SNHU University College
Undergraduate Research Day
April 2, 2014

Abstracts of Student Projects

1. First Impressions: Phrenology and Physiognomy in *David Copperfield*
Rebecca Mitchell
Mentor: Dr. Susan Cook
This paper examines the influence of phrenology and physiognomy in Charles Dickens' novel *David Copperfield*. The title character spends a large section of the novel indicating various characters' appearances as a way of illustrating his feelings towards them, following the popular culture of the time in which the book was both set and written in. One of the most prominent characters examined in this paper is Uriah Heep, who unnerves young David almost immediately upon seeing him because of his unsettling appearance. Though the Victorians may have popularized phrenology and physiognomy, the concept of understanding someone's personality based on their appearance can be traced back as early as Plato and the ancient Chinese civilizations. Other characters, such as the Murdstones or Mrs. Crupp, are also affected by these pseudosciences because of David's impression of them. During and even after the Victoria era, people used phrenology and physiognomy to attempt to prove criminals guilty simply because they had suspicious facial features. This paper uses these examples and others from both the culture at the time and the novel itself to determine if there is any truth in David Copperfield's judgment of other characters based on his first impressions of them.

2. The Individual as a Whole: Leroux's Use of Opposite and the Uncanny in *The Phantom of the Opera*
Nicole Benjamin
Mentor: Dr. Sara Howe
Drawing primarily from the work of Sigmund Freud's "The Uncanny," this research suggests that Gaston Leroux's *Phantom of the Opera* utilizes defamilarization to draw attention to the paradoxical nature of the human spirit, taking this oft overlooked text and placing it within a worthy discussion of Leroux's contribution as a psychological writer. A major premise of this paper highlights Leroux's use of opposites to create a broader picture of the nature of humanity, something he achieves through his depiction of the Paris Opera House and in his characters of Christine and Erik.

3. Alternative Treatments to Medication for Mood and Anxiety Disorders
Samantha Copeland
Mentor: Dr. Michael Hendery
Mental health disorders require more than a mere quick fix. They require more than a hasty diagnosis and an array of colorful pills. While some medications can surely be praised as seemingly working miracles, this is not always the case. Furthermore, there are now a vast number of medications that are available. There is no feasible way to assess the possible interaction between every single drug on the market, let alone having the capability to also factor in any environmental or biological variables in each individual. While these medications are labeled as likely safe, there will always the possibility of unknown and potentially dangerous reactions. Many mental health disorders can be attended to with alternative forms of treatment that may prove to be safer and potentially more effective than medication. This paper will explain the basic neurology of mood and anxiety disorders and their current treatments based in

psychopharmacology. Alternative treatments will then be presented such as talk therapies, wellness and mindfulness, and behavioral modifications.

4. Ethical Issues in the Diagnosis of Mental Illness in Children
Ryan Ayers
Mentors: Dr. Peter Frost and Dr. Michael Hendery
In its current state, the *Diagnostic and Statistical Manual of Mental Disorders - Fifth Edition* (DSM-5) (2013) provides relatively little distinction in how to go about the diagnosis of mental disorders in children. The majority of disorders outlined in the DSM-5 concern the diagnosis of older and much more developed individuals (adults and late-teens). A child's mind works differently than theirs in many ways due to the fact that a child's mind is still developing and changing; some criteria for a specific diagnosis can actually be present in a completely healthy and developing child. There are however, a small collection mental disorders that are focused primarily on children which have their own set of criteria that is better defined in relation to standard childhood behavior. This is where the ethical issue comes in: If we currently have exceptions for a few specific disorders when diagnosing children, are we not ethically bound to do so across the board? Current practice sees therapists adjusting requirements and compensating for the child's development with how they see fit; there is no uniform process or research outlined in modern diagnostic literature. This is one of the main causes for the over-diagnosis and misdiagnosis of many disorders in children. If it is understood that early detection and treatment can help a child later in life and that the gap in direction impedes this process which can possibly bring harm to these children, doesn't it work contrary to the general goal of therapy? It does, and because of this, it is absolutely critical that solutions to this problem are researched and developed. Whether these solutions consist of amendments to the current state of the DSM-5 or an entirely separate manual for child diagnoses, we should be ethically bound to resolving this critical issue.

Panel 2 (2-3, Robert Frost 222)

5. Effectiveness of Using the NAO Robot with an Autistic Student
Kristen Call
Mentor: Dr. Nancy Charron
This case study will investigate the effectiveness of using the NAO Robot and other intervention plans to teach Jordan how to order items off a menu. An Autism Spectrum Disorder is a complex disorder involving brain development. There is a wide range of degrees of Autism, which are classified by social interaction, verbal and nonverbal communication, and repetitive behavior. The researcher will take into consideration the different methods the parents have attempted and work with that information as well as research alternative methods to improve social interactions and the ability to order items off a menu.

6. Tablet Technology Learning Outcomes in Elementary Education
Jennifer Rea
Mentor: Dr. Audrey Rogers
With the implementation of Common Core Standards in 48 of the 50 United States classroom technology has become increasingly important. As early as first grade students are asked to, "…use a variety of digital tools to produce and publish writing, including in collaboration with peers" (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010, pp. CCSS.ELA-Literacy.W.1.6). The use of tablet technology in the classroom meets this need. For the purposes of this research tablet technology will be defined as "A general-purpose computer contained in a single panel. Its distinguishing characteristic is the use of a touch screen as the input device" (The Computer Language Company, 2013). This paper will examine the learning outcomes achieved through using tablet technology in elementary school classrooms. Learning outcomes will be measured through qualitative teacher interviews and quantitative student assessment data.

7. Raise Your Hands: A Reaction to *Lean In*
Melanie Friese
Mentor: Dr. Christina Clamp
After reading Sheryl Sandberg's *Lean In: Women, Work and the Will to Lead*, a non-fiction book discussing women's current roles in the workplace, I have become enlightened of the challenges that women continue to face. I was under the impression that the United States was continuing to progress towards gender equality, but in reality, it remains at an awkward standstill. My research will include a personal reconstruction of Harvard's Heidi/Howard study, a study in which participants were given the story of a successful female and asked to provide their perceptions of her, while a separate group of participants were given the same story with just the gender of the protagonist changed and asked to give their perceptions. This study tested the perceptions of successful females in the business environment. The difference with my experiment is that the story of the successful female will be of a female student in higher education instead of a woman already far into her professional career. In addition, I will observe some classes at Southern New Hampshire University and record the participation of both male and female students to if there is male dominance in the classrooms. This study will also utilize a literature review of current research on gender equality in the United States of America.

