini, College of Sustainability, Department of International Development, Dalhousie University

Table of Contents

Executive Summary	4
Acknowledgements	5
Introduction	6
Methods	8
Results	13
Discussion	21
Conclusion & Recommendations	25
References	28
Appendices	31

Executive Summary

The purpose of this study is to identify what type of art can be placed in staircases to increase stair use in the Tupper Building at Dalhousie University. This study has taken data collected from Tupper Building users to present their level of interest in art, themes and depictions which appeal to them the most, and finally, asked what mediums of art would they most desire to be placed in the stairwells within the Tupper Building. The research has examined how art can be used as a tool to increase stair use while contributing to Dalhousie's sustainability goals. This report recounts a number of studies suggesting that various mediums of art may create a more appealing space for people to interact with. Studies have shown people will engage more with a space if it appeals to them. This study identifies what art forms appeal most to survey respondents; and of equal importance, what they do not like. The goal of the study is to determine what art appeals most to users of the Tupper Building in order to make suggestions that spark a transition away from frequent elevator use. The study features multiple recommendations for Dalhousie University to implement across its campuses. This study also makes recommendations for future research in this field. The researchers hope to spark an innovative sustainable initiative, which will be adopted by Dalhousie University and other institutions.

Acknowledgements

We would like to acknowledge Jen Organ, without whose mentorship and guidance throughout the research process, we would have been lost. Thank you to Tarah Wright, the instructor for SUST/ENVS 3502 for her interesting and relevant lectures. Thank you also to Greg McNutt, who approved our use of the Tupper Building lobby to conduct our survey. Additionally, we would like to thank the many people who responded to our survey. Your participation is an invaluable contribution to forwarding Dalhousie's sustainability goals. Finally, we would like to thank Bounty, Makayla's cat, without whom our Pecha Kucha would have been sorely lacking.

Introduction

This project aimed to build upon past research conducted by students from the 2012 Campus as a Living Laboratory course (SUST/ ENVS 3502). The previous research group examined what would be the best way to motivate people who use the Tupper Building at Dalhousie University to take the stairs instead of the elevator (Adams, McOrmond, Tupper-Ring, & Rowe, 2012). After conducting research at the Tupper Building, the group found that students and faculty expressed a preference for art in the staircases as a motivating factor, over other factors, for taking the stairs.

Several studies conducted in universities, work places and public spaces, show that stair use will increase when the aesthetics or environment of a stairwell are improved. A study done by Soler, Leeks, Buchanan, & Brownson (2010) showed that with a change to the environment of the building, more people used the stairs. Painting the walls, laying carpet down, adding visual artwork and playing music were all implemented in a stairwell in a highly populated building (Soler et al., 2010). As the environment changed, more people started using the stairs (Soler et al., 2010). Another study, also focused on making stairwells more attractive by changing and enhancing the environment, was conducted at the University of Minnesota (Boutelle, Jeffery, Murray, & Schmitz, 2001). This study indicated that there was no significant difference in the use of the stairs when only a sign was installed, indicating where the stairs were located and that taking the stairs could benefit the health of the body (Boutelle et al., 2001). However, once visual art pieces were displayed and music was being played, there was an increase in stair use (Boutelle et al., 2001). In a study conducted by Van Nieuw-Amerongen, Kremers, de Vries, & Kok (2011), stair use increased by 8% after the environment of the stairwell was made more attractive. This study focused on aspects like health and well-being in regards to taking the stairs, as the prompts had educational health facts on them and the walls were painted green to represent peacefulness, freshness and restfulness (Van Nieuw-Amerongen et al., 2011). Yet more researchers discovered that by enhancing the overall look of staircases and by installing art in staircases, stair usage increased from 11.1% to 15.5% (Dolan et al., 2006). These studies show that enhancing the environment inside a building may motivate a person to use the stairs as they have something enjoyable to look forward to. Conversely, in a study done by Ferrara & Murphy (2011), the number of stair users decreased by 21% when modern art murals were displayed in stairwells at an urban university. Not every environmental change that is implemented in the space of study will be well-liked by every person.

With much evidence to suggest that installing art would increase stair use, coupled with the knowledge that unappealing art may actually have a detrimental effect on stair use. This study sought to understand what art most appeals to users of the Tupper Building, in order to make practical recommendations to Dalhousie University as to what type of art to install in staircases to effectively increase use.

This report explains the steps that were taken to determine what subject matter and medium of art most appeals to users of the Tupper Building. It outlines the results obtained from this study and discusses the implications of the findings in relation to the broader field of sustainability. Finally, this report makes recommendations to the university and suggestions for further research.

Methods

Design and Justification

The research tool developed to address the chosen research question was a survey. Through the distribution of a survey to faculty, students and other users of the Tupper Building, information was collected to determine what medium and subject of art would appeal to users of the building. These surveys were printed on paper and handed out in person over the course of one day (See Appendix C). This made it easy to target the people using the building around the stairs, as they were physically observable and able to interact with the researchers.

Questions on the survey were both quantitative and qualitative, however, there was a focus on quantitative questions. Quantitative questions were close-ended, single response, categorical response, and rating type questions (See Appendix A). They were chosen primarily due to the ease with which they could be entered into a spreadsheet and analyzed, as well as their short response time which increased participation. Qualitative questions were included as they allowed participants to describe art and what they considered appealing in their own words. This technique was useful when evaluating the appealing nature of different kinds of art, as it was subjective to each person (Paly & Atchison, 2008). A diverse analysis of data also made the results more accessible to a diverse reading audience (Paly & Atchison, 2008). The study by Adams et al. (2012), "Recommendations for promoting stair use in the Dalhousie Tupper Building", used primarily quantitative methods in the initial research done on stair use in the Tupper Building. Using and assessing both studies provided recommendations for further research on this topic, as well as new analysis that was not done in the 2012 study.

A study by Godar (2000) suggests that surveys receive higher responses if they are brightly colored. The surveys were, therefore, printed on brightly colored paper in pink, blue, yellow and green. Godar's (2000) study also suggests different font colors can contribute to the response, however, discrepancies in the visibility of the surveys in the study made this an unappealing approach (Godar, 2000). The surveys for this research were, therefore, printed on brightly colored paper with black ink to be readable and to attract the attention of passers-by in order to obtain a high response.

A survey was an appropriate research tool to address the chosen research question for several reasons. The study done last year by Adams et al. (2010) used surveys to gather information. Their study acted as a stimulus for this study's research, therefore, using the same research tool allowed researchers to access the same demographic and number of participants. Approximately 120 people were surveyed in the Tupper Building in both studies. Adams et al. (2012) interviewed a client and authority on the Tupper Building, who recommended surveying around 25% of the population. This study re-used this recommendation. Time constraints on our

researchers also made this sample size ideal, and it gave a broad look at different people who use the Tupper Building (See Figure 1). The target demographic was, therefore, easily accessed through a survey. Those who used the building were visually identified and, by surveying the building at different times of the day, a wider range of participants was reached.

Procedure

The first step in designing the study was reading the study done by Adams et al. (2012). After critiquing its strengths and weaknesses, a literature review was conducted to find justifications and motivations for a new study. An initial research question was created from this information, as described in the preliminary proposal: "What subject matter and medium of art will motivate users of the Tupper Building to use the stairs instead of the elevator?" Subject matter and medium were important components to focus on as studies show that specific images and mediums can encourage stair use (Iversen, Handel, Jensen, Frederiksen, & Heitmann, 2007). The research tool and demographic were then selected and modified to answer this question. Objectives of this study were also created in conjunction with the research question. These helped in the later analysis of the data, as they served as guides in comparing questions and creating figures.

The limitations and delimitations were discussed early on. This analysis helped in the construction of the survey questions, aided by a mentor, Jen Organ. Pilot testing different types of survey questions helped in the development of the research tool. It was discovered, for example, that rating questions were best suited when attempting to retrieve the intensity of feeling or acceptance towards art (Palys & Atchison, 2008) (See Appendix A). Open-ended questions were useful for elaboration and when there were too many possible options to list in a rating type question. Keeping a mixture of questions with only a few open-ended questions helped improve the layout of the survey and, therefore, created a better experience for the participant. Questions were also grouped thematically by topic (Palys & Atchison, 2008), beginning with questions about demographics, followed by questions about stair use and finally questions about art. Structuring the survey sequentially allowed the survey to mirror a conversation, which helps guide the participant through the questions (Palys & Atchison, 2008). This research was, therefore, developed to attract the full 120 projected participants.

The questions had to be adjusted several times, as addressing the original research question proved difficult. After significant discussion, it was decided that the developed tool better analyzed the appeal of art rather than motivation; therefore, the research question was altered. The guiding question of this study became: "What medium and subject matter of art most appeal to users of the Tupper Building?" An ethics form was then completed documenting the low-risk, non-invasive nature of the study (See Appendix D). Data was collected guaranteeing anonymity of participants, and the most invasive questions asked were regarding sex and age. These questions did not hinder

participation, as the study done by Adams et al. was able to attract the same number of participants with an additionally invasive question about height and weight (Adams et al., 2012). Surveys were stored safely in a locked cabinet and data was saved on password-protected computers (See Appendix D).

Next, a schedule was created to organize the actual collection of the data by researchers (See Appendix C). A budget was also calculated, and researchers applied for and received funding from the Dalhousie Student Union Sustainability Office in order to pay for printing costs (See Appendix B). Surveys were conducted on March 18th from 10 am to 4 pm. Researchers took two hours shifts, ensuring there were always two people handing out surveys at a time. Researchers were positioned on the first floor of the Tupper Building in the annex, in order to deliver the surveys by the main entrance of the stairs (See Appendix E). The Tupper Building has fifteen floors, therefore, the main entrance was ideal for reaching users of all floors (See Appendix E). Although participation was encouraged through the format and color of the survey, extra measures were taken to encourage passersby to participate. Apples were purchased and offered as thanks to those who participated. They also represented a theme of the study: healthy daily actions. Mediums such as painting, sculpture, sketches and electronic media were available for participants to see. Examples of these art mediums installed in staircases worldwide were playing on a laptop during the survey collection. This helped generate answers to question 10 (See Appendix A). This interactive survey method also helped participants visualize what kind of art could physically be installed in the Tupper Building.

A wide variety of data analysis methods were employed to examine the results of this survey. Data from the survey was collected and inputted into a spreadsheet on Microsoft Excel (See Appendix F). Each participant's answers were coded using a number system. Their answers were listed horizontally and the questions vertically. The data was also color coded to distinguish respondents who answered in the morning (red: 10 am – 12 pm), afternoon (green: 12 pm – 2 pm) and evening (yellow: 2 pm – 4 pm). This spreadsheet was used to create pie charts, donut charts, graphs and word clouds, which made analyzing the data efficient.

*Wordle*TM is an online word processing program that allows large amounts of text to be inputted (Feinberg, 2011). Answers for open-ended questions were entered into this program, which then highlighted the words most commonly used (Feinberg, 2011). These words were then displayed to visually represent their commonness, in the form of a word cloud (See Appendix G). Words that appear more commonly are bigger or coloured differently depending on the settings (Feinberg, 2011). This program also allowed for the removal of unwanted words, such as “the” or “and” (Feinberg, 2011). The result is an artistic representation of what subject matter and other qualities of art promote stair use (Feinberg, 2011). Although this is a unique qualitative method that created a visually appealing representation of thematic coding that appeals to readers, it is limited in understanding the use of the words selected and their intended meaning.

The program is, therefore, useful for initial assessment of themes in such questions. The questions were also inputted and analyzed, however, inductively by researchers to highlight and group common themes.

