

Running Head: HONORS THESIS PROJECT

HOW RESIDENCY AFFECTS THE GRADES OF UNDERGRADUATE STUDENTS

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Table of Contents

I. Abstract.....3

II. Introduction and Research Problem.....3

    Statement/Justification of Research Problem.....3

    Hypothesis.....4

    Literature Review.....6

III. Research Methods.....8

    Operationalized Variables.....8

    Instrument Validity and Reliability.....10

    Research Design.....11

    Sampling Methodology.....12

    Data Collection.....14

    Ethics.....14

IV. Results.....15

    Descriptive/Univariate Analysis .....16

    Measures of Association/Bivariate Analysis.....17

V. Discussion.....19

    Conclusions.....19

    Limitations.....23

    Recommendations for Future Research.....25

VI. References.....28

VII. Appendices.....30

    Summary Tables and Graphics from the Analysis.....30

## Abstract

Using data collected from SUNY Brockport National Survey of Student Engagement 2011 (NSSE) results, 946 first year and senior year student's grades were compared to three variables: ages, transfer status, and residence. SPSS was used to run univariate and bivariate analyses to determine the relationship between grades and the three independent variables. The results showed that older students earned higher grades although the progression from lowest to highest grade earners did not follow the progression of ages. Our analysis of grades in relation to transfer status showed that transfer students scored lower than native students, which is likely due to transfer shock. The results of our analysis of grades in relation to residency showed that on-campus students were the highest grade earners with commuters coming in second.

## Introduction and Research Problem

### **Statement and Justification of the Research Problem**

Many different factors affect student grades in college. Each individual has a unique experience that affects success and, ultimately, grades. Although there are multiple variables to be considered when evaluating what makes a student successful, three variables stand out as most relevant. Age, as a variable, is an important aspect to consider when it comes to grades and academic success. With age comes experience, and with experience comes ability. Abilities such as "commitment, control, challenge and overall hardiness" develop over time (Sheard, 2009). Including age in this study was essential because the development of such abilities may influence academic success.

Transfer status is also an area of interest for similar reasons. Many community colleges offer only two year programs. If a student wishes to further their higher education they must

transfer to a four year college that offers a continuation of baccalaureate, masters, and doctorate programs. This is directly linked to the student's age but other aspects of being a transfer student, such as a phenomenon called "transfer shock", may also affect a student's performance (Stewart & Martinello, 2012).

Lastly, this study took into account a student's living situation as a variable. This study aimed to see if there was any observable correlation between a student's living situation and their overall grades. It was theorized that these three factors greatly impact a student's performance. This study examined these three parts of a holistic student to see if there can be any logic found in the data that has been collected. The original research question proposed was: How do the age, transfer status, and living situation of an undergraduate student affect the grades received by that student? The research question was then narrowed down to: Does the residency status of undergraduate college students affect the grades they earn? With the additional questions of: How does age affect the grades of undergraduate college students? How does transfer status affect the grades of undergraduate college students?

## **Hypothesis**

For this study there is one dependent and three independent variables to define and consider. The data used in this study was pulled directly from the National Survey of Student Engagement 2011 (NSSE). The dependent variable used in this study is the student's grades. In the NSSE, the twenty fifth question on the survey asks "What have most of your grades been up to now at this institution?" (National Survey of Student Engagement, 2011) This question gives direct data in relation to overall grades. The responses are divided up according to letter grade: A, A-, B+, B, B-, C+, C, and C- or lower.

The first independent variable for this study is living situation. The NSSE measures student's living situation on the twenty sixth question by asking "Which of the following best describes where you are living now while attending college?" The five options to choose from are "Dormitory or other campus housing (not fraternity/sorority house)", "Residence (house, apartment, etc.) within walking distance of the institution", "Residence (house, apartment, etc.) within driving distance of the institution", "Fraternity or sorority house", and "None of the above" (National Survey of Student Engagement, 2011).

The second independent variable is age. The fifteenth question on the NSSE simply asks the student to "Write in the year of your birth" (National Survey of Student Engagement, 2011). The last independent variable is transfer status. The twentieth question of the NSSE asks "Did you begin college at your current institution or elsewhere?" (National Survey of Student Engagement, 2011). When taking transfer status into consideration, it was important to find the exact data set that was used on the NSSE. There were two questions that pertained to starting off at another institution and what types of institutions or schools were attended between high school and the time the survey was taken. Both questions could possibly be used in terms of determining transfer status; however, the simple question of whether or not college was started at the current institution suffices, even if the word "transfer" is not directly used. Students who did not transfer will be referred to as "native students".

With the dependent and independent variables taken into consideration, three different hypotheses were formed. First, we hypothesized that the older a student is, the higher their grades will be. Second, students transferring from another college or university will have higher grades than the native students.

Lastly, students living off campus (in any living situation other than dormitory residence) will have higher grades than those living on campus. The hypotheses have been built from previous findings on the subjects.