8. Public Speaking and Student Stress
Sarah McPherson
Mentor: Dr. Elise Pepin
The purpose of this study is to observe the effects of practice and speech preparation on stress levels correlated with public speaking. It is hypothesized that the more exposure an individual has to public speaking and practicing a specific speech, the less anxiety they will experience with public speaking. Participants will be undergraduate students at SNHU whom are enrolled in an introduction to public speaking course. Participants will be randomly assigned to a control group or an experimental group. Students in the control group will be administered a survey (Communication Anxiety Inventory) to examine their fear of public speaking. Students will then be administered the same inventory at the end of the course to evaluate if their fear of public speaking has changed. The experimental group will be exposed to public speaking tutoring during the semester. They will take the same survey before and after the class. The public

speaking tutoring will occur as-necessary throughout the semester and will be recorded on their post survey. The objective of this study is to test if practice and exposure to public speaking reduces public speaking related stress (self-reported). It is hypothesized that students will have less of a fear of public speaking after the public speaking class and tutoring. Students who are not enrolled in the class (the control group) will have the highest stress related to public speaking.

Panel 3 (2-3, Robert Frost 110)

9. Valued Leadership Qualities in the Immigrant Community of Manchester, New Hampshire
Megan Mak, Jana Klein, Erik Nystrom, and Christopher Colon
Mentor: Dr. Eklou Amendah
We would like to know if honesty, integrity, communication skills, and/or other leadership qualities are valued in the community. The purpose of the study is to address and interview immigrant individuals currently residing in New Hampshire to see what they believed were qualities of a good leader. The study is important because it allows us to understand what the top overall qualities of a good leader are in the perspective of multiple differentiating cultures. The qualitative portion of the study will consist of an in-depth interview. An interview will be designed for one-on-one meeting and will consist of multiple questions applying to individuals' beliefs of the qualities that make a good leader. Content analysis will be used to analyze the data. For the quantitative portion of the study regression will be used after the in-depth interview is conducted. The regression will show the correlation between multiple aspects of a good leader. We predict that honesty and integrity will be important factors that make a good leader in the immigrant community.

10. Domestic Violence in Immigrant Cultures: How it Affects the Family Structure
James Gabrione, Erika Carlson, Ricky Nistico, and Matt Wood
Mentor: Dr. Eklou Amendah
The purpose of the study is to interview Eastern European and African immigrants who are victims of physical, emotional and psychological domestic violence in order to get a detailed view of their opinions and experiences dealing with violence as well as how it compares to their home countries. By doing this it allows us to have a better understanding on how this violence affects individual family members and the family structure as a whole. There are other studies that have looked into a part of our issue. The specific study we found gives an in depth look at the psychological aspect of domestic violence throughout the population. Sandeep (2013) defines domestic violence, as "a major contributor to the physical and mental ill health of the victim, and it is evident to some degree in every society of the world." (p.1). The researchers discussed domestic violence and its relation to victim's health by using quantitative surveys. The method used to collect data will be qualitative and quantitative studies including in-depth interviews or focus groups. Content analysis will be used to analyze the qualitative studies while regression analysis will be used to analyze the quantitative data. This study is important because it will allow government offices throughout Manchester that work directly with immigrants through providing food, healthcare and transportation to better understand how to supply aid and work towards stopping the violence. The study will also help the immigrant community by generating awareness about the level and nature of the violence.

11. Leadership Qualities and Characteristics in the Manchester, NH Immigrant Community
Patrick Tobin, Nathan Richard, Samuel Harrington, Alyssa Remy, and Allison Michaud
Mentor: Dr. Eklou Amendah
The objective of this study is to understand the immigrant community perception of leadership and its characteristics. We want to know what qualities they would assign to leaders. The study also investigates the community perception of the following leadership characteristics: decision-making, associations, perception, and ease of leadership. Decision-making relates to how the decision-making is determined in general by immigrants. For example, if decisions are made with a conscious awareness of how it affects others, if the decisions are made for personal benefit, if decisions are made using a cost benefit analysis, etc. .We analyze associations based on past relationships that influence good leadership in immigrant. Ease of leadership is analyzed by the perceived amount of difficulty associated with leadership. All factors are related to their effect on the immigrant community. There are multiple studies that analyze and interpret leadership factors and qualities among immigrant or minority communities. Leader to Leader discusses whom different families coming from different cultural backgrounds and areas (Leadership, 2005). Another study focused on how cultural factors influence leadership among immigrants and how these characteristics affect operations in their respective organizations (Yun-His, 2011). This study is important in understanding other cultures and their views on leadership. It also allows people to help create better leaders based on the results we may find.

12. Should Emmanuel Baptist Church Change Its Name?
Rousseline Rodene, Fatoumata Djire, Jillian Messier, Kyle Wilson, and Colleen Sheridan
Mentor: Dr. Eklou Amendah
Do people choose what churches they should go based on their denomination? Nowadays, branding has become very important even in religious institutions. The aim of this study is to interview people who go to church and discover what factors they consider when picking a church in the Manchester community. We are doing this study in order to know if the names of the churches can have an impact on their choice. This research would allow us to understand what a particular church can offer to its members and understand religious rules, social and legal regulations. Casidy (2013) has done studies in regards of the appropriateness, relevance and significance of church branding in the context of church participation to find out whether or not there was a relationship between a church's branding and the benefits that it offers. This study would also help the Emmanuel Baptist Church to understand what people are looking for in a church in order to improve its services.

Roundtable 1 (2-3, Walker Auditorium)

1. River Data
Brittany Bloom
Mentor: Dr. Kate York
A dam is sometimes simply built without looking at the environmental consequences. One major concern is how a dam may affect wildlife in the area. However, the real mystery is what is happening in the water. Changes in the water temperature and conductivity may not appear to be an issue when a dam is first installed. This research will go beyond how fish and the ecosystem are affected by a dam. It will examine the variables of water temperature and conductivity throughout the seasons and explore the contributions that a dam would make to the local habitat. The data for this research is gathered using a set of sensors that monitor the water for temperature and conductivity even when an icy layer covers the river. This research will contribute to the understanding of how dams affect the Merrimack River and its ecosystem.

2. Draft Now, Lose Later: Evaluating NFL Prospects' Draft Stock Based on Character Concerns
Joseph Daly
Mentor: Dr. Doug Blais
In recent years, social scientists have shown an increased interest in researching the relationship between a person with a criminal record and their subsequent success in the labor market. This research paper will look at all 1,016 players who were drafted into the labor market of the National Football League between 2010-2013 to determine what affects character concerns, specifically arrest records and team conflicts, have on draft status. This paper will determine if college football players who have a history of non-criminal related suspensions will negatively affect their NFL draft stock more than those who have an encounter with law enforcement. To prove this, data must be collected from every player who was drafted in 2010-2013 and determine whether the player had a formal criminal charge or was suspended for team or university violations, or both. We then must collect data from expert NFL draft analysts to see the correlation of the player's pre-draft ranking (where they are projected to be drafted) and where the player was actually drafted. Then a beta regression model will be conducted to determine the correlation, if any, between the player's incident and where they were drafted compared to their pre-draft ranking.