From the analyzed data, recommendations to Dalhousie University were made. Analysis and discussion of the results also created clear avenues for further research. These recommendations may be used to create an appealing space to move through, in order to encourage stair use and sustainable lifestyles in the Tupper Building.

Limitations and Delimitations

There are many delimitations involved in this study. Due to time constraints, the survey was only done on one day. Surveys were also handed out in a fixed location on one floor, which limited the scope of the sample population to people who use primarily the first floor of the Tupper Building. A more diverse audience might have been reached had online surveys been available as well. This could have also increased participation; however, the 120 participants were accessed with little difficulty in one day. Having more surveys would have given a more representative look at what kinds of art people in the Tupper Building like.

The survey was conducted on March 18th 2013, which was directly after Saint Patrick's Day. Due to this informal holiday, students may not have been regularly using the Tupper Building. This could affect test-retest reliability as repeating the study on a different day could have sampled a different population, thus, yielding alternate results (Palys & Atchison, 2008). The length of the survey could have been unappealing to potential participants. The survey was originally developed to be as short as possible, however, in order to obtain all relevant information, it was extended to 16 questions on a single double sided page (See Appendix A). It was also the only research tool used. This allowed for the extensive development of the tool but restricted participation by illiterate participants and restricted the collection of relevant data from participants who did not understand the vocabulary and were unwilling to ask for clarification (Palys & Atchison, 2008). A survey is inexpensive and allows for the fast collection of data, therefore, imposing these restrictions was an acceptable trade off given the usefulness of the tool (Palys & Atchison, 2008).

The major limitation of this research tool was participation. Although participation was encouraged through the format and color of the survey, extra measures were taken to encourage passersby to participate. Handing out apples was an effective way to address this limitation. This was proven through responses to question 16 where participants thanked researchers, unasked, for the apples (See Appendix A). Other limitations include individual interpretation of questions, which was alleviated by having researchers present to give clarification. Three people also took a survey to complete and did not return to hand it in, therefore, our sample size was reduced to 117 people. Printing extra surveys could mitigate this problem if the study was to be replicated.

Finally, researchers could not control which passersby chose to participate. The result was a female dominated sample, which may not align with the actual representation of sex in the Tupper Building (See Figure 4).

Reliability, Validity and Trustworthiness

The extensive documentation of the procedures of this study makes it reliable. A literature review provided justification for the usefulness of the research. The study could be easily replicated, thus increasing test-retest reliability (Palys & Atchison, 2008). Working closely with an experienced mentor, Jen Organ, also improved the credibility of the study. An additional mentor, Rebecca McNeil, critiqued the initial project proposal. These edits increased the reliability and helped researchers improve the validity as well. Changing the wording of the research question was one result of this critique, as the research tool collected data more relevant to the new question. This question was answered, as the most appealing medium and subject matter were discovered. Trends and anomalies were found as well, linking the conformability of the study to the results and discussion.

Results

Out of the 120 surveys passed out, there were a total of 117 people who completed and handed back the surveys. This accounted for 23% of the total staff and faculty in the Tupper Building.

The first question of the survey asked people to identify their affiliation with Dalhousie University. Graph number 1, Figure 1, shows how many people were Faculty, Students, Staff, or other. The highest proportion of respondents was students, accounting for 68% of the population surveyed. Responses for the category of “other” can be viewed in Appendix H.

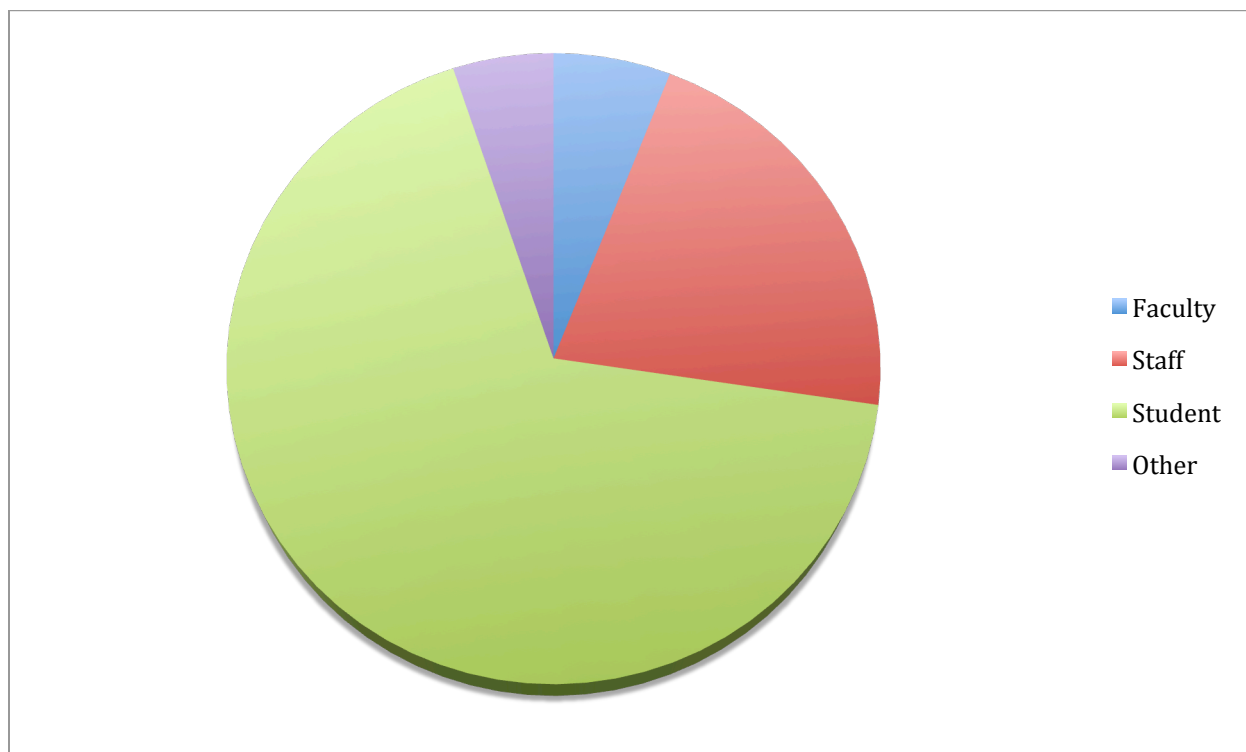


Figure 1: The results of question one “What is your affiliation with Dalhousie University?” The green represents students, the purple represents “other”, the blue represents faculty, and the red represents staff.

The second question of the survey asked, “What department are you associated with?”. The most popular answer of department was the Medical department. The Microbiology department and the Nursing Department closely followed this.

The next question in the survey asked people to identify why they used the space of the Tupper building, as seen in Figure 2. The respondent’s had the choice of using the space to attend class, teach class, use for studying space, or “other”. Responses for the category of “other” can be viewed in Appendix H.

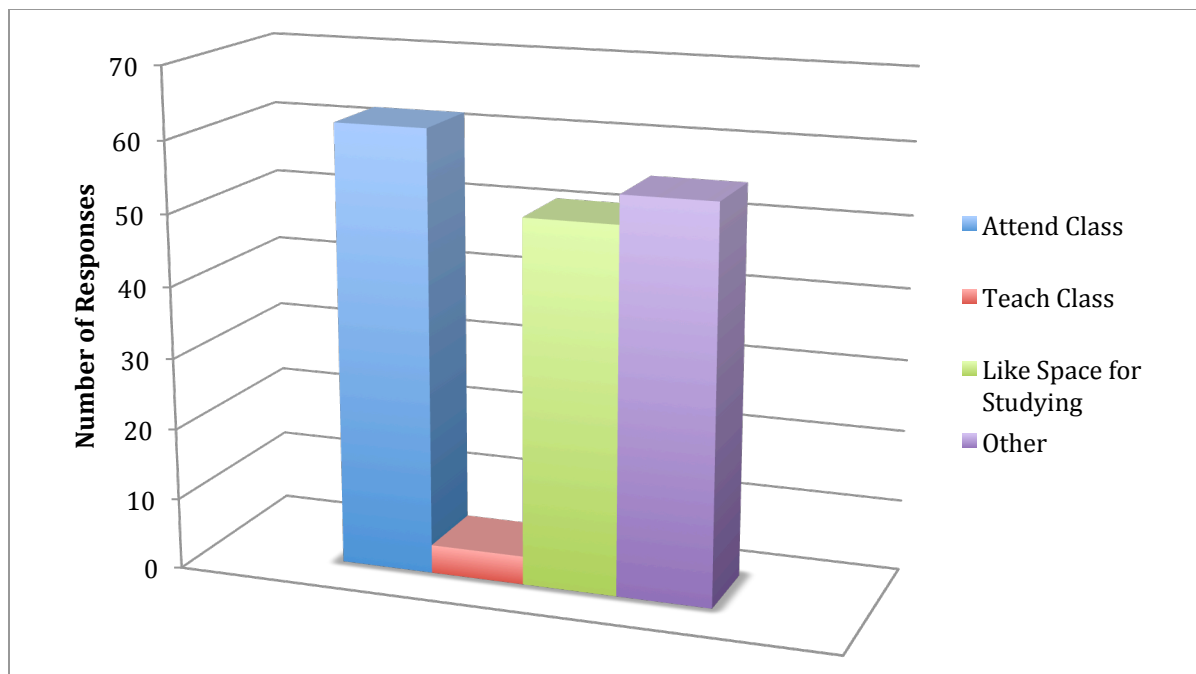


Figure 2: The results of question three “Why do you use the Tupper Building?” where respondents could choose all options that applied.

The responses to questions four and five were combined to show the comparison of how often people take the stairs, to how often people take the elevator and can be seen in Figure 3. Overall, there are more people who claim to take the stairs over the elevator.

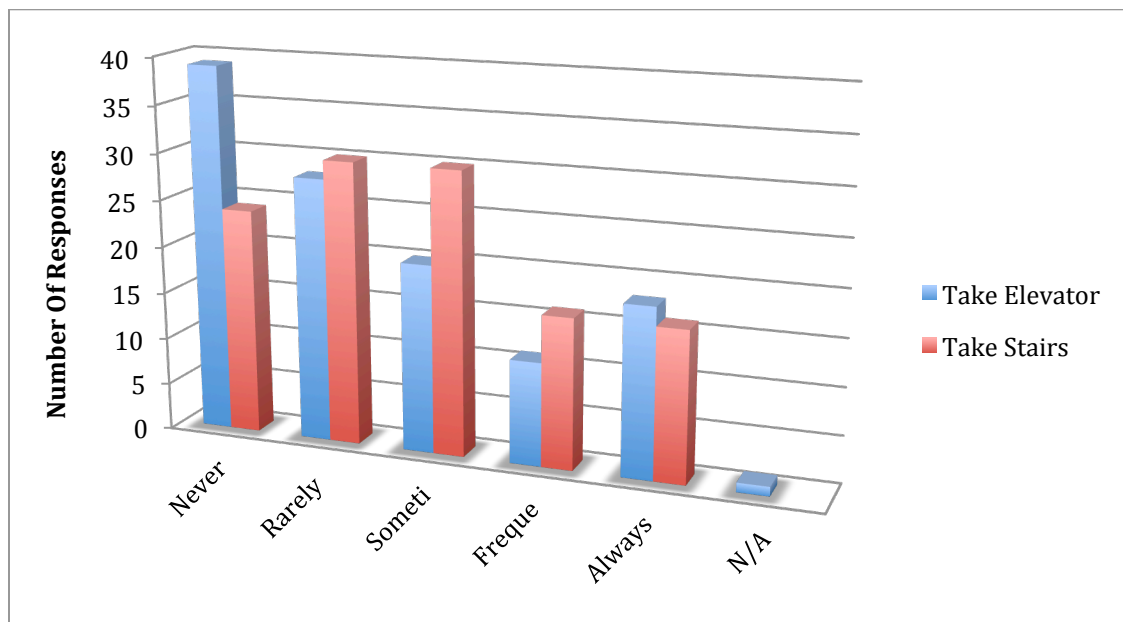


Figure 3: Shows the responses for the fourth and fifth question, asking how often the respondents chose to take the elevator, and how often the respondents chose to take the stairs, respectively.

