McNair Scholars Research Journal

2011

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BIOGRAPHY OF
DR. RONALD E. McNAIR

HE OVERCAME OBSTACLES.

Dr. Ronald Erwin McNair, Physicist & Astronaut, dared to dream. As an African-American growing up in a poor community in the South, he encountered discrimination early in his youth. Yet this did not stop him from pursuing his dream of becoming a scientist.

HE ACHIEVED ACADEMIC EXCELLENCE.

In 1971, he graduated magna cum laude from North Carolina AT&T State University with a B.S. degree in physics. Ronald McNair then enrolled in the Massachusetts Institute of Technology. In 1976, at the age of 26, he earned his Ph.D. degree in laser physics.

HE BECAME A LEADER IN HIS FIELD.

Dr. McNair soon became a recognized expert in laser physics while working as a staff physicist with Hughes Research Laboratory. He was selected by NASA for the space shuttle program in 1978 and was a mission specialist aboard the 1984 flight of the shuttle Challenger.

HE WAS RESPECTED AND COMMENDED.

For his achievements, Ronald McNair received three honorary doctorate degrees and many fellowships and commendations. These distinctions include: Presidential Scholar, 1967-71; Ford Foundation Fellow, 1971-74; National Fellowship Fund Fellow, 1974-75, Omega Psi Phi Scholar of the Year, 1975; Distinguished National Scientist, National Society of Black Professional Engineers, 1979; and the Friend of Freedom Award, 1981.

HE EXCELLED IN MANY ASPECTS OF LIFE.

Ronald McNair also held a fifth degree black belt in karate and was an accomplished jazz saxophonist. He was married and was the dedicated father of a daughter and a son.

After his death in the Challenger explosion in January 1986, members of Congress provided funding for the Ronald E. McNair Post-Baccalaureate Achievement Program to encourage college students with similar backgrounds to Dr. McNair to enroll in graduate studies. Thus, the program targets students of color and low income, first-generation college students. This program is dedicated to the high standards of achievement inspired by Dr. McNair's life.

Biography courtesy of the University of Nevada, Las Vegas

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ASSISTANT VICE PRESIDENT FOR STUDENT SUCCESS

DR. GERARDO MORENO

"Whether or not you reach your goals in life depends entirely on how well you prepare for them and how badly you want them. You're eagles! Stretch your wings."

I have often used this quote from Dr. Ronald E. McNair to challenge and motivate students. This is the third publication of Texas A&M University-Corpus Christi McNair Scholars Research Journal. Research can be a daunting task for students who are low-income and first-generation college students but this journal proves that they met the challenge.

Perhaps the most important aspect of the McNair Scholars Program is the building of student and faculty mentor relationships. The faculty mentors help provide not only a foundation for student research skills, but provide the motivation for the students to attain their future goals. The university is proud of McNair Scholar's hard work, commitment and research accomplishments. Every graduating McNair Scholar in this journal has been accepted into graduate school.

This program exemplifies the mission of Texas A&M University-Corpus Christi, which is to help members of a group that is traditionally underrepresented in graduate education and have demonstrated strong academic potential to attain success. We are indeed honored to have these talented students and dedicated faculty committed to excellence.

Sincerely,

Dr. Gerardo Moreno
Assistant Vice President for Student Success

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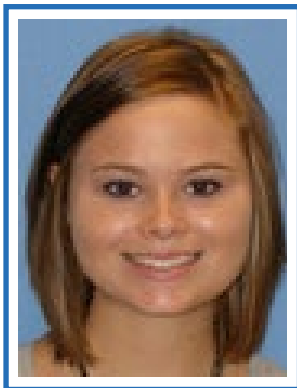
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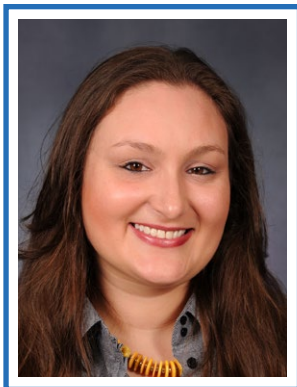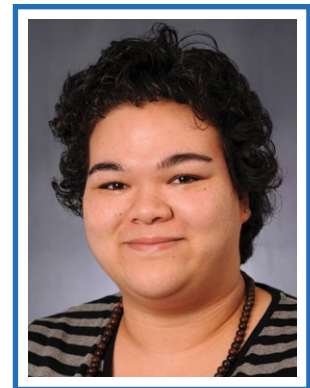
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2011 McNAIR RESEARCH ARTICLES

WHEN RATIONAL DECISIONS GO WRONG

by MEGAN CRAWFORD-GRIME

ABSTRACT

The objectives of this research are to determine: (1) whether participants make decisions based on a specific cognitive heuristic summation – combination operation and (2) if so, whether this process leads to rational decision making. Participants were given eight prospect pairs and asked to choose the more attractive of the pair. Attractive was defined as the higher probability. Results indicate participants largely used the combination operation to determine the higher probability. Results also indicate an implicit decision making process yielded choices closer to ideal than an explicit decision making process. This research has applications in many fields, including psychology, economics, and policy making.

Key words: decision-making, rational, heuristics

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INTRODUCTION

How can a rational decision turn irrational? Brafman and Brafman, in their influential book *Sway* (2008), share the sentiments of one of their most influential professors, "...although most of us think of ourselves as rational, we're much more prone to irrational behavior than we realize" (p. 4). This research seeks to discover some of the subtleties of the decision-making process and pinpoint possible sources of irrationality. First, the basic decision-making process must be defined. Then it will be important to explore what is considered to be a rational decision. On the basis of understanding rational decisions, irrational decisions can be defined. The results of the current research are presented as corroboration of factors that mediate irrational decisions.