3. Practice Makes Perfect: The Advancement of Serious Games for Utility and Education in Surgery
Cameron Stoughton
Mentor: Dr. Lundy Lewis
In culture and entertainment, the video game medium has evolved as time and technology allowed for improvement. It matured in very much the same way other forms of entertainment have also changed, having seen advanced story-telling, ever-improving attempts at realistic situations and appearances, and all while preserving the basic and complex essences that originally made games from the past naturally fun. However, developers and gamers alike have been seeing great possibilities for games to serve as educational tools. If we were to be honest, a game's primary purpose is to provide an entertaining experience, and with the exception of games meant for children, the earliest examples of educational games faded into obscurity for

not living up to either an entertaining or educational standard. However, the fault does not typically lie on the developers, considering the necessity for technology to advance before realistic situations can be simulated. Simulations would soon take form through programs that were designed to more closely create realistic situations, which in turn created the genre of serious games. Serious games are created with a similar but more involved outlook in development and design than a regular game. To further explain, serious games are created with both education and entertainment in mind, the final result of these creations being a successful education tool by relaying important information and skills in an entertaining game. This variety of games has also served as a significant collective contribution to the medical field, and this is one area where the main aspects of a serious game are given a better chance to shine. With this in mind, it lends significant reason to explore the extent of today's applied video game technology for medical education in regards to surgery, what lies in the foreseeable future for medical games in light of advancing technologies in games and the medical field. The ultimate goals here include highlighting and describing what we currently have in the way of technology for medical education related to surgery, and proposing what may be in the future of avatar technology in relation to education for medical professionals and laypersons alike.

4. Celiac Disease and Gluten Intolerance at Southern New Hampshire University
Michaela Thomas
Mentor: Professor David Cox
This in-progress research explores Southern New Hampshire University students' awareness of celiac disease and gluten intolerance, and aims to determine the percentage of the Southern New Hampshire University student body affected by these conditions. I first provide context for my research by defining gluten and describing the foods in which it is found. I then define the condition of gluten intolerance (or sensitivity) and compare and contrast it with the characteristics and symptoms of celiac disease. I document my own experiences with gluten intolerance and provide statistical information about the prevalence of celiac disease and gluten intolerance worldwide, within the United States, and among Southern New Hampshire University students. I also report statistics regarding the demographic of most commonly afflicted persons and explore the hypothesized reasons for the affliction of this demographic in particular. Additionally, I consider different arguments for the recent increase in reported celiac diagnoses. The methods used for this paper include the collection of primary and secondary data from empirical studies in medical journals, news articles, student surveys and individual student interviews. The survey sample data collected will be used to make conclusive statements about the prevalence and level of awareness that Southern New Hampshire University students exhibit of these conditions through quantitative techniques such as summary statistics and confidence intervals. The interviews will be used for qualitative comparison to my experience of a gluten intolerant life. These results will drive my conclusions about potential steps to be taken by decision makers regarding dining options to accommodate the increasing numbers of individuals on campus with celiac disease or gluten intolerance.

5. Assessing Conductivity and Temperature of the Merrimack River in Relation to Precipitation
Mike Weinstein and Kartheepan Sivagurunathan
Mentor: Dr. Kate York
This research assesses measurements of electrical conductivity and temperature in the Merrimack River in relation to precipitation events. The purpose of this study was to achieve the goals of obtaining and analyzing very large data sets, testing hypotheses about that data, and synthesizing both field-based research and literature reviews. Measurements of the river's conductivity and temperature were monitored and gathered for four months, from August 15, 2013, through November 6, 2013, via remote monitoring sensors. These sensors continuously sampled both conductivity and temperature every five minutes for the three month period, and were placed just downstream of the Hooksett Hydro hydroelectric dam. The sensors are part of ongoing research through NH EPSCoR's LoVoTECS Network, administered statewide by Plymouth State University and at SNHU by Dr. Katherine York. The cumulative data from these sensors was then offloaded to local computers. Data concerning daily precipitation events and totals for the same period, including both rain and snowfall, were obtained via National Oceanic and Atmospheric Administration's National Climatic Data Center. The sample data sets were then compared and assessed for correlation.

6. Substance Abuse and Young People—Portraits of Recovery
Deanna Kizer
Mentor: Professor Tracy Dow
For my 401 thesis, I am going to create a series of art portraiture photographs. The images' subject matter will center on the interaction between young people in recovery from substance abuse and their environment. This combines my Graphic Design major with my Psychology minor. I'm going to explore the interaction of a person's personal world with their exterior, whether it be their room, tattoos, or significant others, and interesting combinations of environments, such as the woods, dilapidated buildings, or underwater. The point is be to say something about the individual using external imagery. I'm going to interview the people beforehand and incorporate their personality and present concerns into the work. The body of images' focus is on young people in recovery from substance abuse. Too often we use statistical data and labels to describe an individual's experience, but imagery and art speaks much more than the numbers. Instead of seeing these young people as just a face or number, I will ask them revealing questions like "what's your biggest hope?" or "what are you grateful for?" and incorporate their quotes into the photograph or beside it, a la Humans of New York. Thus, a psychological label is reversed and all you see is people and a snapshot or representation of who they are and what their internal experience is. I want to study abnormal psychology from a visual and artistic perspective, giving faces and words to a silent minority who are usually feared by the general public.

13. Tracking: The Effects on the Classroom Habits of Students
Jenna Heath
Mentor: Dr. Megan Paddack
In this qualitative study, the focus was to determine if the tracking of students in their eighth grade mathematics class had any lasting effects on their classroom habits. This study was conducted by observing classroom activities, and conducting a student survey as well as individual interviews with students. Interviews were also conducted with two teachers at the same school. Three themes emerged from the data. The first theme showed that there was an overall boost in the majority of students' self esteem. The second theme showed that there were both positive and negative behavior changes in students from both the higher and lower level class. The last theme exposed some weaknesses in the placement process at this school. This weakness caused some students to be tracked improperly, which created confusion, negative attitudes, and manner changes in the students. Overall, this study concluded that there were significant changes in the habits of students as students transitioned from non-leveled courses in seventh grade to leveled courses in eighth grade.

14. How Do Students Utilize a Lesson on Discourse in Their Student-to-Student Interactions in a Mathematics Classroom?
Theresa Andolina
Mentor: Dr. Megan Paddack
This research project analyzed the different ways students utilized a lesson on discourse in their student to student interactions in a mathematics classroom. I conducted qualitative research which included teaching a lesson on discourse, a survey on how the students feel about discourse, and a questionnaire on how they and their peers utilize discourse during class. My research led to the discovery of three themes. First, students acknowledge and use effective questioning and answering techniques with their peers. Second, students believe they and their peers use effective discourse during class. Third, students have a positive attitude toward discourse. The data shows that students utilize a lesson on discourse by asking better questions and answering with the intent to teach. The students also discussed wanting to use discourse more because they believe it to be beneficial.