The sixth and seventh questions of the survey have been combined to compare the sex and age group of the most popular respondents. As seen in Figure 4, it shows that the most effective respondent is a female from the age group 20-29.

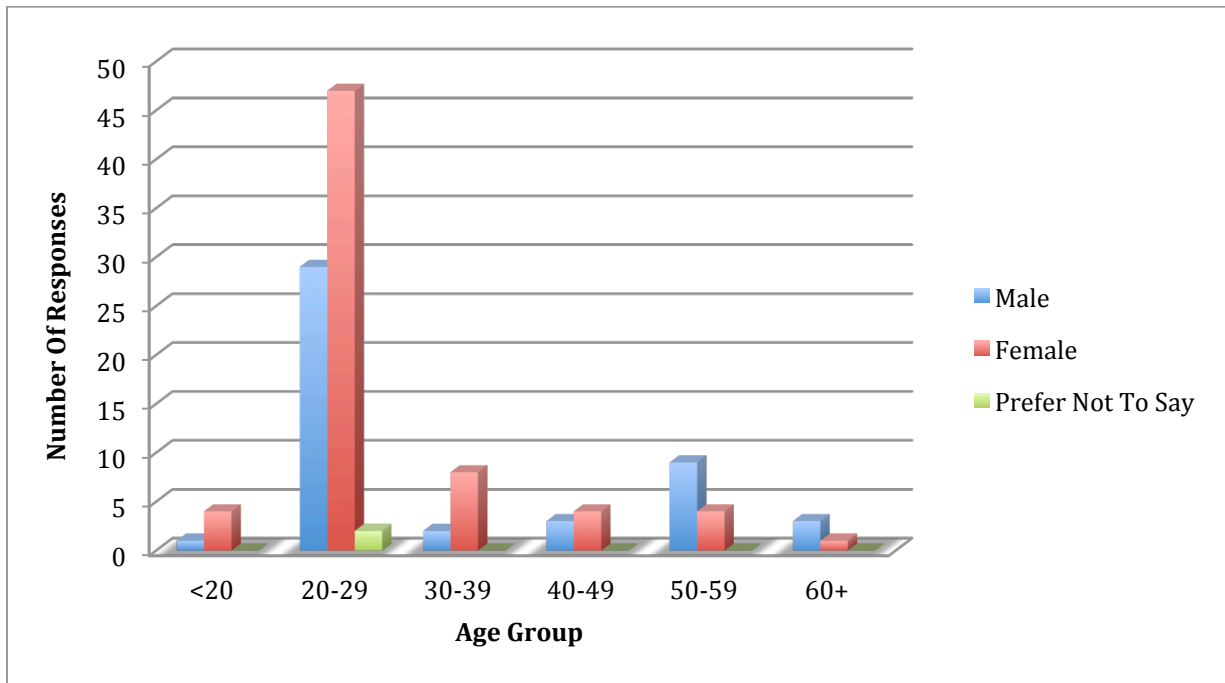


Figure 4: The results of questions and seven showing the number of respondents that belong to each sex group and each age group, respectively. The blue represents males, the red represents females, and the green represents those who preferred not to say their sex.

The next question asked people to identify reasons for taking the stairs over the elevators, as shown in Figure 5. The most popular reason for taking the stairs over taking the elevators is a tie between proximity of destination and exercise. The response of “other” obtained the lowest number of responses and these can be viewed within Appendix H. The category of N/A represents respondents who did not answer the question.

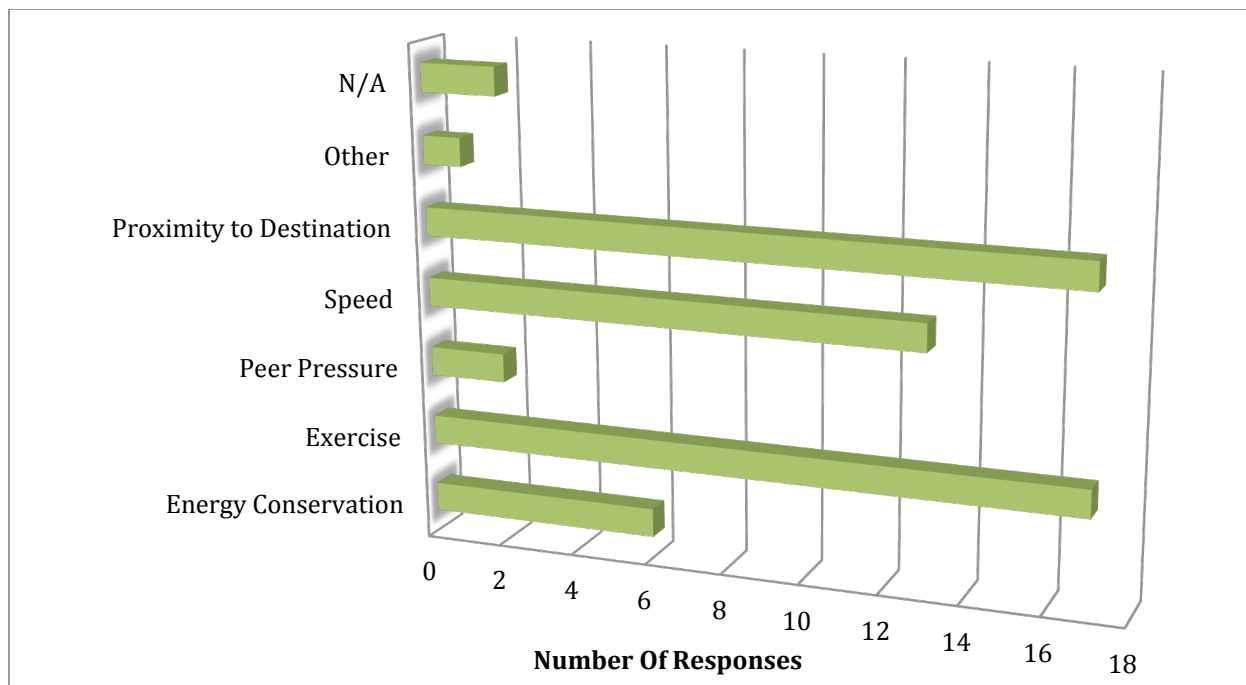


Figure 5: Identifies reasons for taking the stairs over the elevators.

Question nine, as seen in Figure 6, asked people what their general interest in art was. The majority of respondents answered that they were somewhat interested in art. The category of N/A represents respondents who did not answer the question.

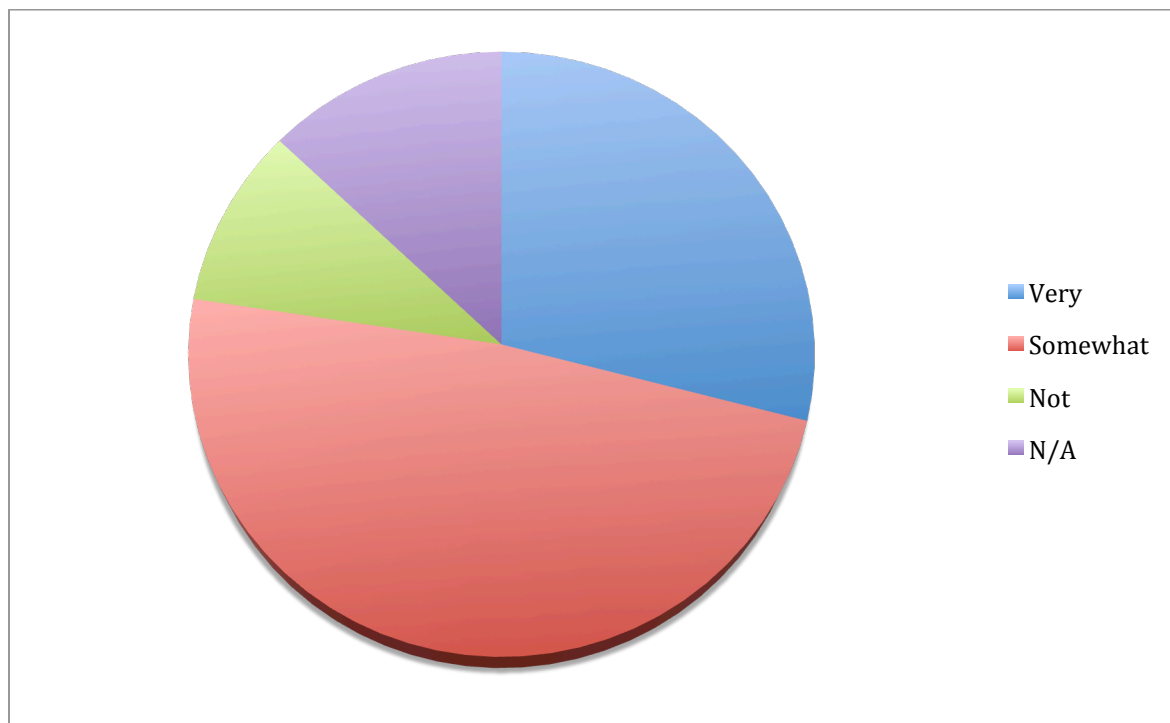


Figure 6: Identifies the respondent's interest in art in general.

The next question, as seen in Figure 7, asked people to rate their interest in different mediums of art. The mediums of art include paintings, mixed media, photography, sculpture, electronic media, sketches, and collage. The medium of art that had the most positive result was photography.