### **Literature Review**

Overall we are focusing on the topic of whether or not age, transfer status, or living situation affects the grade point average (GPA) of college students. There are many research studies that touch on different aspects of our research question but none that are specific to our query. When evaluating grades, the NSSE uses the letter grade designations: A, A-, B+, B, B-, C+, C, and C- or lower. Therefore, our dependent variable will use these letter designations when referring to a student's grades.

When reviewing the current literature in regards to the effect age has on a student's grades, it has been found that older students, over the age of 21, display "higher levels of achievement motivation and conscientiousness, willingness to work, persistence, critical reflection, and internal locus of control and self-efficacy" (Sheard, 2009). The explanation for these characteristics may be due to the perception that as older students, they have limited time left in which to prepare for a career. Education is viewed as a catalyst for change, placing pressure on them for success (Shanahan, 2000). In addition, an increased confidence due to their previous life experiences can also be contributed to their higher grades compared to students under the age of 21 (Sheard, 2009). In regards to the mature student's approach to learning, it has been found that they "appear to try to work out the meaning of information for themselves, do not accept ideas without critical examination of them, relate ideas from their studies to a wider context, and look for reasons, justifications, and logic behind ideas" (Sadler-Smith, 1996). The

literature reviewed regarding a student's age and the effect it has on their grades supports our hypothesis that age is a factor in how well an undergraduate performs in school. Specifically, older students (those above age 21) earn higher grades than those students under age 21.

A student's transfer status can also affect their grades. Previous research studies are mixed on what effect transferring from a two-year college to a four-year college has on students (Stewart & Martinello, 2012). Transfer Shock has been found to be a contributing factor in a transfer student's initial success. Transfer Shock refers to the drop in grade point average (GPA) after a student transfers (Young, 2013). Factors that contribute to Transfer Shock have been identified as being related to: demographics, psychological barriers and challenges, anxiety, stress, economic factors, social factors, and the lack of sufficient academic preparation at the two-year institution (Stewart & Martinello, 2012). A study by Best and Gehring in 1994 demonstrated that the academic performance of two-year college transfers into a four-year university showed no statistically significant difference between the GPA's of the transfer students and the native students. However, there was a notable difference in the graduation rates which favored the native students. Sixty percent of native students graduated while only 40% of the transfer students graduated (Best & Gehring, 1994). In another study by Matthew D. Johnson in 2005, no statistical evidence was found to support the hypothesis that transfer students perform better or worse than native students when comparing GPA's (Johnson M. D., 2005). These examples of mixed results necessitate further investigation on whether transfer status affects a student's grades.

Research conducted thus far on how a student's living situation effects their grades is limited to the influence of residence hall environment and participation in campus activities on student's grades (Wang, Arboleda, Shelley, & Whalen, 2004). In this study, it was found that not

all students benefit from the social involvement found in student housing. Rather, a significant number of students prefer studying in a quieter, secluded environment, increasing their academic success (Wang, Arboleda, Shelley, & Whalen, 2004). This limited research is indicative of the need for further investigation into how a student's living situation affects their grades.

## Research Methods

### **Operational Variables**

To ensure that there is validity in research, there must be an understanding of terms that is established before beginning a study. Validity guarantees that a study is measuring what it sets out to measure. The amount of variables that affect any given dependent are countless; in order to narrow down a focus, strict terms must be stated and enforced throughout a study. Since this particular study used information from the National Survey of Student Engagement (NSSE), it is easy to define and measure both the dependent and independent variables. The dependent variable used in this study is the student's grades. In the NSSE (2011), the twenty fifth question on the survey asks "What have most of your grades been up to now at this institution?" (National Survey of Student Engagement, 2011). This question gives direct data in relation to overall grades. The responses are divided up according to letter grade: A, A-, B+, B, B-, C+, C, and C- or lower. The first independent variable for this study is living situation. The NSSE (2011) measures student's living situation on the twenty-sixth question by asking "Which of the following best describes where you are living now while attending college?" (National Survey of Student Engagement, 2011). The five options to choose from are "Dormitory or other campus housing (not fraternity/sorority house)", "Residence (house, apartment, etc.) within walking

distance of the institution”, “Residence (house, apartment, etc.) within driving distance of the institution”, “Fraternity or sorority house”, and “None of the above” (National Survey of Student Engagement, 2011). The second independent variable is age. The fifteenth question on the NSSE (2011) simply asks the student to “Write in the year of your birth” (National Survey of Student Engagement, 2011). The last independent variable is transfer status. The twentieth question of the NSSE asks “Did you begin college at your current institution or elsewhere?” (National Survey of Student Engagement, 2011).

These variables were chosen for this study out of pure curiosity and accessibility. The research team wanted to know the correlation between the four variables in order to better predict which students can be identified as those needing extra supports in order to succeed as undergraduates. The variables were clearly outlined in the NSSE (2011) so it was easy to identify what data was to be measured and worked with.

Previous studies conducted by researchers in relation to each variable and the effects they have on students’ grades have mixed results. In reviewing how age affects grades, the literature shows that older students consistently perform better than younger students (Sadler-Smith, 1996), (Shanahan, 2000), (Sheard, 2009). When studying the effects of transfer status on students’ grades, transfer shock has been shown to play a part in grades, causing students to perform more poorly than their native counterparts (Johnson, 2005). However, additional research has shown that transfer students perform equally well as their native student counterparts (Stewart & Martinello, 2012) resulting in mixed research results.