15. [How Does the Implementation of Math in Focus Affect the Way Teachers Make Decisions About Teaching Methods?](#)
Samantha G. Bergeron
Mentor: Dr. Megan Paddack
This study addressed the question, how the implementation of Math in Focus affects the way teachers make decisions about their teaching methods. For this qualitative study, I conducted interviews with four New Hampshire middle school math teachers who had recently begun using a new mathematics program in their classrooms. Math in Focus is a Singapore curriculum that is based on the Common Core State Standards, which have been recently adopted by New Hampshire schools. Using open coding and themes, I found three overlying conclusions from my data analysis. The factors affecting teacher's methods the most were: the type of classroom design, the depth of gaps to be filled in students' background knowledge, and the teacher's years of classroom experience. I was able to conclude that a new program will change teaching

methods, but there are other factors influencing their teaching practices, such as standards changes and types of learners.

16. How Co-Teaching Affects the Teaching Practices of College Faculty
Brieanna Aylward
Mentor: Dr. Megan Paddack
This study addressed the question, how co-teaching affects the teaching practices of college faculty. For this qualitative study I conducted interviews with the six professors involved in the Innovative Teaching Partnership Program (ITPP) at Southern New Hampshire University. I conducted an interview with each of the partnerships for a total of three interviews. The ITPP is a program that offers faculty of SNHU the opportunity to create and co-teach a course that has never been taught before. Through coding and themes, I found three major conclusions from my data analysis. The common factors that affected the professor's teaching practices most were collaboration both in and out of class, planning and preparation time, and in-class instruction and discussion. I was able to conclude that co-teaching affected the teaching practices of college faculty. The faculty felt having the opportunity to choose a partner made the experience successful for both the professor and the students involved. There are other factors influencing their teaching practices, such as the demographic and psychographic qualities of the students in their class.

Panel 5 (3:15-4:15, Robert Frost 222)

17. The Economic Impact of the New England Pond Hockey Classic to the Town of Meredith, NH
Joseph Daly, Devin Conley, Michelle Cowels, and Mike Cox
Mentor: Dr. Mark Hecox
For our Sport Management Practicum, we conducted an Economic Impact study of the Town of Meredith, NH in relation to an event that the town hosts every year: The New England Pond Hockey Classic. The CEO of the event, Scott Crowder, approached our group with the task of gathering information on how much the average participant spends on Travel, Lodging, Groceries, and Restaurants and Bars in the town of Meredith. We also looked into an increase, if any, in the sales of the local restaurants, bars, and motels in the area. After concluding our research, we will present our data to the CEO and the Meredith chamber of commerce.

18. Diversity in the Workplace
Jaclyn Voon Huei Chuah
Mentor: Dr. Lowell Matthews
The focus of this paper is workplace diversity. Though it brings several advantages to the organization, it also brings conflicts and problems to the organization that does not know how to handle it appropriately. It is critical to master the skills to manage a diversified workforce effectively because people of different races, genders, religions and national origins have different perspectives, cultures, values or ways of getting things done. When an organization manages to handle diversified workforce effectively, it can increase job satisfaction as the employees feel respected and appreciated which then motivates them to perform at their best in order to increase productivity and profitability. Research on this topic has found it is not unusual for managers to hire people who are like them in style and substance which has been viewed as a

perceived inequity that inhibits diversity in the workplace. Research has also demonstrated that one-off initiatives in conducting diversity training workshops may not be effective in eliminating deeply-rooted stereotypes or beliefs about others.

19. Appearance Discrimination in Politics
Evan Bodi
Mentor: Professor Jeanne Hughes
The purpose of the research paper is to inform the reader of the impact a political candidate's appearance has on his or her electoral success. The author cites sources that confirm role-independent traits (appearance, personality, other non-political traits) play a more crucial role in people's voting decisions compared to the role-relevant traits (experience, political record, proposed plans) of politicians. The research paper cites evidence that proves role-independent traits are more important to voters by referencing research that explains how quickly individuals subconsciously identify the winner of an election after watching ten-second silent clips by observing candidate body language. The race and gender of politicians also influences the perceptions of voters, as voters have been proven to identify and relate different characteristics to different races and genders while other factors are held constant. Research also proves that certain appearance features like babyface and posture can either benefit or harm certain candidates depending on the circumstances. Finally, various media outlets like Facebook and YouTube influence people's perceptions about political candidates in different ways. In conclusion, appearance discrimination in politics is a very complex topic; it takes place in several different ways. Not much research has been done on why this takes place, but there is enough evidence in previous research that allows the author of this paper to conclude that people do vote for political candidates based their respective appearances.

Panel 6 (3:15-4:15, Robert Frost 110)

20. Body Image and Advertising and How It Affects Consumers' Emotions
Bailey Grotton, Adam Ferrucci, Kelsey Carnell, and Sarah Brenner
Mentor: Dr. Eklou Amendah
Does Photoshop and the alteration of body images affect the self-esteem and purchasing habits of customers? This is an essential question regarding morals and ethics in advertising that this study attempts to address. The purpose of the study was to discover what techniques marketers use and how they affect consumers. We are looking into the Aerie Real Campaign which is ignoring the use of Photoshop to market "real" models and products to their target customers. "The goal, said Dana Seguin, the director of marketing for aerie, is to help shoppers see what the clothing might look like on them -- even if they don't look like a typical lingerie model" (p1). This campaign is focusing more on the positive light of the average body and not the manipulated version that is unrealistic. "A woman's body image is an important source of her self-esteem. Approximately 50% of girls and young women report being dissatisfied with their bodies. According to the American Psychological Association these dissatisfactory feelings can play a major role in the development of low self-esteem, depression, eating disorders such as bulimia". This affirms that the study we are focusing on is very specific and definitely has an effect on consumers and retail organizations.

21. Social Media Use as an Addiction
James Hiltz
Mentor: Dr. Crystal Bickford
It has been suggested in recent publications, that social media sites like Facebook, Twitter, Tumblr, Instagram, LinkedIn, and others can actually be psychologically harmful to their users as opposed to being used as positive ways to make personal connections. At their worst, these sites can slowly create an addiction – especially when individuals continually feel the need to log in and post on the multiple sites throughout each day. It is not hard to see where this belief comes from, especially as more and more people appear to have a need to log on to these sites every day, often in a ritualistic format, and disclose information about themselves through comments and photos. This suggestion has struck a debate between researchers as whether or not this so-called disorder is an authentic psychological disorder or just some poor decision-making. In this presentation, I seek to provide evidence that over-using social media websites can in fact become harmful and addictive to individuals and argue that we should try to find ways to better regulate our use of these sites.