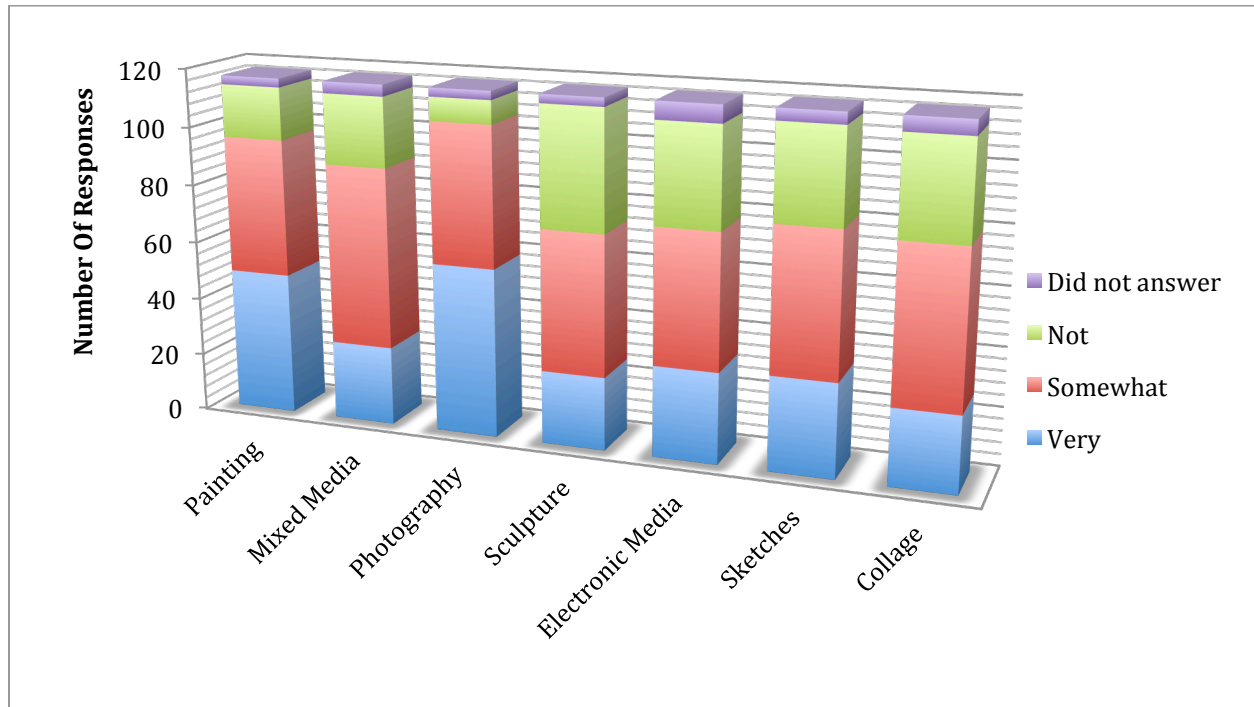


Figure 7: The results of question ten “Rate your interest in the following mediums of art”.

The next question has been represented using a Wordle and is shown in Figure 9. The question asked people to identify any other mediums of art that they were interested in. Within the Wordle, the larger the word, the more responses that the medium of art obtained, and vice versa. As shown in the figure, Music was the most favored other medium of art.



Figure 9: Identifies the other types of mediums of art that respondents were interested in.

Question twelve asked “In general, what subject matter, theme, or depictions in art appeal to you?” The subject matter, theme or depiction in art that obtained the highest responses are Nature, abstract, colors, and landscape.

Question thirteen asked “Are there any example of art on campus that you find appealing? If so, what are they and why do you find them appealing?”. The examples of art on campus that obtained the highest responses include art in the Kellog Building, art in the Killam Library, art in the LSC stairs, and art in the Tupper Lobby. There were many respondents that did not respond to this question, and others who mentioned a piece of art that they did not like on campus.

The next question asked people if they had any interest in Dalhousie installing art into the Tupper Building staircases. As shown in Figure 10, 79% of the respondents showed that they did have interest in the installation of art. The category of N/A represents respondents who did not answer the question.

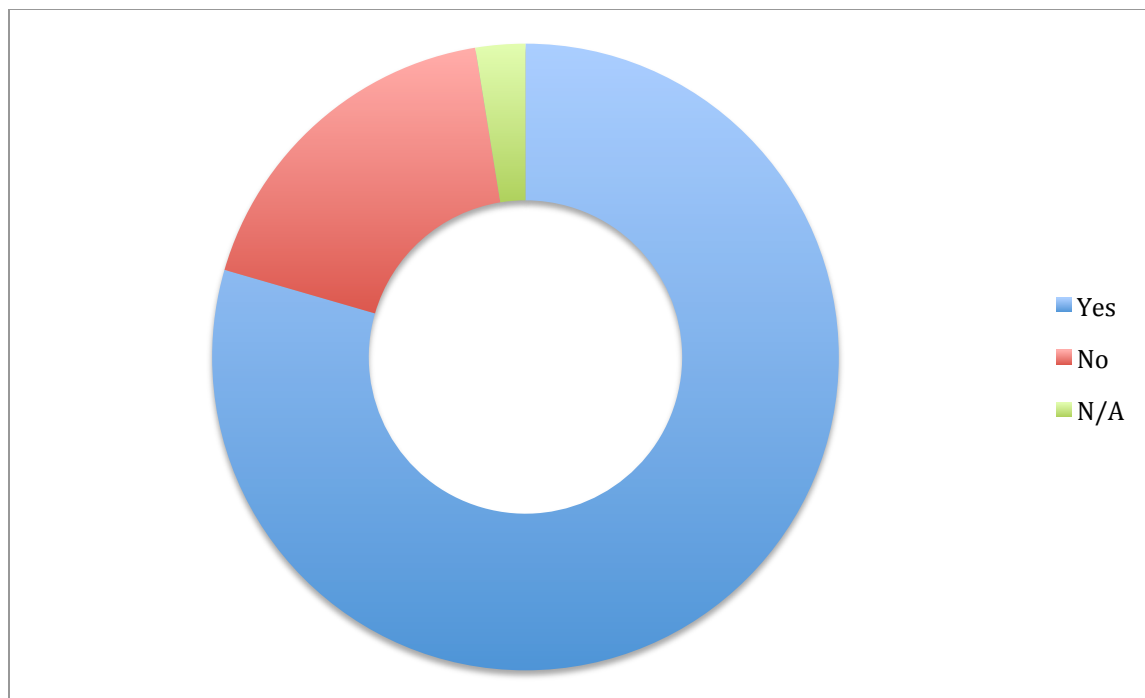


Figure 10: Shows the response to the respondent's interest in Dalhousie choosing to install art into the Tupper Building staircases.

Figure 11 shows the response to the next question in the survey, which asked "If art were to be installed in the staircases, do you think it is important that the art in the Tupper building reflects the department or course themes offered within the building?". Yes was the most popular response at 52%. The category of N/A represents respondents who did not answer the question.

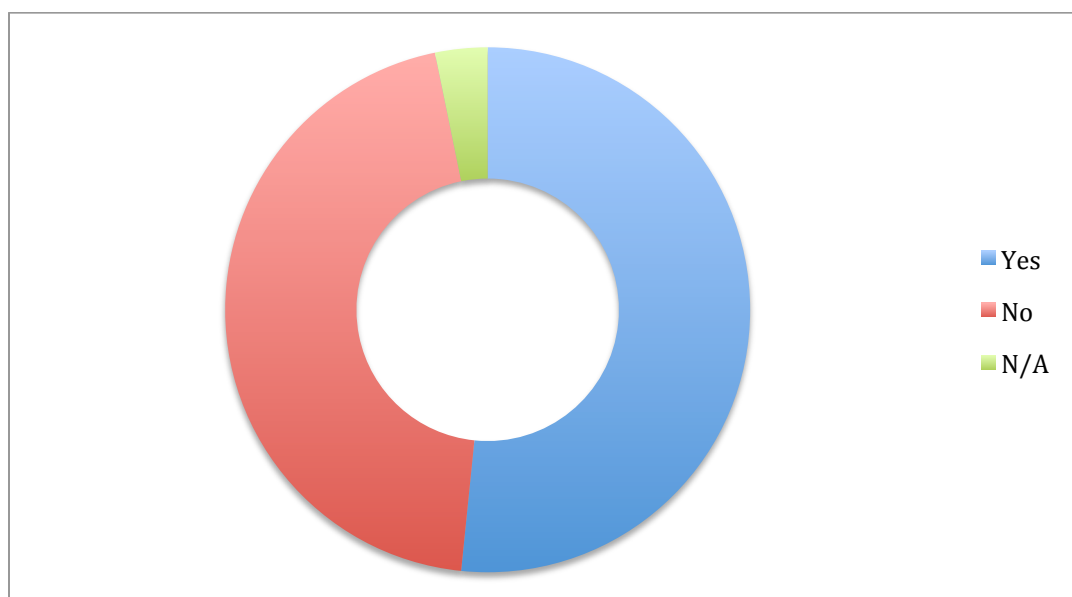


Figure 11: Identifies whether or not the respondent's agree that putting up art in the staircase that reflects the department or course themes offered within the building is important.

The last question of the survey asked the respondents to include any comments on the survey, or topic itself. The most popular response in the comments was thanking the group for rewarding the respondents with apples.

Discussion

The research question addressed the potential installation of artwork in the stairwells of the Tupper Building on Carleton campus at Dalhousie University. The specific research question was: What medium and subject matter of art would most appeal to users in the Tupper Building? The purpose of our research was to build off of the study done by Adams et al. (2012) by focusing on what type of artwork most appeals to people in the Tupper Building, as art was indicated as the preferred form of motivation in last year's study. Once the data from the surveys was complete, the researchers analyzed the survey results to determine what type of art most appeals to the participants of the study.

The findings from this study add to the body of literature that finds there is a need to transform a space to make it more appealing in order to attract a person's attention, and thus motivate them to enter that space. Case studies completed in public, private and educational institutions by other researchers, cited in the introduction, indicated that changing the environment could enhance the space, which can increase use of the space by individuals.

The data from the 2012 'Art in the Staircase' study illustrated that users of the Tupper Building felt that by implementing art in the stairs, more people would be motivated to take them (Adams, 2012). In this study, when asked what their level of interest in art was, the majority of participants marked the 'somewhat' category, indicating that there was not a significant interest in art in general. However, 79% of respondents indicated that they were very interested in the installation of art in the staircases of the Tupper Building. Installing art is merely one way to make the stairwells more appealing. We can infer from this data that, although people may not actively seek out art in their day-to-days lives, there is a definite appreciation of the beautification of the spaces people pass through everyday, which may lead to an increase in use of these spaces.

When asked to identify examples of art on campus, many respondents either gave no response or mentioned a piece of art that they found to be unappealing. It remains to be seen whether these art pieces actually discouraged respondents from using these spaces. However, this is reminiscent of the study done by Ferrara & Murphy (2011), in which the number of stair users decreased by 21% when unappealing modern art murals were displayed in stairwells. We can infer from the responses to this question and from studies like the one conducted by Ferrara & Murphy (2011), that people may have a negative reaction to art that they consider unappealing and may be discouraged to use those spaces they consider unappealing. The majority of respondents indicated that they were interested in photography, followed by paintings and then by mixed media. It may therefore, be appropriate to look into installing art that incorporates all of these mediums to ensure that the art appeals to at least a significant portion of the users of the Tupper Building.

A study by Vygotsky (2004) discusses adults' creativity and puts an emphasis on how the imagination is not limited to a person's childhood years, as creativity can expand and diversify through life experiences. Vygotsky (2004) also explains how a person's surroundings can either heighten or hinder their creative capabilities. Furthermore, "The Fun Theory" is an experiment sponsored by Volkswagen that demonstrates that by making a space more attractive and interactive, more people were willingly to choose to occupy that space (Volkswagen, 2009). In this experiment, a set of stairs next to an escalator was transformed into a piano, people of all ages were intrigued and thus, found enjoyment in using the stairs. After the 'piano stairs' were installed, 66% more people chose to use the stairs (Volkswagen, 2009). The results from a study done by Boutelle et al. (2001) suggest artwork that changes frequently could result in a higher volume of stair-users. Consistently refreshing art pieces may encourage people to use the stairs more frequently and may help to stimulate the minds of stair-users, thus contributing to their capacity for creativity. These studies suggest that it may be prudent to install interactive art in staircases and that art that stimulates creativity may also be successful in increasing stair use.

The results from last year's study found that, when given a choice, more people felt that they would be more motivated by art rather than music, to take the stairs over the elevator. Music, as a potentially motivating factor, was thus ruled out as an option for exploring in this study. However, many studies suggest that music can contribute to increasing stair use (Soler, 2010; Boutelle et al., 2001; Volkswagen, 2009). Additionally, when asked what other forms of art might appeal to stair users, the majority of respondents indicated that music playing in the stairwells would motivate them to use the stairs. This idea of music as a motivator for stair use, also supports the idea that art that is both appealing and interactive may have a positive effect on stair use.