When reviewing previous studies on how residency affects a student’s grades, very little previous research has been conducted. For this reason, the research team made the question of how residency affects a student’s grades the primary focus of this study.

### **Instrument Validity and Reliability**

In regards to the development of the NSSE (2011), many areas have been updated and changed with each new version. Our dependent variable, which is grades, can be defined in a few different ways. Different academic institutions (different countries as well) use different scales of grading which range from numerical percentages, (based on precise numbers from grades given) to letter grades, which encompass a small range of numerical grades. The research can vary depending on what type of grading scale is used; the more precise numerical or the more relative letter. Despite how the term “grades” itself is defined, the interpretation is where there may be divergent data.

With the sometimes difficult task of defining a term, it is always helpful to check the integrity of a definition against different types of validity. Face validity is the simplest form of validity to test against; it merely asks if the question or term clearly and explicitly talking about the concept is that which is being measured. Content validity is achieved when all aspects of a concept are covered and the various dimensions are identified through prior research, expert opinion, and extensive literature review. Criterion validity pertains to the term it was named after, the criterion. Association is the main aspect of criterion validation. In essence, criterion validity is achieved when a result from one measure produces similar results to an already validated measurement. Out of the various types of validity, content validity can be easily applied the NSSE (2011). Making sure every option is encompassed is an important aspect of a survey. Quantitative research has a degree of impersonality to it. There must be set options already in place, where qualitative leaves the response open to individualization. The question on the NSSE (2011) that pertains to living situation had to be precise if it wanted to cover all of the housing options. Leaving an option out could possibly skew data.

There are three main ways to determine whether or not an instrument is reliable or not. First, there is test-retest reliability. Test-retest simply means an instrument can provide the same or similar results when it is taken again. Split-half reliability divides an instrument up and still produces a similar correlation. Alternate reliability takes the questions brought up in an instrument, rewords and makes them slightly different, and determines if the same results are produced. The NSSE will always have different results since it does not test the same people every time it is given but test-retest can be applied because there will most likely be trends that will repeat themselves over time.

### **Research Design**

In this research design the researchers looked at students taking The National Survey of Student Engagement (NSSE) 2011. The NSSE (2011) is considered cross-sectional research because it is data that is collected at only one point in time from different samples of the college population. Cross-sectional research is not the only form of research, there are also longitudinal studies. These are research studies that are not done at one point in time but instead, are done over a period of time using a population that is fixed. For example; in this research project we evaluated how a student's place of residence affects their grades. A longitudinal study would take a sample of students and begin by questioning them at the end of their first semester. Included would be questions regarding their grades and their living situation. Researchers would then re-question them at the end of each semester until they graduate. This would provide researchers with a timeline of how their grades changed or stayed the same based on their living situations. The sample would include students who start out living in each of the five categories set forth by the NSSE (2011) and include a large enough sample to encompass all ranges of grades.

## **Sampling Methodology**

Sampling is an enormously important part of not only research in the sense of social work but in research in all of the empirical sciences. Choosing a sample from the population as a whole is important because the need for generalizability is integral for making widespread, lasting change. The NSSE (2011) is one such attempt to make change as well as test the waters to see how engaged students are with their campus. In order to evaluate the NSSE (2011) data, however, there must be some amount of focusing in on a generalizable sample.

**Population:** The population of a study is the entirety of entities that the study is aimed to generalize with. In this case, the NSSE's population is the college student body in the United States.

**Elements:** The population is comprised of elements, who are individual subjects of the study. The elements of the NSSE (2011) are individual college students.

**Sample:** With the NSSE (2011) covering many colleges with many students, the study aimed itself at a smaller, more manageable sample. For this study, SUNY Brockport students were chosen to be sampled. The NSSE (2011) chooses to sample the incoming freshman and outgoing seniors in order to narrow that college population down even further.

**Sampling Frame:** In order to administer the study, the NSSE (2011) needed a sampling list to choose the elements from. The colleges who agreed to administer the NSSE all have rosters of students on campus. SUNY Brockport used its listing of first year students and seniors as their sampling frame.

**Enumeration Units:** In some cases it is difficult to single out specific elements that pertain to the study. In order to obtain relevant elements, a study can seek out enumeration units, which are units that may hold elements who will be relevant to the study (Engel & Schutt, 2013). The

college simply had to send emails to those who were of freshman or senior status (the two enumeration units that would be relevant to the sample) to request they take the survey.

**Sampling Units:** Many studies take data from sampling units that give additional information to the study but are not the actual elements. The NSSE (2011) gives an option to check off sophomore or junior status, which would be two populations that may take the test and give additional information but are not the actual elements of the study, making them sampling units.