22. The Effects of Social Media on Online Consumer Behavior
Mark Dobek, Bryan Toland, Ryan Gendron, Aris Kitsios, and Robert Stitt
Mentor: Dr. Eklou Amendah
Does social media have an effect on online consumer behavior? Because social media is now used to market many companies, brands, and products, this study provides data that will conclude if social media has a major effect on online consumer behavior. The purpose of this study is to interview consumers to see what their opinions are on social media and its effect on their online shopping experience. The study will give us a better understanding of how online consumers view and use social media.

Roundtable 2 (3:15-4:15, Walker Auditorium)

7. Planning and Land Use
Caryl McDevitt
Mentor: Dr. Christina Clamp
Officials of small towns face unique challenges because of town demographics and political structure. The definition of small town varies; for the purposes of this research small town is defined as being under 2000 in population with a basic political structure of elected Select Board, Planning Board, and Zoning Board. Land Use and Planning are two areas of small town politics that cause problems both among officials and community members. Disunity in small towns can have the detrimental effects of halting growth, progress, and innovation. Land Use and Planning are crucial to the determination of how a town will be run. Municipalities are able to make decisions concerning how citizens are able to use their property and what types of people are drawn towards living in their specific community; this is especially so for small towns as compared to cities where citizens potentially have less of a voice or opinion in matters of planning and land use. I intend to utilize my position on my hometown's (Unity, NH) Planning Board to accentuate my research which I would not be pursuing had I not become involved in the politics of Unity. I will outline my own experiences as 1) A small town Planning Board appointed alternate member and full elected member, 2)the youngest member to be elected to Unity's Planning Board, 3) a participant in the development of a Master Plan for Unity, NH and

4) a citizen of a small town. During my time as a Planning Board member Unity has been faced with a significant amount of disruption among community members about particular political decisions and developmental decisions that will add a personal and real life aspect to my research.

8. Socialization of Students at SNHU
Alexander Labrie
Mentor: Dr. Charlotte Broaden
Colleges and Universities around the world aim to develop well-rounded students that can enter the world post-college, and become the best individuals that they can be. Through this experience, there are many different factors that contribute to capturing the "Educational moment," which is any moment throughout a college students' career, that can help he or she understand how their decisions affect their lives and the people around them. As such, these factors include, academics, sports, organizations, clubs, relationships and interacting with peers and professors. While many argue that academics hold the largest weight in determining the success of a college students' experience, it can also be said that interacting with one another is equally important. The idea of socializing on a college campus is quite perplexing, as there are so many different venues for students to socialize with one another. This study will examine the socialization trends at Southern New Hampshire University in Manchester, NH. Throughout the course of this study, students will be surveyed, interviewed and placed into focus groups that will all serve with the main purpose of answering the question, "What does socialization mean to you? And how important is socializing with regards to your overall college experience?" This study will involve undergraduate day students who live on campus, as well as students who live off campus. In addition, both U.S. students and international students will be examined, and the importance of inter-cultural socialization will be explored with its relation to the college experience as well.

9. Gaps with Research Surrounding Solutions for Youth Violence in America
Ebony Byas
Mentor: Dr. Frank Catano
This project will focus on creating an article that will recognize the gaps within research surrounding solutions for youth violence in America. This project will take the stance of the sociological perspective and focus on how society has created a culture that influences youth violence even though we often over-look these influences. I plan to speak to specific issues such as the person versus the situation, society and regulations, and culture and youth violence. It will also include possible solutions to the problems within society and culture and what steps are needed to be taken in order to reduce the amount of youth violence in our nation. These specific solutions will help me better understand how to work with violent youth being that I am interested in working with youth after graduation.

10. *Frankenstein* **and Shelley: The Author and Her Work**
Christina Gambon
Mentor: Dr. Susan Cook
When writing *Frankenstein* as a young, impressionable woman, Mary Shelley was heavily influenced by the works and legacies created by both her parents, William Godwin and Mary Wollstonecraft. Godwin and Wollstonecraft made their names in the world with their revolutionary ideas written out in books spread in Europe; with large shoes to fill as their daughter, Mary Shelley knew that she needed her own revolutionary work to move the world like they did. Because of this connection of legacy with her parents, many themes and lessons concerning her parents are featured in her novel, *Frankenstein*. The absence of her mother, who died ten days after giving birth to Mary Shelley, created the absence of a father in Victor Frankenstein for his creature. Mary as a child was tutored by her father in many subjects that would not normally be taught to females in this time period. That learning allowed her to include the subjects of science, humanities, and literature in her novel. In this paper, I will explain how knowing about Mary Shelley's connection with her parents shaped her life and learning, by extension shaping her novel, *Frankenstein*. I will be looking at primary source materials by William Godwin, Mary Wollstonecraft, and Mary Shelley to note the connections between the texts, as well as secondary sources concerning Mary Shelley and her influences when it came to writing Frankenstein. I also will be looking at biographies of Mary Shelley's life in order to relate her story to Frankenstein's and the creature's stories. The parallel between the author and the characters is essential in understanding the importance of Shelley's parents in shaping her not only as an author, but as a woman in the Romantic Era.

11. "No meet matters": The Demonic Tradition in English Renaissance and Restoration Literature
Elizabeth Ewing
Mentor: Dr. David Swain
This project strives to examine the ways in which the traditions of the representation of demonic characters in English drama and literature were exploited and transformed during the Renaissance and Restoration. There was a rich tradition of religious drama in the English Catholic tradition, including the mystery plays, the cycle plays, and the morality plays. Despite royal prohibitions of the representation of religious matter on the stage, the tradition continued well into the seventeenth century. "The Tragical History of Doctor Faustus" by Christopher Marlowe, first produced circa 1589, develops the tradition of the demonic not only in its representation of the character Mephistopheles, but in the warping of the morality play tradition. "Paradise Lost" by John Milton upends conventional representation of the demonic by seeming to initially cast Lucifer as the hero in his Virgilian epic and by continuously interrogating the roles of hero and monarch. Both authors work within well-defined genres, and push at the boundaries of those conventions in order to transform the representation of their demonic characters. This paper investigates the techniques and effects of the transformations of both genre and demonic characters in these works with respect to historical and literary context.