Prior to administering the survey, the researchers assumed that people who use the Tupper Building were likely taking the elevator most often. However, when asked how often they used the elevator, the majority of participants said 'never'. In the future, it may be interesting to target people who indicated that they 'always' use the elevators, as those are the people that the university may most want to motivate to use the stairs. The results of this particular question failed to support the researchers' prior assumptions, making them more critical of other assumptions in reporting the findings of this study.

When assessing the research and results, it is more apparent that this study is a small contribution to what many regard as a simple solution to reducing the energy consumption of many tall buildings. In 'Works in Progress' they discuss the interactive sculpture that was designed and installed in a Berkley science building (Cardenas-Tamayo & Garcia-Macias, 2009). The sculpture was implemented into the building in order to attract people to use the stairs (Cardenas-Tamayo & Garcia-Macias, 2009). The sculpture was equipped with an innovative system, which uses LED lights to

replicate fireflies, these were used to represent participants using the stairs (Cardenas-Tamayo & Garcia-Macias, 2009). As participants climbed the stairs, the vibration sensors in the system captured the pace and movement of participants. In conjunction the LED fireflies showed that many participants who used the stairs were reaching elevation faster than elevators (Cardenas-Tamayo & Garcia-Macias, 2009). Furthermore, 'Works in Progress' demonstrates that stair use not only reduces the overall energy consumption on campus, but that stair usage is more efficient in terms of energy and speed (Cardenas-Tamayo & Garcia-Macias, 2009). Another case study by Dolan et al. (2006), discussed how prompts were used, such as signs, to promote stair use over escalator use in public settings. This study was conducted over a 15 week time period and the results stated that twice as many females took the stairs over males (Dolan et al., 2006). This case study indicated that by installing signs regarding health and energy use, more people are inclined to take an alternative way to get to another level. This study proved to be a motivational indicator for individuals to think about their environment and health (Dolan et al., 2006). Both of the studies described above look at how sustainability can affect different aspects of life. It showed that sustainable practices could be implemented for a cost, but that cost pays off in the long run.

In addition, the research and results from this study provide an example of a modest way to combat Earth's changing climate, due largely to greenhouse gas emissions as a result of human activity (Younger et al., 2008). If frequent users of the Tupper building are not encouraged to use the stairs through the use of art, continual use of elevators will contribute to more greenhouse gas emissions. This is particularly relevant in Halifax, Nova Scotia, where approximately 60% of energy comes from coal (Thibault, 2012). When connecting the 2013 study to the broader scope of things, one can infer that with rising temperatures as a result of climate change, health consequences will follow (Younger et al., 2008). Meaning, higher temperatures lead to morbidity and mortality because of heat, vector borne/waterborne infections and illnesses, food and water shortages, respiratory diseases, international conflict over resources and air pollution (Younger et al., 2008). Though these implications may be interpreted as the ripple effect of a single human activity, but through small changes one can lay the foundation for greater change (Younger et al., 2008). The built environment, meaning manmade construction, is a significant contributor to climate change and health issues, by using the stairs, there will be less greenhouse gases which will both reduce the contribution to health issues and climate change (Younger et al., 2008).

Several companies are realizing that being sustainable pays off, economically and socially, as one benefits economic savings and the other benefits the environment. In a case study by Brown (2011) several employees were concerned about how they impact the environment. Mechanical engineers are trying to implement 'green' initiatives in order to be cost efficient as well as environmentally friendly (Brown, 2011). Participants of this study responded positively to the engineer's suggestion, as they also wanted to save on costs and practice sustainability. The engineers were suggesting to the participants and employees new infrastructure models that would save on energy;

the participants and employees agreed to the new project as they felt sustainability was important (Brown, 2011). The designs can be costly but they will save money in the long run in two aspects, economically and socially (Brown, 2011). The studies above indicate that increasing sustainable infrastructure can improve all aspects of life, as it contributes to bettering the environment. A part of increasing sustainable infrastructure is providing opportunities for people to incorporate more activity into their daily lives while simultaneously reducing their energy consumption.

Through the research completed in these studies, it has been determined that some sort of enhancement for space is desired, whether it be music or art on the walls, and that by transforming these spaces, people will be more inclined to use them. With this, the case studies in conjunction with the 2013 study proves that by enhancing the aesthetics of stairwells, Dalhousie will be taking a step towards their goal of a more sustainable university.

Conclusion & Recommendations

The study was constructed to provide us with a multitude of recommendations. The data was critically analysed to discover trends and anomalies. Researchers used the data to determine the possible implications for Dalhousie University; along with, constructing recommendations for both the University and for further research studies. A key component of the project description and project requirement was to provide sustainable and healthy solutions.

Recommendations to Dalhousie University

- 1. Researchers recommend making the staircases in the Sir Charles Tupper Building more appealing spaces to move through.** It can be inferred from the data that theme and style are important in making a space more appealing. The data suggests that increasing appeal in stairways will increase stair traffic. Researchers, therefore, suggest that artwork should be installed in the Tupper Building staircase, ideally nature oriented photography.
- 2. Researchers recommend that Dalhousie University install artwork via a trial and error process: whereby, people's opinions and suggestions about the location and kind of art installed in the Tupper Building is monitored.** This would require the university to be open to engagement with students and faculty who frequently use the building; and allow those most associated with the Tupper Building to have a say in art in staircase decision-making. Something as simple as a suggestion box can foster communication between the University and users of the building. Another way of engaging with people using the Tupper Building is by holding annual to bi-annual consultations with any interested parties or persons who wish to voice suggestions or concerns with the placement of art in the Tupper's staircases.
- 3. Researchers recommend that Dalhousie University does not install a single art piece permanently.** Any sustainability initiative must be flexible, adaptive, self-reflective and constantly modified and updated to remain effective. Sustainability itself is a fluid concept, which adapts to current issues such as climate change, over population etc. Any initiative within sustainability needs to reflect this adaptability. This would create refreshing changes to dull staircases and encourage long-term stair use.

Recommendations for Further Research

Last year's study by Adams et al. and this year's study have both tried to suggest future research. More studies need to be done to determine if people's habits can be changed through art and finally, what new strategies can be developed to reduce elevator dependency, save energy and encourage healthy lifestyles. The specific recommendations for future research resulting from the study include:

1. **If both music and art can be incorporated together, and not one without the other, to motivate people to take the stairs over the elevator.** Adams et al. discovered the popularity of art when compared to music, however, this study suggests they could both encourage stair use. Research should be done to see if art and music placed together in staircases is even more beneficial.
2. **The most appropriate and most suitable placement of art in other buildings on Dalhousie campus.** Future studies are needed to determine which buildings would benefit the most from having art in the staircases and determine the most suitable locations to install the artwork. Methods from the current study and that of Adams et al. could be replicated to discover this information.
3. **The potential cost of installing art in the Tupper Building staircases for Dalhousie.** Studies are required to determine the style and cost of purchasing, renting, installing, and maintaining artwork in the Tupper Building. A cost-benefit analysis would be useful, and interviews with appropriate personal would be required to discover how much Dalhousie University could invest in such a project.
4. **Determine the logistics of installing art in the Tupper Building. A study should be done to determine the actors and stakeholders involved.** Studies of this kind would seek to define the who, what, when, where, how, and why of an art installation project. This is necessary for bringing all affected parties to the planning table and for all actors to be involved in the collaborative process.
5. **Studies to determine how place making may motivate people to use the stairs over the elevator.** Place making is an alternative approach to improving public spaces. Community members are involved in the entire process, from planning to implementation. Further research could include primarily qualitative

studies, which could examine the engagement aspect of users of a particular building in the planning, designing and installation of art. Such a study should consider whether there would be an increase or decrease in stair use awareness with a place making approach. It should also examine the effects such an approach could have on respect, pride, and appreciation of the space as a main motivation for taking the stairs.

References

- Adams, T., McOrmond, L., Tupper-Ring, L., & Rowe, A. (2012). *Recommendations for promoting stair use in the Dalhousie Tupper Building*. Retrieved from <http://environmental.science.dal.ca/Research/ENVS%203502%20-%20Past%20projects/>
- Boutelle, K. N., Jeffery, R. W., Murray, D. M., & Schmitz, M. K. (2001). Using signs, artwork, and music to promote stair use in a public building. *American Journal of Public Health, 91*(12). Retrieved from <http://web.ebscohost.com.ezproxy.library.dal.ca/ehost/pdfviewer/pdfviewer?sid=c97b6975-5e2f-4238-aa0a-5e3689cd11bc%40sessionmgr115&vid=2&hid=108>
- Brown, A. S., (2011). Sustainability. *Mechanical Engineering, 133*(11). 37-41. Retrieved from <http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=cfa14292-b555-483d-a554-3500d344d52a%40sessionmgr198&vid=2&hid=114>
- Cardenas-Tamayo, R., Garcia-Macias, J., & , (n.d.). A decision support system for crop management. (2009). *Works in Progress, 1536*(1268), Retrieved from <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=4736479>
- Dolan, M. S., Weiss, L. A., Lewis, R. A., Pietrobelli, A., Heo, M., & Faith, M. S. (2006). Take the stairs instead of the escalator. *Obesity Reviews, 7*(1), 25-32. Retrieved from <http://web.ebscohost.com.ezproxy.library.dal.ca/ehost/pdfviewer/>
- Feinberg, J. (2011). *Wordle™*. Retrieved from <http://www.wordle.net/>

- Godar, S. H. (2000). Use of colour and responses to computer-based surveys. *Perceptual and Motor Skills, 2000*(91), 767-770.
- Iversen, M. K., Handel, M. N., Jensen, E. N., Frederiksen, P., & Heitmann, B. L. (2007). Effect of health-promoting posters placed on the platforms of two train stations in Copenhagen, Denmark, on the choice between taking the stair or the escalators: A secondary publication. *International Journal of Obesity, (31)*, 950-955.
- Palys, T., & Atchison, C. (2008). *Research Decisions: Quantitative and Qualitative Perspectives 4th Edition*. Toronto: Nelson Education.
- Soler, R. E., Leeks, K. D., Buchanan, L. R., & Brownson, R. C. (2010). Point-of-decision to increase stair use: A systematic review update. *American Journal of Preventive Medicine, 38*(2). Retrieved from <http://www.sciencedirect.com.ezproxy.library.dal.ca/science/article/pii/S0749379709007508>
- Thibault, B. (2012, June). *Electricity from coal: Time to turn the page on Canada's dirtiest source of power*. Retrieved from <http://www.pembina.org/blog/634>
- Van Nieuw-Amerongen, M. E., Kremers, S. P. J., de Vries, N. K., & Kok, G. (2011). The use of prompts, increased accessibility, visibility, and aesthetics of the stairwell to promote stair use in a university building. *Environment and Behavior, 43*(1). doi: 10.1177/0013916509341242
- Volkswagen. (2009). *The fun theory*. Retrieved from <http://www.thefuntheory.com/piano-staircase>
- Vygotsky, L. S. (2004). Imagination and creativity in childhood. *Journal of Russian and East Europe Psychology, 42*(1). Retrieved from <http://>

web.ebscohost.com.ezproxy.library.dal.ca/ehost/pdfviewer/pdfviewer?
sid=f9328677-1312-4ebf-9f32-5d4e0162c913%40sessionmgr114&vid=2&hid=108

Younger, M., Morrow-Almeida, H., Vindigni, S., & Dannenberg A, (n.d.). The built environment, climate change and health: Opportunities for co-benefits. (2008). *American Journal of Preventative Medicine*, 35(5), 517-526. Retrieved from <http://www.sciencedirect.com/science/article/pii/S074937970800682X>

Appendices

Appendix A

Survey

1) What is your affiliation with Dalhousie University? (*please check one*)

- I am a faculty
- I am a staff
- I am a student
- Other (Please Specify) _____

2) What department are you associated with? _____

3) Why do you use the Tupper Building? (*check all that apply*)

- I attend classes here
- I teach classes here
- I like to use the space for studying
- Other (Please Specify) _____

4) How often do you use the elevator? (please check one)

- Never
- Rarely (once or twice a week)
- Sometimes (three to four times a week)
- Frequently (five or six times a week)
- Always (7+ times a week)

5) How often do you use the stairs?