The NSSE is a survey that is specifically aimed at college freshman and seniors with the intent to gauge a college's engagement amongst its students. Because of this, the NSSE (2011) uses a methodology called purposive sampling. Purposive sampling is utilized when certain elements are targeted for their knowledge of a certain subject, willingness to talk, and if they happen to represent a large range of points of view. This method is useful for the purpose of the NSSE (2011); who better to ask about student engagement than the students themselves? The problem with this methodology, like any nonprobability sampling method, is that researchers may not end up with a representative sample. Since purposive sampling targets certain populations, researchers are likely expecting certain results.

Overall, the way this survey is set up, it probably will be representative of the larger population. The NSSE (2011) is administered all over the United States so it encompasses elements from different locations. The NSSE (2011) samples from freshman, who represent the underclassmen, and seniors, who represent the upperclassmen. Each individual college most likely will not be representative of the entire college population, but combining the data from all the colleges enlarges the sample size, making the survey as a whole fairly generalizable.

**Data Collection**

The 2011 NSSE was administered by 673 participating colleges and universities to 416,000 students (National Survey of Student Engagement, 2011). The NSSE measures student engagement on college campuses and is used by the institutions to evaluate existing programs and develop new programs to better meet the needs of their students. It is designed for first year students and seniors in bachelor's degree programs across all fields of study. The NSSE is overseen by the Indiana University Bloomington Institutional Review Board and requires that all participating institutions abide by the Institutional Participating Agreement. This agreement includes procedural provisions that include, but are not limited to: providing a population data file that contains information for all bachelor's seeking first and senior year students, compliance with all survey preparation deadlines, survey administration must adhere to federal regulations regarding the protection of human subjects, all participation incentives must be reviewed and approved by NSSE, and institutions may not exceed five direct student recruitment messages (The Trustees of Indiana University, 2014). Student recruitment is done primarily via email invitation to the targeted subject group, which makes participation in the survey voluntary.

**Ethical Issues and Concerns**

Potential research studies must be reviewed by Institutional Review Board (IRB) committees. There are three categories of review: exempt status determination, expedited reviews and full committee reviews (Engel & Schutt, 2013). Exempt status is assigned to studies that involve minimal contact with human subjects. For example, reviewing existing data or records previously conducted in a way that the participants remain anonymous. For our study, we

will be using data collected through the NSSE (2011) so we would fall under exempt status (National Survey of Student Engagement, 2011).

In evaluating the data from the NSSE (2011) for this research project, there are very few ethical issues that come into play. The most applicable in this case would be in The National Association of Social Workers (NASW) Code of Ethics. In section 5.02k, it is the responsibility of the researchers to ensure that the information collected from the NSSE is used only for professional purposes (NASW, 2008). In 5.02n, it is also the obligation of the researchers to report the findings accurately and honestly and if mistakes are made, to correct them as soon as possible (NASW, 2008). It is also the responsibility of the researchers to maintain confidentiality and the anonymity of the subjects in the study but because the NSSE (2011) data has been collected with all identifying markers removed, this will not apply to this project. Obtaining informed consent does not apply as well due to the data being previously collected prior to this evaluation.

The NSSE (2011), as it was administered at SUNY Brockport did pose one ethical issue of concern. There were four students that were identified as being underage that participated in the survey. Due to their ages, parental permission should have been obtained before they were allowed to participate. If no parental permission was obtained they should have been excluded from participating in the survey.

## Results

### **Research Questions**

Question A: How does where you live affect your grades as an undergraduate college student?

Question B: How does your age affect your grades as an undergraduate college student?

Question C: How does transfer status affect your grades as an undergraduate college student?

### **Descriptive Statistics/Univariate Analysis**

The sample for this study was taken from the National Survey of Student Engagement 2011 (NSSE). All data analyses were performed using SPSS version 10.0 (SPSS 1999). The NSSE (2011) surveyed undergraduate students from colleges around the United States. The data used in this evaluation was pulled from the SUNY Brockport NSSE (2011) results, which consisted of 946 respondents from first year students and seniors. The data was further narrowed for question A to 819 NSSE (2011) respondents who answered the questions “What have most of your grades been up to now at this institution?” and “Which of the following best describes where you are living now while attending college (university)?” For question B, 821 respondents answered the questions “What have most of your grades been up to now at this institution?” and the recoded age that was pulled from variable BIRHTYR. Finally, for question C, the data was pulled from 820 respondents who answered both “What have most of your grades been up to now at this institution?” and “Did you begin college (university) at your current institution or elsewhere?”

The univariate analysis ran on the variables using SPSS gave the researchers a starting point in terms of how to answer the hypotheses. The dependent variable for each of the three research questions is a student’s grades. The mean for grades was 6.16 (Appendix A) which, according to the NSSE (2011) codebook (National Survey of Student Engagement, 2011), equates to a B+ (Appendix B).

The independent variable for Question A was where the student lives. The data for residency is nominal data with a bimodal distribution. The greatest amount of students (332) live in dormitories and the second greatest amount (278) live off campus within driving distance

(Appendix C). Dormitory living is coded as 1 and off campus within driving distance as 3. The mean falls between the two modes at 2.06, which is off campus within walking distance (Appendix D).