12. [The Abolition of Man in Dystopian Literature](#)
Samuel Doe
Mentor: Dr. Susan Cook
This thesis argues that two important works of dystopian fiction, *Brave New World* by Aldous Huxley and *Fahrenheit 451* by Ray Bradbury, can be read through the lens of C. S. Lewis' *Abolition of Man*. In this book, Lewis writes of an intellectual trend which he labels Subjectivism, and which he believes is engaged in undermining humanity as we understand it. Lewis sees an example of this trend in a schoolbook on English writing, which he calls the *Green Book* (*The Control of Language: A Critical Approach to Reading and Writing*, by Alex King and Martin Ketley), and uses a criticism of this book as a departure point for a criticism of the whole philosophy of Subjectivism. I believe that Bradbury and Huxley are concerned with some of the same contemporary intellectual and moral trends as was Lewis, and, like him, feared the advent of a broken humanity. I will also be bringing Nietzschean philosophy to bear on this examination, for to really understand what Lewis means by the Abolition of Man, one should understand the ideas he is arguing against. To understand them, one should understand their origins, and the best way to do this is to go back to Nietzsche. Using *The Abolition of Man* as its central text, this thesis will work backwards to establish the argument between Lewis and Nietzsche, and will then analyze the philosophical ideas of both at play in the worlds of Bradbury and Huxley's novels.

Poster Session (4:30-5:30, ACC Lobby)

1. Life Contentment: A Consideration of Materials Versus Experiences
Bethany Mancuso, Bianca Feola, and Jaimi Rich
Mentor: Dr. Peter Frost
This research examined whether people base lifestyle contentment more on life experiences or material possessions. The survey studied both genders asking questions that were focused on what made them more content with life. Questions focused on contentment associated with life, job, relationships, education, etc. The survey then presented questions about experiences and possessions asking how many cars people owned or how many vacations they have been on. The survey include Likert scale questions and ended with "which would you rather questions," with the option to choose either the possession or the experience. Findings showed that people associated experiences—and not material possessions—with lifestyle contentment regardless of gender.

2. [The Roles of Media, Language, and Practice on Solving the Tower of Hanoi Problem](#)
Elizabeth Worth, Angela Mercieri, and Alyssa Douglas
Mentor: Dr. Jay Kosegarten
The current study presents findings of a study conducted on the Tower of Hanoi problem. The Tower of Hanoi problem is a logical puzzle involving recursion in which there are three pegs with discs stacked in ascending order on the left peg. The object is to restack the discs on the right peg in ascending order, moving one disc at a time and never having a larger disc placed on top of a smaller one. The fewer the moves to accomplish this, the more successful the trial is judged to be. Subjects were randomized into one of eight cells and all were measured on their ability to solve the 4-disc version of the Tower of Hanoi in terms of three dependent variables: total number of moves, total moves-to-optimal moves ratio, and completion time. In a 2 X 2 X 2

between subjects factorial design, subjects were assigned to three different conditions with two levels each. Subjects performed either a computerized or physical version of the TOH; verbalized their strategies while doing so or were instructed to remain silent; and were allowed to practice on easier two-disc and three-disc versions or were not given the benefit of doing so. Main effects were found in that subjects completing the physical TOH did so more efficiently than those completing it on the computer. Subjects also benefitted from verbalizing their strategies over remaining silent. Interaction effects were also found for practice and verbalization.

3. [Effects Color Has on Mood and Stereotypes](#)
Alicia Frazier
Mentor: Dr. Jay Kosegarten
This paper is a further exploration of some findings by Buckalew and Bell (1985). Their experiment classified the drawings of faces drawn by 18 children between the ages of four and six as happy, sad, or indifferent. The author found that color had an effect on mood. In our study, 30 college students between the ages of 19 and 26 were given five different colored piece of paper (red, yellow, green, blue, and white). Each colored pieces of paper had the outline of a stick figure with a blank face and no gender identified. From the five colors listed, subjects were asked their favorite color, least favorite color, and then to rank the colors on a scale of one to five, from their favorite to least favorite color. Subjects' drawings were then analyzed to see if mood was reflected in the drawings. We also wanted to explore the potential stereotypes surrounding colors (e.g., would red be associated with aggression or would blue be considered male). The drawings were examined to see if test subjects added more detail to the drawing on their favorite colored piece of paper; if more aggression was expressed in the drawings on the red piece of paper as opposed to the favorite color; also what gender was associated with each color. We conclude that color does have an effect on mood, and evidence supports the notion that association about color can be stereotypical.

4. The Effects of Social Media Use on College Drinking
Kara Morin and Ryan Carrigan
Mentor: Dr. Peter Frost
The present study explored the use of social media use in college students in order to study its effect on college drinking behaviors and how they desire it. Twenty-two college students were asked to complete a survey to judge how often they use social media sites and how often they engaged in college drinking behavior. Students were also asked how much they desired to participate in college drinking behavior after social media use. The results showed that there was no correlation between time on social media and amount of time participating in college drinking behavior. As predicted, the results showed that the increased time on social media also increased the individual's overall desire to participate in college drinking behavior.

5. [The Introvert, Extrovert, and Ambivert: Mood Implications Within Text Messages](#)
Bridgette Casey and Anh Tran
Mentor: Dr. Peter Frost
This study sought to analyze the correlation of personal traits including introversion, extroversion, and ambiversion and mood on mobile phone usage, concentrating on text messaging. Furthermore, the study examined the relationship between this trait and an inclination towards either talking or texting. After completing personality test, thirty eight participants took the survey about their gender, age, frequent use of text messages, and preference on either talk or texting. Then they were asked to provide their most 10 recent text messages, and indicate when and where they sent the messages. We used Linguistic Inquiry and Word Count categories (Berry, Pennebaker, Mueller, & Hiller, 1997) to rate the positive and negative contents of text messages. Overall, the results did not demonstrate a relationship of personality traits and user¹s mood. There was a weak correlation of introversion and extroversion towards a preference for talking rather than texting. In contrast to Butt and Phillips¹s study (2008) extroverted and introverted users preferred talking on the phone while ambiverted users chose texting. Overall, the results contributed to the understanding of personality traits on text messages usage.

6. Is There a Correlation Between Parental Attachment and Alcoholism in College Students?
Casey M. Reynolds, Jenna Perryman, and Benjamin Wentworth
Mentor: Dr. Peter Frost
This study aims to assess whether there are correlations between the strength of attachment to parents and the level of alcohol abuse in college students. We hypothesized that there would be a negative correlation between secure attachment and alcohol use. We also suspected that there would be a correlation between avoidant attachments and alcohol use (Wood, et al., 2010; Norberg, Norton, & Olivier, 2009). We used a survey packet to assess attachment to the mother, attachment to the father, and levels of alcohol abuse. The surveys were distributed among 43 students at Southern New Hampshire University aged 18-24. The survey results showed no significant correlations, disproving our original hypothesis. The possible reasons for the difference in these finding are discussed along with thoughts for future research are provided.