- Never
- Rarely (once or twice a week)
- Sometimes (three to four times a week)
- Frequently (five or six times a week)
- Always (7+ times a week)

6) What is your sex? (*please check one*)

- Male
- Female
- Prefer not to say

7) What is your age? *(please check the range that best applies to you)*

- < 20
- 20 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 +

8) If you do use the stairs, what motivates you to take the stairs over the elevator?
(check all that apply)

- Energy conservation
- Exercise
- Peer Pressure
- Speed (Compared to Elevator)
- Proximity to destination
- Other (please specify) _____

9) Please rate your interest in art. *(circle one)*

1. Very 2.Somewhat 3.Not

10) Rate your interest in the following mediums of art. *(circle one number for each item on the scale)*

Art Medium	Very	Somewhat	Not
Painting	1	2	3
Mixed Media	1	2	3
Photography	1	2	3
Sculpture	1	2	3
Electronic Media	1	2	3
Sketches	1	2	3
Collage	1	2	3

11) Are there any other mediums of Art you are interested in? If so, what are they?

12) In general, what subject matter, theme, or depictions in art appeal to you? *(please describe/explain)*

13) Are there any examples of art on campus that you find appealing? If so, what are they & why do you find it appealing?

14) Would it interest you if Dalhousie were to choose to install art into the Tupper building staircases? *(circle one)*

1. Yes **2. No**

15) If art were to be installed in the staircases, do you think it is important that the art in the Tupper building reflects the department or course themes offered within the building? *(circle one)*

1. Yes **2. No**

16) Any additional comments?

Thank you!

Appendix B

Budget

Submitted a request of \$50.00 to the DSU Sustainability Office on February 19th 2013. Printing included 120 double sided surveys. Printing on brightly colored paper resulted in \$0.35/page, with a total cost of \$42.00. Money spent on healthy snack incentives cost a total of \$26.00, bringing our budget to a total of \$68.00, which we were fully reimbursed for.

Appendix C

Schedule

Time Frame	Tasks	Responsibility
Week 1 (February 4-10)	<ul style="list-style-type: none"> i. Research question finalized ii. Research tools selected iii. Demographic selected 	<ul style="list-style-type: none"> i. Completed as a group ii. Completed as a group iii. Completed as a group
Week 2 (February 11- 17)	<ul style="list-style-type: none"> i. Divided up the work among group members ii. Draft for preliminary proposal completed iii. Pilot testing of survey was completed 	<ul style="list-style-type: none"> i. Completed as a group ii. Completed as a group iii. Completed individually by Brittany Calder, Sasha Stewart, Makayla Mosher, Alexa Sarafini, Grace McCaffrey, & Charles Vey
Week 3 (February 18-24)	<ul style="list-style-type: none"> i. Final draft of survey and interviews completed ii. Apply for funding iii. Preliminary proposal finalized 	<ul style="list-style-type: none"> i. Brittany Calder, Grace McCaffrey, Alexa Sarafini, & Makayla Mosher ii. Brittany Calder iii. Broken down into the following parts: <ul style="list-style-type: none"> - Project Definition: Alexa Sarafini - Background and Rationale: SashaStewart - Proposed research methods: MakaylaMosher - Schedule and Budget:

		<p>Brittany Calder</p> <ul style="list-style-type: none"> - Deliverables and Communication Plan: Charles Vey - Appendices, References and Editing: Grace McCaffrey
Week 4 (February 25- March 3)	**STUDY BREAK**	
Week 5 (March 4- 10)	<ul style="list-style-type: none"> i. Walk through of survey area ii. Finalize survey schedule 	<ul style="list-style-type: none"> i. Completed as a group ii. Completed as a group
Week 6 (March 11-17)	<ul style="list-style-type: none"> i. Assemble healthy complimentary snacks for survey ii. Conduct survey iii. Compile survey data 	<ul style="list-style-type: none"> i. Alexa Sarafini & Makayla Mosher i. Completed as a group, in pairs of two ii. Completed as a group
Week 7 (March 18-24)	<ul style="list-style-type: none"> i. Analyze survey data ii. Break up work for presentation iii. Complete rough draft of final report. 	<ul style="list-style-type: none"> i. Completed as a group ii. Completed as a group iii. Completed individually by Brittany Calder, Sasha Stewart, Makayla Mosher, Alexa Sarafini, Grace McCaffrey, & Charles Vey
Week 8 (March 25-31)	<ul style="list-style-type: none"> i. Finish presentation slides ii. Finalize presentation speeches 	<ul style="list-style-type: none"> i. Completed individually by Brittany Calder, Sasha Stewart, Makayla Mosher, Alexa Sarafini, Grace McCaffrey, & Charles Vey ii. Completed individually by Brittany Calder, Sasha Stewart, Makayla Mosher, Alexa Sarafini, Grace McCaffrey, & Charles Vey
Week 9 (April 1- 7)	<ul style="list-style-type: none"> i. Project presented ii. Edit and complete final report. 	<ul style="list-style-type: none"> i. Completed as a group ii. Completed as a group
Week 10 (April 8- 14)	<ul style="list-style-type: none"> i. Project report is handed in 	<ul style="list-style-type: none"> i. Completed as a group

Appendix D

Ethics Form

**ENVIRONMENTAL SCIENCE PROGRAM
FACULTY OF SCIENCE
DALHOUSIE UNIVERSITY
(version 2010)**

**APPLICATION FOR ETHICS REVIEW OF RESEARCH INVOLVING HUMAN PARTICIPANTS
UNDERGRADUATE THESES AND IN NON-THESIS COURSE PROJECTS**

GENERAL INFORMATION

1. Title of Project: Art in the Staircase

2. Faculty Supervisor(s) Tarah Wright **Department:** Environmental Science **e-mail:** Tarah.Wright@dal.ca

3. Student Investigator(s)

Brittany A. Calder **Department-** Biology & Environmental Science
e-mail: br262936@dal.ca **ph:** 1(902)623-2565

Grace McCaffrey **Department- Environment, Sustainability and Society**
e-mail: gr614945@dal.ca **ph:** 1(902) 579-4349

Makayla N. Mosher **Department- Environment, Sustainability and Society**
e-mail:mk477927@dal.ca **ph:** 1(902) 220-4173

Alexa M. Serafini **Department-** International Development Studies & Environment,
Sustainability and Society **e-mail:** al881071@dal.ca **ph:** 1(519) 830-2133

Sasha L. Stewart **Department-** Environmental Sustainability and Society & International
Development Studies **e-mail:** ss435997@dal.ca **ph:** (902) 221-4327

Charles R. Vey **Department-**Sustainability & Political Science

e-mail: ch582116@dal.ca **ph:**902-861-1885

4. Level of Project: Non-thesis Course Project [] Undergraduate [] Graduate []
Specify course and number: 3502 ENVS/SUST Campus as a Living Lab

5. a. Indicate the anticipated commencement date for this project: March 11th, 2013
b. Indicate the anticipated completion date for this project: April 12th, 2013

SUMMARY OF PROPOSED RESEARCH

1. Purpose and Rationale for Proposed Research: Briefly describe the purpose (objectives) and rationale of the proposed project and include any hypothesis(es)/research questions to be investigated

This project aims to build upon past research conducted by previous students from the Campus as a Living Laboratory course (SUST/ ENVS 3502). The previous research group examined what would be the best way to motivate people who use the Tupper Building at Dalhousie University to take the stairs (Adams, McOrmond, Tupper-Ring, & Rowe, 2012). In moving forward with our research, we hope to expand on current knowledge surrounding what motivates those who use the Tupper Building to take the stairs.

Our research question is -what medium of art would be most effective in encouraging users of Dalhousie's Tupper Building to use the stairs instead of the elevator. We also hope to gain a better understanding for what subject matter may be the most motivating for students and faculty to use the stairs in the Tupper Building.

Through research and data analysis, we hope to gain a better understanding of what factors currently motivate people to take the stairs in general (for example, exercise, energy conservation, peer pressure, etc.). We hope that there will be a trend in the preferred subject matter of art in the staircases amongst faculty and students, so that a universally appealing art project may be installed. Regardless of the conclusions gained from the collected data, this research will be able to propose areas for further study.

2. Methodology/Procedures

a. Which of the following procedures will be used? Provide a copy of all materials to be used in this study.

- Survey(s) or questionnaire(s) (mail-back)
- Survey(s) or questionnaire(s) (in person)
- Computer-administered task(s) or survey(s)]
- Interview(s) (in person)
- Interview(s) (by telephone)
- Focus group(s)
- Audio taping
- Videotaping
- Analysis of secondary data (no involvement with human participants)
- Unobtrusive observations
- Other, specify _____

b. Provide a brief, sequential description of the procedures to be used in this study. For studies involving multiple procedures or sessions, the use of a flow chart is recommended.

Through the distribution of a survey to faculty, students and other users of the Tupper Building, information will be collected to determine what medium and subject of art will motivate different demographics to use the stairs. These surveys will be printed

on paper and handed out in person at different times of the day over the course of one week. This will likely occur Monday March 11th, 2013 to Friday March 15th, 2013. This will allow us to effectively target the people using the stairs, as we can physically observe and interact with these users. Researchers will be positioned on the main floor of the building, in order to deliver the surveys by the main entrance of the stairs. The Tupper Building has fifteen floors; therefore, the main entrance is ideal for reaching users of all floors. The survey begins with questions that determine what demographic each participant represents. Their weekly stair usage will also be assessed, in order to ensure the suggestions given by current stair users can be distinguished from participants who prefer the elevator.

3. Participants Involved in the Study: Indicate who will be recruited as potential participants in this study.

Dalhousie Participants:

- Undergraduate students
- Graduate students
- Faculty and/or staff

Non-Dal Participants:

- Adolescents
- Adults
- Seniors
- Vulnerable population* (e.g. Nursing Homes, Correctional Facilities)

* Applicant will be required to submit ethics application to appropriate Dalhousie Research Ethics Board

b. Describe the potential participants in this study including group affiliation, gender, age range and any other special characteristics. If only one gender is to be recruited, provide a justification for this.

Our study has no preference of gender, age, or any other special or outstanding characteristics. We want to incorporate as much diversity as we can in our surveys. We believe this will strengthen our understanding of what art staff, students, and faculty find most appealing. The survey responses will provide insight for what art appears to be the most motivating to be used to increase staircase use or elevator use.

c. How many participants are expected to be involved in this study?

120

4. Recruitment Process and Study Location

a. From what source(s) will the potential participants be recruited?