For Question B the independent variable is the student's age. The NSSE (2011) question regarding age simply asks for a birth year; however it also recodes the ages into categories as well, instead of looking at individual ages. The mean for the categorized ages is 2.07 (Appendix E) which equates to 20-23 years (Appendix F).

Lastly, for Question C the independent variable is transfer status. The NSSE (2011) coded for transfer status as either a "Started here" (1) or "Started elsewhere" (2) (Appendix G). The mean is a 1.38 (Appendix H) which puts most of the students as native students, or "Started here".

### **Measures of Association/Bivariate Analysis**

Hypothesis A: Off campus undergraduate college students earn higher grades than their on-campus counterparts.

The researchers ran a cross tabulation analysis using SPSS (Appendix I) in order to determine the difference in grades between students who lived in dormitories, off-campus within walking distance, off-campus within driving distance, fraternity/sorority, and other living situations. The results consistently point to the conclusion that on-campus students receive the highest grades compared to the four other residency options. The next highest grades were earned by students who lived off-campus within driving distance. The third highest grades earned were by students living within walking distance. These findings are contrary to the original hypothesis that off-campus students receive higher grades. A side hypothesis suggested

that students who live in sorority and fraternity houses would generally earn lower grades than any other category. The data supports this initial hypothesis.

One issue found with the data is the category “none of the above”. Thirty-two students reported that they do not live in any of the categories listed. This is significant when compared with their grades, which were all within the B- to A range. It would be prudent to decipher what “none of the above” refers to in future NSSE (2011) versions.

The overall interpretation of the data proved that preexisting stereotypes can often be incorrect, leading to faulty information if acted upon. Seeing that the best grades were earned by those who lived on-campus negated the original hypothesis and led the researchers to investigate why on-campus students were ranked highest in that regard.

Hypothesis B: Older students earn higher grades than younger students.

The researchers ran a means comparison on SPSS (Appendix J) for students who are grouped into the age groups “19 or younger”, “20-23”, “24-29”, “30-39”, “40-55”, and “Over 55”. There was no progression from worst grades to best in regards to youngest to oldest students. However, the highest grade earners were the students in the 30-39 group, second highest was the 40-55 group, and third highest was a tie between 19 or younger and over 55. Overall, the latter half of the age group outmatches the younger half. For the most part, the means that was run supports the hypothesis, but not in the way anticipated. The assumption of the researchers was that as a person ages, they have more experience in managing their time and therefore are able to more effectively deal with the workload college has to offer and receive better grades. In addition, research shows that older students value their education and are more

invested in being successful, leading them to prioritize their commitments differently than younger students (Sheard, 2009).

Hypothesis C: Transfer students will have higher grades than native students.

A means comparison was run using SPSS between the grades of native students compared to transfer students (Appendix K). The NSSE (2011) determines transfer status simply by asking respondents if they started college or university “At their current location” or “Elsewhere”. Contrary to the original hypothesis, the students who started out at Brockport, according to the NSSE (2011), generally receive higher grades than their transfer counterparts. With only two options, the only conclusion was that one performed better than the other. The literature review conducted prior to our research indicated that previous attempts at answering this research question have resulted in mixed results. The fact that there is a difference between the grades of native students (6.29 or B+) and transfer students (5.94 or B) proves to be interesting.

## Discussion

### **Conclusions**

Many conclusions can be drawn from the data that has been collected by the NSSE (2011). While it can be debated as to whether or not the collected data is valid due to some inherent issue with wording or not having a specific enough questions or responses, the data gathered was the basis for answering each of our research questions and did provide some interesting results.

Question A: How does where you live affect your grades as an undergraduate college student?

The results of the research in regards to this first question demonstrated that students that live on-campus receive higher grades than the other 4 residence options. The second highest grade earners are those living off-campus within driving distance, which translates to commuter students. The conclusion can be drawn from this that students living on campus tend to be more focused on their studies and the immersion into the college experience translates into higher grades. Those students living off-campus, in sorority and fraternity houses, and “None of the above” had the lowest grades, indicating that perhaps their living situation prevents them from focusing on their studies as much as on-campus students. The conclusion regarding commuter students earning the second highest grades suggests that they may be older students who place a high value on education, as discovered when comparing age and grades. To confirm this, data comparing the ages of the commuter students would be helpful.

Previous research on this question is very limited; therefore our results lack confirmation from additional studies. One study in particular looked at the influence of residence hall environments and the campus activity participation level on student’s grades and found that not all students benefited from the social involvement found in student housing. A significant number of students prefer studying in a quieter and more secluded environment to increase their academic success (Wang, Arboleda, Shelley, & Whalen, 2004).

The implications of the findings suggest that those students not living on campus and those commuting would benefit from stronger academic supports. One program change that may be helpful in increasing their success is increasing the level of tutoring services offered as well as offering off-campus locations for tutoring as an option, making these services more accessible. While SUNY Brockport already has a strong program in place for commuters, such as a

commuter lounge, those students living off-campus but within walking distance may benefit from similar focused programs as those provided for the commuters.

Question B: How does your age affect your grades as an undergraduate college student?