7. Campus Compact Ecoproject: Examining Water Quality on SNHU's Campus
Bryce Keeler, Christen Aliperta, Massiel Baez, and Jessica Miller
Mentor: Dr. Michele Goldsmith
As part of the Campus Compact Eco-Project for ENV-101 we are examining water quality parameters in two areas surrounding Robert Frost and Hospitality buildings. We will be examining the impact of the use of salt for de-icing roads by measuring chloride and conductivity. We will determine the overall quality of the water by testing dissolved oxygen, pH levels, temperature and nitrates. Water quality measures will be taken before and after the planting of a rain garden to determine its ability to mitigate the impact of run-off.

8. [The Advantages of Social Media for Small Businesses](#)
Nathaniel Laurin
Mentor: Dr. Crystal Bickford
The poster, "The Advantages of Social Media for Small Businesses" focuses on social media and its positive and negative effects on small businesses. The author begins by introducing the topic through a brief history of the internet, web 2.0, and its byproduct, social media. The text continues on to discuss the central question of, "is social media beneficial for small businesses?" This question is studied as the author negotiates the positives and negatives associated with social media and its potential impact on small businesses. The author outlines the main benefits of social media and examines them in greater detail and then provides examples of ways businesses can use social media to increase their publicity. These range from targeted and affordable advertising, to funding a project using fans as backers. The poster also compares these benefits of social media with the potential downsides and offers specific examples of products developed by small businesses, such as Minecraft, the Ouya Console, and the Pebble Smartwatch, to illustrate the ways in which social media has contributed to make each a success. The author concludes the research project with a summarization of why the benefits of social media outweigh the detriments for small businesses.

9. [Selective Mutism in Children](#)
Sarah Kennedy
Mentor: Dr. Elise Pepin
This thesis focuses on selective mutism, a rare childhood disorder in which the child refuses to speak in many situations and there are no underlying medical or speech disabilities that explains their behavior. The research of the paper focuses on the many different factors that can have a role in the development of selective mutism, including parent child relationship as well as the development of anxiety. Also discussed are the impacts this disorder can have on a child's development, two main areas being academics and social relationships. Many teachers and parents do not have a full understanding of selective mutism, which may hinder the support that is made available to the child as the age of onset often occurs around the child's entrance to school. This makes selective mutism an important topic because there is a need for educating caregivers. Part of this project will be surveying teachers in order to gain an understanding of their knowledge of selective mutism and what can be done to bring more awareness to the disorder. This thesis will also discuss the positive outlook for selective mutism as there are many different types of treatments and approaches available for helping the child overcome their intense fear of speaking.

10. [The Ethical and Moral Responsibility of Producing Queer YA Literature](#)
Tristan Donovan
Mentor: Dr. Susan Cook
This research project is an extension of a project I entered previously for my Banned Books course in Spring 2013. This project proved to be bigger than the confines of the assignment. I originally researched Rainbow Boys in Banned Books of America. I researched why it was banned or challenged and why its representation of queer teenagers mattered to those who read the book. However, in this new project I want to take it a step further. I want to focus on why equal representations of queer youth and queer youth of color in fictional Young Adult (and adult) matters. I will research what representation is currently available and also offer a brief

history of queer YA literature and how far it has come since then. In my project I will also address the lack of positive representation and how it affects people who identify as queer and how it also plays a role when it intersects with their ethnicity/race. After doing this, I will want to find a way for the media to correct such failures and offer alternatives. I will also research currently available resources for finding good representation for queer people. Hopefully by the end of this research project, I will be able to educate those about matters of intersectionality and representation and why it matters in literature and will be able to show how it will benefit our society and most importantly how offering more resources and representation in novels will help those who live in a cisgender, white and heteronormative America.

11. [The Effects of Emotional Content and Time Lapse Reporting on Eyewitness Testimony](#)
Nicole Dominy and Jacquelyn Tremblay
Mentor: Dr. Peter Frost
This experiment aimed to examine the influence of emotional versus non-emotional events on the recall and accuracy of eyewitness memory, and how the time between viewing the scene and reporting back about it affects the recall and accuracy. Four condition groups were established all viewing the same video but being told they were seeing either "actual footage" of a crime scene or a "reenactment", and two taking the survey immediately after the video and the remaining two taking it four days later. The survey consisted of two open-ended questions asking for details about all aspects of the crime scene. Our experiment results established that the emotional level of the video affected recall but the time lapse did not have a statistically significant difference. We found that emotionality of a crime scene was positively correlated with recall accuracy.

12. When Sexy Goes Too Far: A Look at How Female Characters are Portrayed in Videogames
Derek Bailey
Mentors: Professor Ed Brillant and Dr. Lundy Lewis
The goal of this paper is to examine the status of female characters in video games. Portrayal of women in electronic games has long been a source of debate amongst gamers and non-gamers alike since the dawn of arcade games. In this day and age, however, the debate has heated up as new hardware allows for more realistic visuals, leading to even more erotic characters. While many already know about this issue and have probably seen images of lusty videogame ladies, it is worth noting that there are several different contexts in which a character may wear more revealing attire. Whether or not there are ever appropriate times for this shall be explored as well as some deeper reasons for portraying women in this way. With the demographics of who plays games changing, it shall also be asked whether or not we ever will see a shift in the more erotic aspects of gaming and delve into the possible marketing benefits (if there are any) of making the portrayal of men and women in games a bit more equal. It should also be stated that the sexualization of female characters did not start with videogames, nor has it ended with them and this history shall also be explored. As a final component, a more creative study shall be done involving creating two different characters, one exhibiting more erotic properties, while the other is portrayed in a more tasteful manner. This hands-on study will conclude the findings of this paper.

13. <u>Social Media in Education: Assessing the Benefits of Integration</u>
Darci Drylie
Mentor: Dr. Crystal Bickford
Within recent years, the Internet has evolved into one of the most commonly used innovations by members of today's society, and Social media is one aspect of the Internet that has also become a prominent staple among Internet users. This research explores social media's progressing role in education and student learning. Current generations of students are demonstrating decreased engagement, participation, and interest towards the different areas of content being presented to them. Research identifies traditional teaching methods as a central cause to the negative learning aspects being portrayed by the students. This is in part due to the fact that traditional methods no longer emphasize active learning and stimulation. By being brought up in a fast paced environment, students need to be stimulated in order to truly process the content. Social media is able to maintain the attention of students and keep them stimulated. Students' daily routines hold a considerable amount of time for social media usage; therefore, the research project indicates that further integration into the classroom could rekindle the participation, engagement, and interest once held by students. The research examines the integration that has taken place within schools currently, and assesses the advantages of use towards student learning.