- Dalhousie University undergraduate and/or graduate classes
- Other Dalhousie sources (specify) -Students, staff, and faculty passing through the Sir Charles Tupper Building at Dalhousie University. Ideally, this survey population will contain staff and students who use, travel, work, and have class in the Tupper building.
- Local School Boards*
- Halifax Community
- Agencies
- Businesses, Industries, Professions
- Health care settings*
- Other, specify (e.g. mailing lists) _____ *

Applicant may also require ethics approval from relevant authority, e.g. school board, hospital administration, etc.

b. Identify who will recruit potential participants and describe the recruitment process. Provide a copy of any materials to be used for recruitment (e.g. posters(s), flyers, advertisement(s), letter(s), telephone and other verbal scripts in the appendices section.

When conducting our survey, our 6 group members will divide into pairs (2 group members) to recruit, distribute, and collect completed surveys. Each pair will operate between 2-3 hours and another pair will take over once their scheduled start time commences. The recruitment process will involve us approaching students, staff, and faculty in the main lobby of the Sir Charles Tupper building. For each pair, one group member will sit at the table to guard the completed surveys and any other materials i.e. laptops, phones, survey sheets etc. The other group member will be friendly and courteous while trying to attract potential respondents, by introducing themselves and a brief synopsis of the research project. This group member will also explain what the project entails and answer any questions the respondent has before being given the survey. Both group members will be available to answer any of the respondent's questions if necessary. Both group members will be responsible for collecting the completed responses and storing them according in the envelope holding all completed surveys.

5. Compensation of Participants: Will participants receive compensation (financial or otherwise) for participation? Yes [] No [] If Yes, provide details:

We have planned to distribute fresh, local apples which the group has purchased from the supermarket. We believe this is both an affordable and healthy alternative rather than sugary sweets. Our group also commits to promoting fresh, local foods and local farms.

6. Feedback to Participants

Briefly describe the plans for provision of feedback and attach a copy of the feedback letter to be used. Wherever possible, written feedback should be provided to study participants including a statement of appreciation, details about the purpose and predictions of the study, contact information for the researchers, and the ethics review and clearance statement. Note: When available, a copy of an executive summary of the study outcomes also should be

provided to participants.

We will not be providing any feedback about the response data we collected until our final report is completed, submitted, graded, and returned to us. Our survey will be completely anonymous and no personal contact information will be asked for or collected. We plan on inviting all participants to our final group presentation held on Tuesday April 2nd, 2013 at the Company House (2202 Gottingen St. Halifax, Nova Scotia, Canada). Our final presentation will present our response data as a whole to the teaching staff, fellow students, and attending guests.

POTENTIAL BENEFITS FROM THE STUDY

1. Identify and describe any known or anticipated direct benefits to the participants from their involvement in the project.

4. Increased health benefits such as cardiovascular health for participants who use the stairs in the Tupper rather than elevators.
5. The opportunity for students and staff to engage in a study which seeks to improve existing infrastructure which students and staff can benefit from in years to come. T
6. Participants have the opportunity to voice their suggestions and recommendations for creating a better Dalhousie building.
7. Participant responses can potentially lead to future research studies and the eventual implementation of art in all Dalhousie staircases.
8. Spark participant interest in artwork and the College of Environmental Sustainability and Society at Dalhousie University.

2. Identify and describe any known or anticipated benefits to society from this study.

9. Increase health of anyone using the stair in the Tupper building.
10. We hope that our research highlights the value in energy conservation on campus.
11. "Greening" the Dalhousie University campus with the primary emphasis on greening the Tupper building.
12. Avocation for future studies of art in Dalhousie staircases and the implementation of art in all Dalhousie staircases.
13. A more sustainable campus for the college community and greater society to experience and enjoy.

POTENTIAL RISKS TO PARTICIPANTS FROM THE STUDY

6. For each procedure used in this study, provide a description of any known or

anticipated risks/stressors to the participants. Consider physiological, psychological, emotional, social, economic, legal, etc. risks/stressors and burdens.

- [] No known or anticipated risks Explain why no risks are anticipated:
 [] Minimal risk * Description of risks:
 [] Greater than minimal risk** Description of risks:

* This is the level of risk associated with everyday life. ** This level of risk will require ethics review by appropriate Dalhousie Research Ethics Board

2. Describe the procedures or safeguards in place to protect the physical and psychological health of the participants in light of the risks/stresses identified in Question 1.

INFORMED CONSENT PROCESS

Refer to: <http://pre.ethics.gc.ca/english/policystatement/section2.cfm>;

1. What process will be used to inform the potential participants about the study details and to obtain their consent for participation?

- [] Information letter with written consent form; provide a copy
 [] Information letter with verbal consent; provide a copy
 [] Information/cover letter; provide a copy
 [] Other (specify)

2. If written consent cannot be obtained from the potential participants, provide a justification.

ANONYMITY OF PARTICIPANTS AND CONFIDENTIALITY OF DATA

1. Explain the procedures to be used to ensure anonymity of participants and confidentiality of data both during the research and in the release of the findings.

Our survey will not collect any personal identification information, no contact information, and no other personal information will be asked for or collected. Our survey has been created to be filled out by any person regardless of age, gender, race, sex, year of study, employment at Dalhousie, program, etc. When distributing the survey and explaining the confidentially and anonymous nature of the survey. No identifying information will be included in our final report. We will only be releasing our findings as a reflection of the entire survey population as a whole. Our group members will gladly give our personal e-mails and contact information to any participant who would like to review our final report or has any questions, concerns, or other inquiries.

7. Describe the procedures for securing written records, questionnaires, video/audio tapes and electronic data, etc.

Our group will be distributing our surveys by hand to students and staff passing through the Tupper building. We will explain the background of the project, the rationale of the research, the purpose of our research, thoroughly explain the survey instructions, and kindly answer any other questions the participant may have. One group member will be entrusted to keep all the collected surveys together and ensure there

confidentiality, privacy, wellbeing, and security. At the end of day of surveying, all submitted surveys will be collected and put into a file folder or large envelope. This envelope will be entrusted to whichever group member has space in a locked filing cabinet, locked drawer, or locked cupboard. When we begin to input our data into excel spread sheets and other digital programs, we will ensure we use a group member's computer which is password protected and is only used by that particular group member and no one else.

8. Indicate how long the data will be securely stored as well as the storage location over the duration of the study. Also indicate the method to be used for final disposition of the data.

- Paper Records
- Confidential shredding after April 12th, 2013
- Data will be retained until completion of specific course.
- Audio/Video Recordings
- Erasing of audio/video tapes after _____
- Data will be retained until completion of specific course.
- Electronic
- Erasing of electronic data after April 12th, 2013
- Data will be retained until completion of specific course.
- Other

(Provide details on type, retention period and final disposition, if applicable)

Specify storage location:

Appendices: ATTACHMENTS Please **check** below all appendices that are attached as part of your application package:

- Recruitment Materials:** A copy of any poster(s), flyer(s), advertisement(s), letter(s), telephone or other verbal script(s) used to recruit/gain access to participants.
- Information Letter and Consent Form(s).** Used in studies involving interaction with participants (e.g. interviews, testing, etc.)
- Information/Cover Letter(s).** Used in studies involving surveys or questionnaires.
- Materials:** A copy of all survey(s), questionnaire(s), interview questions, interview themes/sample questions for open-ended interviews, focus group questions, or any standardized tests used to collect data.

SIGNATURES OF RESEARCHERS

Signature of Student Investigator(s) Date: March, 7th, 2013

Charles Vey

Signature of Student Investigator(s) Date: March 7th/13

Makayla

Mosher

Signature of Student Investigator(s) Date March 7th/ 13

Sasha Stewart

Signature of Student Investigator(s) Date March 7th/ 13
Calder

Brittany

Signature of Student Investigator(s) Date March 7th/ 13
McCaffrey

Grace

Signature of Student Investigator(s) Date March 7th/ 13

Alexa Serafini

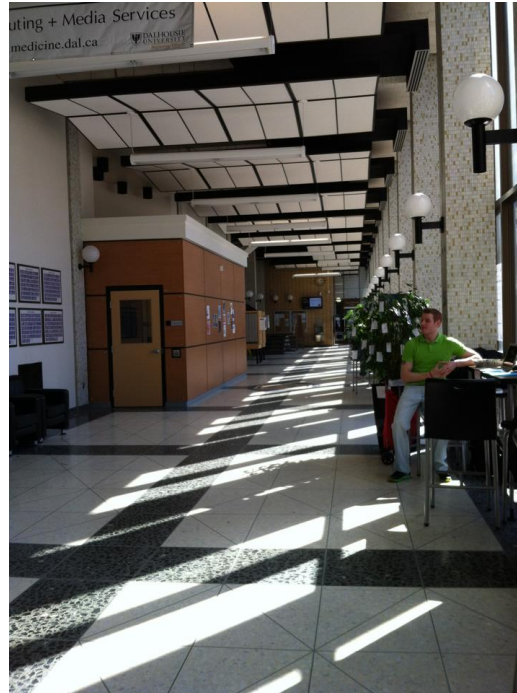
FOR ENVIRONMENTAL SCIENCE PROGRAM USE ONLY: Ethics proposal been checked for eligibility according to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans

Signature Date

Signature Date

Appendix E

Location of Survey

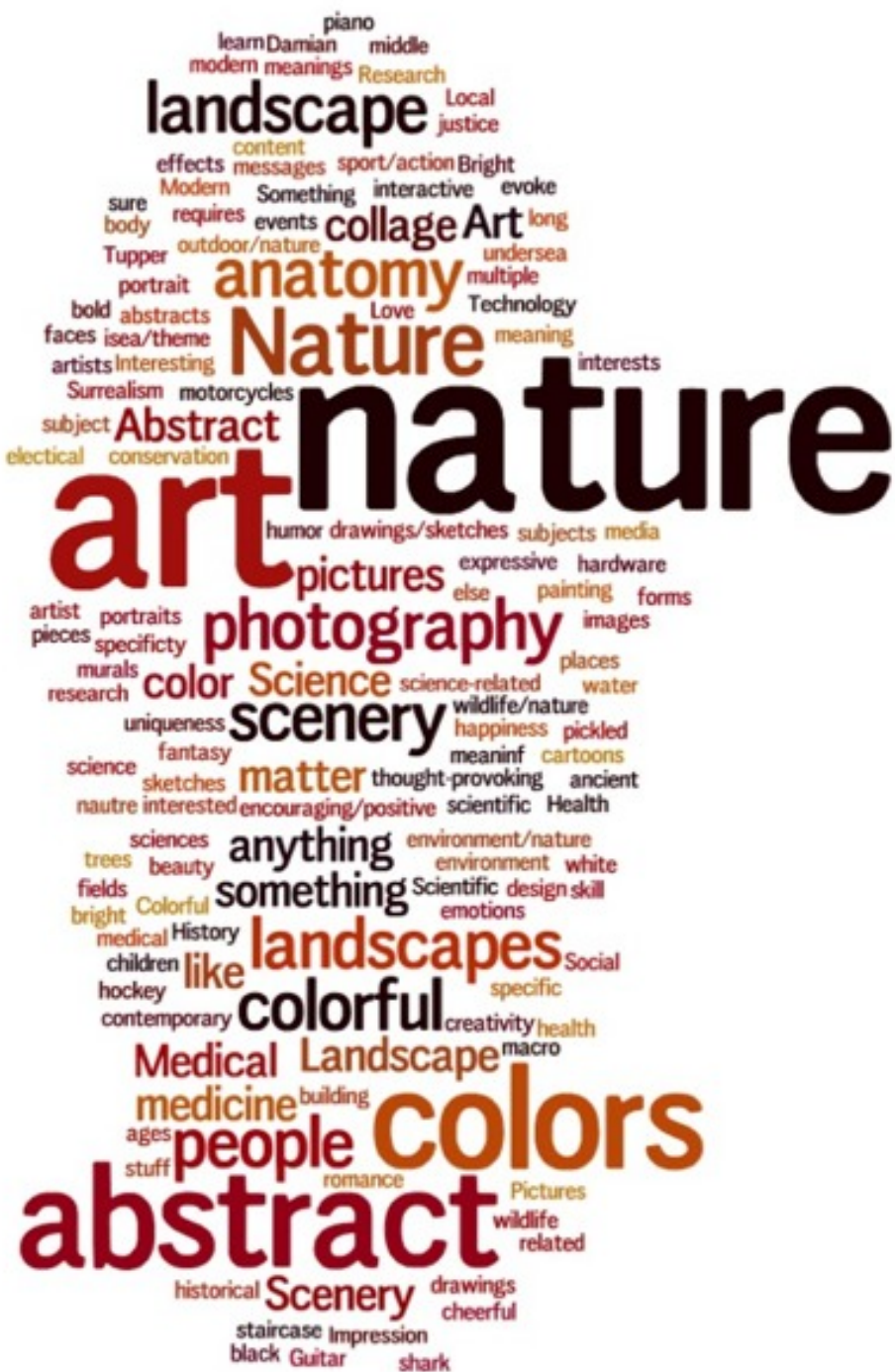


-Tupper Building image from: <http://carrot.mcb.uconn.edu/~olgazh/photogal/may06/>
-Image of Charles Vey, Photographed by Brittany Calder