The conclusions for this research question were consistent with previous research conducted. Older students do earn higher grades than younger students. When reviewing the current literature in regards to the effect age has on a student's grades, it has been found that older students, over the age of 21, display "higher levels of achievement motivation and conscientiousness, willingness to work, persistence, critical reflection, and internal locus of control and self-efficacy" (Sheard, 2009). The explanation for these characteristics may be due to the perception that as older students, they have limited time left in which to prepare for a career. Education is viewed as a catalyst for change, placing pressure on them for success (Shanahan, 2000). In addition, an increased confidence due to their previous life experiences can also be contributed to their higher grades compared to students under the age of 21 (Sheard, 2009). In regards to the mature student's approach to learning, it has been found that they "appear to try to work out the meaning of information for themselves, do not accept ideas without critical examination of them, relate ideas from their studies to a wider context, and look for reasons, justifications, and logic behind ideas" (Sadler-Smith, 1996). The literature reviewed regarding a student's age and the effect it has on their grades supports our findings that age does affect a student's success in regards to grades.

The implications of the findings suggest that younger students would benefit from mentoring by older students. A program change that involves a buddy system or mentoring system may be very helpful for younger students in order to help them adopt confidence,

motivation, persistence, and conscientiousness, all of which can be learned traits regardless of age. However, due to older students having additional responsibilities outside of their college studies, this may be difficult to implement, although not impossible.

Question C: How does transfer status affect your grades as an undergraduate college student?

The conclusions for this research question are consistent with previous research that indicates mixed results on whether transfer students or native students earn higher grades. In the Brockport NSSE (2011) survey results, native students earned higher grades than transfer students. This may be due to Transfer Shock. Transfer Shock refers to the drop in grade point average (GPA) after a student transfers (Young, 2013). Factors that contribute to Transfer Shock have been identified as being related to: demographics, psychological barriers and challenges, anxiety, stress, economic factors, social factors, and the lack of sufficient academic preparation at the two-year institution (Stewart & Martinello, 2012). Contradicting this, is a study by Best and Gehring in 1994 which demonstrated that the academic performance of two-year college transfers into a four-year university showed no statistically significant difference between the GPA's of the transfer students and the native students. In another study by Matthew D. Johnson in 2005, no statistical evidence was found to support the hypothesis that transfer students perform better or worse than native students when comparing GPA's (Johnson M. D., 2005).

The implications from these results indicate that transfer students to Brockport may be experiencing Transfer Shock. In order to combat this, a recommended program change includes a comprehensive transfer program that allows new transfer students to meet with a mentor and participate in activities designed to help them acclimate to the new institution. While a transfer support program at Brockport is already in place, it may be lacking in personal connections.

Students that are pro-active should have no trouble finding the support they need if they seek it out. However, the more withdrawn students that may be at the most risk for transfer shock would benefit from a more aggressive program that draws them out and encourages them to connect with peer mentors during their transition. One suggestion is to expand the program to include assigned groups for each transfer student. For example, each transfer student would be assigned to a group of 6-8 other transfer students, all assigned the same mentor. The groups would be given opportunities to meet together periodically to form friendships, share information that they've learned about campus and campus life, and support each other during their transition.

### **Limitations to Study**

The NSSE (2011), like any other survey, has limitations. In general, self-reporting surveys are limited by the accuracy of the respondents' interpretation of the questions being asked as well as the answer options given. The interpretation of answer choices such as "Very often", "Often", "Sometimes", and "Never" can be subjective and open to interpretation from student to student. There is no scale provided that can be translated concretely and universally by each student, thereby affecting the results and making them individually subjective. To increase the validity and reliability of these questions, a concrete measurement method would need to be developed that would eliminate the need for interpretation by the participants, thus removing the subjectivity factor from the response choices.

Additionally, self-reporting surveys in general rely on the honesty of the participants. When faced with questions that are perceived as threatening, respondents may lie instead of choosing to not answer (Northrup, 1996). While there is little included in the NSSE (2011) that is potentially embarrassing or perceived as threatening, a misrepresentation of a student's grades,

for example, can greatly impact the results of the NSSE (2011). One method of overcoming this risk is to ensure that the questions are worded in the most non-threatening way possible, encouraging honest responses.

There is also the question of whether the students who voluntarily participate in the NSSE (2011) survey are students who are by nature, more involved and active in their college experience, thereby resulting in data that is unintentionally biased. For example, if the NSSE (2011) demonstrates that students that take a more active role in their education have higher grades on average, and students that are more active are more likely to take a survey, there would need to be a way to separate out that variable in order to have the most accurate results.

Specifically to the research questions posed in this study, there are some limitations to the NSSE (2001) found as well. First, when asked to identify their class status, students were given the options of “Freshman/first year”, “Sophomore”, “Junior”, “Senior”, and “Unclassified” (National Survey of Student Engagement, 2011). This question can have two different interpretations. Credit hours determine class classification, however, individuals who have been at an institution for four years may consider themselves to be of senior status but only have enough credits to be considered a junior. The converse holds true as well. A student may have the credits needed to qualify as a senior and yet be only a junior in their chosen program. In order to create a survey that has better validity in that sense would be to split the question in half, asking credit standing as well as class standing.