14. <u>The Misuse of Power</u>
Brad Campion
Mentor: Dr. Ken Nivison
As the Spring Undergraduate Research Day approaches, I and fellow members of my Honors 201: Interdisciplinary Studies course wish to present our research on select pieces of work from Classical Greece and Rome. Individually, we took an in-depth look at different, specific literary works composed by famous classical writers. Historians such as Seneca and Homer. In our research we were asked to craft a thesis-driven analysis of our own text. Throughout this process, we were able to discover a great deal about Greek and Roman culture. Furthermore, our research touches upon life's "big questions" and human nature. Overall, each member of our group covers a different element or aspect relating to humanism. We wish to present our findings in a way that the texts and their teachings remain relevant in today's society.

15. Algal Biofuel
Cory Allen
Mentor: Dr. Kate York
There are a multitude of 'green' options when it comes to alternative fuels, however, the decision must be made about which option is more feasible to mitigate the climbing gas pump expenses. Algae is a naturally growing organism that may significantly reduce the fuel problem. Because the main weight in algae is a natural oil, this oil can be synthesized into a cleaner and more efficient fuel known as biodiesel. In the following experiment of culturing algae and phytoplankton, I will be able to conclude how easy and useful algae is to grow for use as an everyday fuel.

16. Support for Children with Autism
Rebekah Legaspi
Mentor: Dr. Betsy Gunzelmann
With an increment in the diagnosis of Autism in children, it is vital that the awareness of autism increases. Many educators are becoming more likely to work with children with Autism therefore it is imperative that they are receiving appropriate training, experience and knowledge. Professionals must be able to support these families, and share their experiences with other professionals so that they can each learn together as a whole community. There are many successful support programs for children with Autism and their families but they could become much stronger once awareness of Autism rises sufficiently. By presenting my poster I will be able to provide information about the various autism support programs and raise awareness about the disorder itself.

17. [Consumers' Perceptions of QR Codes](#)
Patrick Tobin and Nathan Richard
Mentor: Dr. Karen Stone
In recent years, Quick Response Codes (QR Codes) have gained significant momentum in the United States as a use for marketing communications on product packaging (Sago, 2011). In this study, the authors will propose an experiment, survey, and interview. The intended purpose of this study will be to analyze consumer's perceptions of the current knowledge and effectiveness of QR Codes. The experiment will be constructed to analyze consumers' perceptions of the physical QR Codes on the packaging. The survey will be designed to produce data concerning consumers' current knowledge and perception of effectiveness of QR Codes accomplishing the marketer's goal for the QR Code. The interview will be used to collect qualitative data to gain understanding of how consumers would like companies to use QR Codes - that is if they think they should use them at all.

18. [Stop and Frisk: Unconstitutional Practices by the NYPD](#)
Christina Gambon
Mentor: Dr. Christina Clamp
Recently, a federal judge decided that the stop-and-frisk practices carried out by the New York Police Department were unconstitutional and violated not only the fourth amendment, but also the fourteenth. Since the decision made last August, there has been debates about if the judge was correct or not. In this paper, I will be researching through the practices made by the police and the statistics of their stop-and-frisks to see if there is some racial discrimination that would cause the practices to be unconstitutional. I will research statements made by both sides of the story, the police and the citizens, to understand their feelings on this issue. I will also be looking at essays and articles written by scholars on the topic of racial discrimination to get their side of the story. If there is racial discrimination in these practices, then there are social repercussions to follow, such as a distrust of the police and more arrests of innocent people. The stop-and-frisk is a catalyst for division among races, among protector and the protected, by creating discrimination when proceeded in an unlawful manner.

19. <u>Life Expectancy by Country</u>
Brandon Berube and Michael Wallace
Mentor: Dr. Susan D'Agostino
For this project, we questioned if it was possible to use regression analysis to predict the average life expectancy of a country's citizen. The world is concerned about health due to poor air quality, inadequate sanitation, and lack of healthy drinking water. We used regression analysis to analyze these variables to see if they contributed to the overall life expectancy of a nation. We selected beneficial variables and eliminated variables that were ineffective. Although there are some variables that may seem to be effective, after checking residuals and correlations, we concluded which variables are useful. We chose a small sample size of twenty countries randomly in order to try to predict an accurate model for life expectancy of any country. The countries selected were Iraq, Oman, Tonga, Spain, Mongolia, Samoa, Qatar, Pap New Guinea, Lesotho, Mali, Bulgaria, Trinidad and Tobago, Canada, Bangladesh, Tanzania, Micronesia, Mauritius, Suriname, Austria, and Sao Tome and Principe. With the research conducted, we will be able to show the inadequacies of nations that affect life expectancy, and how to increase the average life expectancy of their citizens.

20. <u>Cyberbullying: What Can We Do About It?</u>
Mary Maccini
Mentor: Dr. Susan Cook
Cyberbullying is one of America's largest issues today, although it is often overlooked. The effects that cyberbullying has on today's youth can be more harmful, in many ways, than the effects of physical bullying. Because of the spread and growth of technology, it is easier for today's youth to hide behind the mask of a computer screen and harm others. Cyberbullying has led to countless suicides, depression, and other disorders throughout the past ten years. The cruel words can stay with victims longer because they are able to read them over and over again, and the bullying is becoming harder to escape. Today, verbal bullying does not end when students walk away from each other after school; it continues into the home, via computers, cell phones, or other electronic devices. A study done at Pembroke Academy explains how 72 students were anonymously surveyed about cyberbullying. Furthermore, an interview with Nicole Moore, a guidance counselor in Virginia, helps to bring cyberbullying into the light regarding the elementary school population. In this paper, solutions to cyberbullying are identified and explained. Solutions begin right from the home, and continue onto school grounds. It is more important than ever before that parents and educators be involved in their child's life, because they may just save their child's life. My research project specifically examines how cyberbullying is affecting our local community to argue that we need to take preventative measures as soon as possible.

21. SNHU Rain Garden
Cory Allen, Jeffrey Braun, Michael Corcoran, Andreanna Demetriou, Timothy De Redon, Stephen Fournier, Samuel Fuller, Sean Heichlinger, Trevor Nelson, Drew Poirier, Lorreta Rocha, Kartheepan Sivagurunathan, Benjamin Veilleux, Michael Weinstein, and Brittany Young
Mentor: Dr. Joseph Corbin

Our undergraduate research project is the planning, development, and installation of a phytoremediating rain garden on the SNHU campus. As part of an EPA grant-funded program, our group will be responsible for the entire creation process of this rain garden, from pre-planning, budgeting, and research, to installation and policy and procedure development. This project aims to accomplish multiple goals, namely, 1) to identify and remediate soil and water pollutants in the specified portion of the SNHU campus, 2) to increase campus awareness of environmental issues and actions that can be taken to help, and 3) to hopefully serve as proof of concept for the future installation of further rain gardens at SNHU. The site will be highly visible, and all relevant documentation will be created and catalogued by our group.