Appendix F Spreadsheet

3	Arts	4 - Walking By	1	4	2	2	4	2	1	1
3	Nursing	1	1	1	2	2	1,2,4	1	1	1
2	n/a	4 - work	n/a	4	1	5	n/a	n/a	1	1
3	Medicine	1,3	2	3	1	2	2,4	2	1	2
3	sustainability	4 - passing through	2	3	3	2	1,2,5	1	1	2
2	dental	3	1	1	2	3	2	2	1	2
3	micro&immun	1,3,4 - tims	4	2	1	2	5	2	1	2
3	microbio	1,3	3	1	2	2	6 - going to high floors	2	1	1
3	micro&immun	1	4	2	1	2	2	1	1	1
4 - Alumni	n/a	4 - tims	1	1	1	6	n/a	n/a	2	1
3	micro&immun	1,3	3	2	1	2	2,4,5	2	1	2
3	Nursing	1,3	1	2	1	2	5	2	1	2
3	Nursing	1	1	4	2	2	5	2	1	1
3	Nursing	1	1	1	2	2	n/a	2	1	1
3	Nursing	1,3	2	3	2	1	2	2	1	1
3	Nursing	1,3	1	3	2	2	5	2	1	2
3	Nursing	1,3	2	3	2	2	1,2	2	1	1
3	Nursing	1,3	1	3	2	2	5	2	1	2
3	Management	4 - Maintenance	1	3	2	2	5	2	1	2
2	Libraries	4 - Office is here	2	3	2	3	2,5	2	1	2
1	Ped/Biochem/molmio	4 - Office/lab here	2,3	3	1	4	2	1	1	n/a
1	micro&immun	2,4 - meetings	4	2	1	5	2	2	2	2
4 - Post Doc	Pharmacology	4 - visit departments	5	3	1	4	4	1	1	2
3	Nursing	1,3	2	3	1	2	2,4,5	1	1	2
3	Med Neuroscience	1	5	4	1	2	2,4	2	1	1
3	micro&immun	1,3,4 - research	3	3	1	2	2,4	2	1	1
3	microbio	1,3,4 - work	2	2	2	2	2,4,5	2	1	2
3	micro&immun	1,3	5	2	2	2	4,5	2	1	1
3	medicine	1,3	2	4	1	2	2,4	2	1	1
2,3	n/a	1,4 - facilities mgmt	3	3	2	5	2,4,5	n/a	1	2
2	Custodial	4 - clean	5	4	2	4	2,4	1	1	1
3	science	4 - working voting poll	4	3	2	2	2,4,5	2	1	1
3	engineering	4 - casual job purpose	5	3	1	2	2	2	2	2
4	n/a	4 - consulting	1	1	3	2	2	1	2	2
3	Med Neuroscience	3,4 - office	5	1	1	2	4	2	1	1
3	Nursing	1	1	2	2	2	5	3	2	1
2	Bld services	4 - work	5	5	1	5	2,3,4,5	1	1	1
3	microbio	1	2	1	2	1	4	2	1	1
3	microbio	1	3	2	2	2	4	2	2	2
3	Biochemistry	1	4	2	2	2	5	3	1	2
1	surgery	1	2	2	1	1	4,5	2	2	1
3	biology	1	1	1	1	2	n/a	1	1	1
3	Med Neuroscience	1	5	4	1	2	4	2	1	2
3	neuroscience	4 - work in lab	3	3	1	2	5	1	1	1
3	biology	3	2	4	2	2	1,2	1	1	1
3	Science	1	3	1	1	1	5	3	2	2
4 - Alumni	Kellogg Library	4 - work	3	4	2	5	2	n/a	1	n/a
2	n/a	4 - coffee	1	1	2	2	n/a	2	1	2
2	pharmacy	3	1	5	1	2	2,4	1	1	1
2	pharmacy	3	2	5	3	2	2,4,5	3	1	1
3	Biochem/neuro	1,3	2	2	2	2	4,5	2	1	1
3	pharmacy	3,4 - tims	3	1	1	2	n/a	2	1	1
2	deans office/medicine	4 - work	2	3	2	5	2,4,5	n/a	1	2
3	Occ. Therapy	1,3	4	2	2	2	2,4,5	2	2	1
3	Occ. Therapy	1,4 - lunch	2	1	2	2	n/a	n/a	1	1
2	Occ. Therapy	1,3,4 - lunch	5	1	2	3	3,4	2	1	2
2	Occ. Therapy	1,4 - lunch	2	3	2	2	2,3	2	1	1
3	Occ. Therapy	1,3,4 - lunch	2	2	2	2	3,4	1	1	1
3	pharmacy	1,3,4 - tims	2	2	2	2	2,5	2	1	1
2	physio/biophysics	4 - work	4	4	3	3	2,4,5	n/a	1	1
2	physio	3	1	2	2	2	2,3	2	1	1
2	physio/biophysics	4 - work	3	4	2	3	2,4,5	3	1	1
3	physiotherapy	4 - lunch/studying	1	4	1	2	2,3	2	1	2
2	community health	4 - tims	1	2	2	3	2,4,5	n/a	n/a	n/a
3	science	1	3	3	2	2	5	1	1	1
3	microbio	1,3	2	2	2	1	2,5	1	1	2
3	medical	1,3	3	2	2	2	3,4,5	2	2	2
3	pharmacy	3,4 - class nearby	2	2	2	2	2,4,5	2	2	1
3	biochem	1,3,4 - lab	4	2	2	2	2,3	2	1	2
1	dental hygiene	4 - lunch	3	4	1	2	2,4,5	2	2	1
1	nursing	1,3	1	1	2	2	3	3	2	2
2	medicine	4 - work	1	5	3	3	2,4,5	1	1	1
3	medicine	1	1	3	1	2	4	1	1	1
4 - sales rep	biochem	4 - sales	2	4	1	5	1,2,4	n/a	2	n/a
3	microbio	1	3	2	2	2	n/a	2	1	1
3	microbio	1,3	2	2	2	2	2,5	2	1	1
2	CME	4 - work	1	2	1	3	2,4,5	2	2	1
3	micro	1,3	5	2	2	2	4,5	2	2	2
3	physiotherapy	1,3	3	3	2	2	2	2	3	2
3	physiotherapy	1,3	2	2	1	2	2,3,4	2	1	1
3	nursing	1	1	1	2	2	1,2,4,5	1	1	1
3	nursing	1,3	1	2	2	2	2,5	2	1	1
3	nursing	1	1	3	2	4	4	2	1	1
3	microbio	1,4 - work in lab	3	4	1	2	1,2,4,5	2	2	1
3	medicine	1,3	2	2	1	2	1,2,4	1	1	1
3	cleaning staff	4	5	2	1	6	2	1	1	n/a
2	micro&immun	4 - work	4	3	1	5	2,4,5	1	1	2
3	biochem	1	4	1	1	2	3	2	1	1
2	biochem	4 - tech (work)	4	5	1	5	2	1	1	2
3	biochem	1,3,4 - work in lab	5	4	2	2	2,4,5	2	1	1
1	ENT/surgery	1	2	1	6	1	6 - destination 2nd fl.	1	1	1
3	physiotherapy	3	1	5	1	2	2,3,4	2	1	1
3	Nursing	1	1	5	2	2	2,4,5	1	1	2
3	biomed engineering	1	3	1	1	2	1,2,4,5	2	1	1
4 - go to SMU	anthropology	3	1	2	1	3	1	1	1	1
2	BHCRI	4 - work	2	2	5	5	n/a	1	1	2
2	UGME	4 - work	1	5	2	2	2	2	1	2
3	Health promo	3	3	3	2	3	1,2,5	2	1	1
2	Division Medical Education	4 - work	2	4	1	4	1,2,4	1	1	2
3	pharmacy	3	1	3	2	2	1,2,4,5	2	2	1
3	biochem & bio	1,4 - work	5	3	1	2	4,5	1	1	1
3	medicine	1,3	3	2	2	2	2,5	2	1	2
3	medicine	1,3	2	2	1	2	4	2	1	2
3	physio	1,4 - work in lab	5	5	2	2	2,4	2	1	2
3	health sciences	3	1	2	1	2	5	2	2	1
3	physiotherapy	1	3	1	2	2	n/a	3	2	2
4 - I am none	none	4 - warmup/bathroom	1	1	2	2	2	2	1	2
3	microbio	1,3,4 - socializing	3	5	2	2	5	n/a	n/a	n/a
3	pharmacy	3	1	1	1	2	2	2	1	2
3	medicine	1,3	1	1	1	2	n/a	3	2	1
3	n/a	1	1	3	2	1	5	3	1	1
3	Nursing	1,3,4 - tims	1	5	2	2	2,4,5	2	1	1
2	biochem	4 - work	2	5	2	6	5	1	1	2
2	n/a	4 - trades staff	5	5	1	5	4	n/a	1	1
2	health sciences	3	2	3	1	2	5	n/a	2	1
2	Pharmacology/pathology	4 - work	5	2	3	3	2,5	2	1	2
1	Bioethics	2	1	5	2	3	1,2,4,5	1	2	1

Appendix G
Wordle



Appendix H

Responses for “Other”

Chart 1: Responses for the category “Other” for question one of the survey “What is your affiliation with Dalhousie University?”.

Alumni

Post Doc

I go to Saint Mary’s University

I am none

Chart 2: Responses for the category “Other” for question three of the survey “Why do you use the Tupper Building?”.

Walking by

Work

Passing Through

Tim Hortons

Maintenance

Office is here

Office/Lab is here

Meetings

Visit departments

Research

Clean

Facilities Management

Working voting poll

Casual job purpose

Consulting

Coffee

Lunch

Lunch/studying

Class nearby

Lab

Sales

Tech (work)

Warmup/bathroom

Trades off

Chart 3: Response for the category “Other” for question eight of the survey “If you do use the stairs, what motivates you to take the stairs over the elevator?”.

Going to high floors

Destination 2nd floor