A second area of limitation is found in the question “Which of the following best describes where you are living now while attending college?” The five options are: “Dormitory or other campus housing (not fraternity/sorority house)”, “Residence (house, apartment, etc.) within walking distance of the institution”, “Residence (house, apartment, etc.) within driving

distance of the institution”, “Fraternity or sorority house”, and “None of the above” (National Survey of Student Engagement, 2011). Of the 821 students who responded to this question in the SUNY Brockport NSSE in 2011, 32 chose the answer “None of the above”. While this is only 3.9% of the respondents, each of those 32 respondents reported grades of B- and higher with the majority scoring B’s and B+’s. This leads the researchers to question what residency options fall in that category and request additional category options on future version of the NSSE.

A third area of limitation to our research is grades. In the NSSE (2011), grades are defined by letters. Specifically, A, A-, B+, B, B-, C+, C, and C- or lower. A more concrete measurement of grades is Grade Point Average (GPA). GPA is by nature more specific and less open to interpretation by students. Asking the students for their current GPA may prove to give a more accurate accounting of student grades than letter designations. In addition, this question could be expanded to ask them their GPA for the previous semester as well in order to measure progression.

One ethical issue we identified is a breach in consent. There were 4 minors recorded as having taken the NSSE (2011). While this does not necessarily invalidate the data, it does call into question whether the minors should have received parental consent before participating in the survey.

### **Recommendations for Future Research**

The recommendations for future research as a result of these research questions are numerous. First, the NSSE (2011) question “Which of the following best describes where you are living now while attending college (university)?” includes the response “None of the above”. Thirty-two respondents chose this option, all of which report grades ranging from B- and up,

calling into question where they live that is supportive of such grades. Further research into these living accommodations would be beneficial in deciphering which living arrangements are the most conducive to success in college.

Additional research would also be prudent in relation to a student's living status and how it affects their grades. Our study showed that students living on campus and commuters have the highest grades. However, very little additional research has been conducted on this subject outside of Brockport's NSSE (2011) results, leaving room for much more in-depth investigation into this variable in the future.

Another area of this research that would benefit from further study is breaking down the ages of commuter students to investigate the relationship between ages and grades. For example, are commuter students the second highest grade earners because their mean age falls into the 30-39 year old category? Or are they the second highest grade earners because they live off-campus? This would be interesting data to evaluate to determine why they are the second highest grade earners.

Regarding Transfer students, it would be interesting to run a multi-variate analysis on SPSS to compare their grades, age, transfer status, and from which type of institution they transferred from. It would be interesting to see if those students that transferred from four year colleges have the same dip in grades as those transferring from two year colleges and at the same time, compare their ages to see if that is another variable at play.

In regards to the limitations of the NSSE (2011), several follow-up activities are suggested. First, a change in how grades are collected is recommended. Instead of using letter grades which can be inaccurate, asking students for their current GPA would provide more

concrete, measureable data. Second, breaking down the class status into two separate questions will resolve the issue of whether students identify themselves by credits earned or years in college. Specifically, one question will ask them their credit standing and one will ask their class standing. Third, adding additional categories to the question “Which of the following best describes where you are living now while attending college (university)?” is recommended due to the number of students that chose the “None of the above” answer option. It would be helpful to see where those students live and then investigate how those locations affect their grades.

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**APPENDIX A**

**Statistics**

What have most of your grades been up to now at this institution?

N	Valid	822
	Missing	124
Mean		6.16
Std. Deviation		1.414
Minimum		1
Maximum		8

**What have most of your grades been up to now at this institution?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	C- or lower	1	.1	.1	.1
	C	8	.8	1.0	1.1
	C+	19	2.0	2.3	3.4
	B-	77	8.1	9.4	12.8
	B	155	16.4	18.9	31.6
	B+	200	21.1	24.3	56.0
	A-	191	20.2	23.2	79.2
	A	171	18.1	20.8	100.0
	Total	822	86.9	100.0	
Missing System	124	13.1			
Total	946	100.0			

(SPSS Inc., Chicago IL)

**APPENDIX B**

APPENDIX B NSSE codebook of age	
Code	Letter Grade
1	C- or lower
2	C
3	C+
4	B-
5	B
6	B+
7	A-
8	A

(National Survey of Student Engagement, 2011)

## APPENDIX C

**Which of the following best describes where you are living now while attending college (university)?**

		Frequency	Percent	Valid Percent	Cumulative Percent
	Dormitory or other campus housing (not fraternity/sorority house)	332	35.1	40.4	40.4
	Residence (house, apartment, etc.) within WALKING DISTANCE of the institution	175	18.5	21.3	61.8
Valid	Residence (house, apartment, etc.) within DRIVING DISTANCE of the institution	278	29.4	33.9	95.6
	Fraternity or sorority house	4	.4	.5	96.1
	None of the above	32	3.4	3.9	100.0
	Total	821	86.8	100.0	
Missing	System	125	13.2		
Total		946	100.0		

(SPSS Inc., Chicago IL)

**APPENDIX D****Statistics**

Which of the following best describes where you are living now while attending college (university)?

N	Valid	821
	Missing	125
Mean		2.06
Std. Deviation		1.054
Range		4
Minimum		1
Maximum		5

(SPSS Inc., Chicago IL)

**APPENDIX E****Statistics**

Age Category

N	Valid	826
	Missing	120
Mean		2.07
Std. Deviation		.991
Minimum		1
Maximum		6

(SPSS Inc., Chicago IL)

**APPENDIX F**

APPENDIX : E	
Code	Age
1	19 or younger
2	20-23
3	24-29
4	30-39
5	40-55
6	over 55

(National Survey of Student Engagement, 2011)

**APPENDIX G**

APPENDIX G	
Code	Transfer States
1	Started Here
2	Started Elsewhere

(National Survey of Student Engagement, 2011)

**APPENDIX H****Statistics**

Did you begin college  
(university) at your current  
institution or elsewhere?

N	Valid	823
	Missing	123
Mean		1.38
Std. Deviation		.486
Range		1
Minimum		1
Maximum		2

(SPSS Inc., Chicago IL)

APPENDIX I

**What have most of your grades been up to now at this institution? \* Which of the following best describes where you are living now while attending college (university)? Crosstabulation**

		Which of the following best describes where you are living now while attending college (university)?					Total
		Dormitory or other campus housing (not fraternity/sorority house)	Residence (house, apartment, etc.) within WALKING DISTANCE of the institution	Residence (house, apartment, etc.) within DRIVING DISTANCE of the institution	Fraternity or sorority house	None of the above	
What have most of your grades been up to now at this institution? C- or lower	Count	0	0	0	1	0	1
	% within	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
	What have most of your grades been up to now at this institution?						
	% of Total	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
C	Count	5	3	0	0	0	8

	% within	62.5%	37.5%	0.0%	0.0%	0.0%	100.0%
	What						
	have most						
	of your						
	grades						
	been up to						
	now at						
	this						
	institution						
	?						
	% of	0.6%	0.4%	0.0%	0.0%	0.0%	1.0%
	Total						
	Count	8	2	9	0	0	19
	% within	42.1%	10.5%	47.4%	0.0%	0.0%	100.0%
	What						
	have most						
	of your						
	grades						
C+	been up to						
	now at						
	this						
	institution						
	?						
	% of	1.0%	0.2%	1.1%	0.0%	0.0%	2.3%
	Total						
	Count	22	15	34	1	4	76
	% within	28.9%	19.7%	44.7%	1.3%	5.3%	100.0%
	What						
	have most						
	of your						
	grades						
	been up to						
	now at						
	this						
	institution						
	?						
	% of	2.7%	1.8%	4.2%	0.1%	0.5%	9.3%
	Total						
B-	Count	55	35	56	0	9	155

	% within	35.5%	22.6%	36.1%	0.0%	5.8%	100.0%
	What						
	have most						
	of your						
	grades						
	been up to						
	now at						
	this						
	institution						
	?						
	% of	6.7%	4.3%	6.8%	0.0%	1.1%	18.9%
	Total						
	Count	78	47	65	1	8	199
	% within	39.2%	23.6%	32.7%	0.5%	4.0%	100.0%
	What						
	have most						
	of your						
	grades						
B+	been up to						
	now at						
	this						
	institution						
	?						
	% of	9.5%	5.7%	7.9%	0.1%	1.0%	24.3%
	Total						
	Count	89	43	52	1	6	191
	% within	46.6%	22.5%	27.2%	0.5%	3.1%	100.0%
	What						
	have most						
	of your						
	grades						
	been up to						
	now at						
	this						
	institution						
	?						
	% of	10.9%	5.3%	6.3%	0.1%	0.7%	23.3%
	Total						
A-	Count	74	29	62	0	5	170

	% within What have most of your grades been up to now at this institution ?	43.5%	17.1%	36.5%	0.0%	2.9%	100.0%
	% of Total Count	9.0%	3.5%	7.6%	0.0%	0.6%	20.8%
		331	174	278	4	32	819
Total	% within What have most of your grades been up to now at this institution ?	40.4%	21.2%	33.9%	0.5%	3.9%	100.0%
	% of Total	40.4%	21.2%	33.9%	0.5%	3.9%	100.0%

(SPSS Inc., Chicago IL)

**APPENDIX J**

What have most of your grades been up to now at this institution?

Age Category	Mean	N	Std. Deviation
19 or younger	6.33	224	1.338
20-23	6.04	425	1.440
24-29	6.04	95	1.406
30-39	6.51	45	1.408
40-55	6.45	29	1.454
Over 55	6.33	3	2.082
Total	6.16	821	1.415

(SPSS Inc., Chicago IL)

## APPENDIX K

### Report

What have most of your grades been up to now at this institution?

Did you begin college (university) at your current institution or elsewhere?	Mean	N	Std. Deviation
Started here	6.29	505	1.326
Started elsewhere	5.94	315	1.524
Total	6.16	820	1.414

(SPSS Inc., Chicago IL)