DECISION-MAKING

According to Aristotle, the decision making process is voluntarily initiated by a desire, judged to be within a person's capacity (Aristotle, trans.1996 iii 2-3; 1139a32-35). The resulting action is the 'right' action as judged by the deliberation efforts (Aristotle, trans.1996 iii 1113a5-7). From the economic perspective, decisions are motivated by personal gain and resulting actions are the product of cost-benefit analysis (Friedman, 1953). The psychological perspective tries to bridge the motivational desire with the resulting action, using a sequence of functional components. Each component executes a specialized task in the decision-making process, including receiving the stimulus, identifying a goal, forming an intention, deliberating on achieving the goal, judging the best course of action, and making a decisive judgment (Simon, 1987). Of particular interest in this research are heuristics. Included in the various functional components are heuristics who's purposes are to provide an efficient way to pare down large amounts of information (Tversky & Kahneman, 1974).

RATIONAL DECISIONS

In regards to decision-making, the term 'rational' is defined differently depending on the discipline. Economics defines rational decision-making as a decision that maximizes personal advantage (Friedman, 1953). Psychology defines it as a decision where a person's desires and intentions are in line with what the person deems best to do (Davidson, 1969 & 1980). Philosophy determines a decision rational when one consciously and deliberately acts according to one's better judgment, regardless of having a conscious reason for the action or not (Gilead, 1999). For the purpose of this study, 'rational' is defined as a decisive judgment that generates an effective action to achieve a goal considered best.

IRRATIONAL DECISIONS

As mentioned previously, there are many components that span the divide between motivational desire and the end product. Based on the prior definition, irrational decisions are the antithesis of decisive judgments that generate an effective action to achieve a goal considered best amongst other alternative options. The problem lies in locating where, among the decision-making process, irrationality could arise.

Tversky and Kahneman (1981) suggest that departures from rational actions may stem from accidental miscalculation (see also Kahneman & Tversky, 1979). Cognitive miscalculations can result from the limited capacity of human cognition. One such limitation may be inherent in the use of heuristics. The limited, approximated or simplified model provided by heuristics allow for more efficient choices (March & Simon, 1958). In other words, simplified problems are easier to understand and work through (Simon, 1993). The crux of the issue is the application of heuristics which provide efficiency while inadvertently increasing the likelihood of miscalculations.

To test the possible limitations in decision-making, this research focuses on a single cognitive heuristic, the combination operation. This is defined as the implicit act of summing multiple probabilities that comprise a complex problem, then basing a decision on the simplified, singular probability (Kahneman & Tversky, 1979). This research seeks to determine: (1) whether such a cognitive heuristic is used during the decision-making process and (2) if so, whether the process leads to consistent rational decisions. It is first hypothesized that if a heuristic is used to simplify complex probabilities on which a decision is based, then there should be no bias in participants' responses between paired identical probability prospects which differ only in complexity (H1). It is next hypothesized that if such a heuristic is used on which to base decisions, then participants should show a significant bias for prospects with superior probabilities over their inferior counterparts (H2).

METHOD

Participants

Eighty-eight undergraduate students, with an average age of 25 years old, from the local university were recruited for this study. All participants were proficient in English and had normal or corrected to normal vision.

Stimuli

The stimuli for the choice task included 17 trials: three practice, four equal, four unequal (superior/inferior) and six filler. In the proceeding labels, equal and unequal refer to the overall probability of gain offered between

two prospects presented on each trial. The prospect pairs were presented with one in a complex probability format and the other in a simplified probability format. To illustrate an equal trial, the complex prospect offers two 10% (.10 + .10 = .20) chances to win $5 and the simplified prospect offers a single 20% (.20) chance to win $5 ($5, .20 or $5, .20). To illustrate an unequal trial, the complex prospect offers two 15% (.15 + .15 = .30) chances to win $5 and the simplified prospect offers a single 20% (.20) chance to win $5 ($5, .30 *superior prospect*; $5, .20 *inferior prospect*). The four superior prospects were evenly distributed among the trials as either the complex format or the simplified format. All participants received the same complex and simplified prospect pairs. The individual trials were randomly selected for pre-specified trial slots that controlled for distribution of practice, filler, equal, and unequal trials. Only responses to the four equal and four unequal trials were measured.

Procedure

Upon entering the research lab, participants were seated in front (approximately 70 cm) of a flat screen monitor connected to a Dell computer which generated the stimuli and recorded the responses. An identification number was used to log into the E-prime software v. 1.1 (Psychology Software Tools Inc., 2002a & 2002b) controlling the trial presentations and recording responses.

Participants were informed that the prospect pairs would be presented with one on the upper half of the computer screen and the other on the bottom half. Their task was to indicate which of the prospects allowed for a higher likelihood of gain by pressing one of two designated keys on the keyboard.

Before beginning, participants were informed that one of the hypothetical prospect pairs would be randomly selected and presented as a real choice after the completion of the test. This real choice was added to better approximate an everyday decision making process. The chosen trial was one of the four equal prospect pairs that allowed for a $5 gamble. Winnings were paid out immediately in cash.

Individual participants were randomly assigned to one of four conditions. The four conditions were varied combinations of screen position of complex prospects (upper vs. lower) and timing of test (timed vs. un-timed). Screen position of formatted prospects (complex vs. simplified) was counterbalanced between and within participants to avoid position bias. In the timed condition, participants had 35000 ms per trial to read through the prospect pairs and make a choice. Once time ran out, the program automatically advanced to the next trial. In the un- timed condition, participants had more time to complete the entire test, but were informed the test should not take longer than 15 minutes. For the un-timed condition, the program did not automatically advance to the next trail.

RESULTS

As anticipated, some trials were left unanswered due to the time constraint. A total of 37 unanswered trials — 5.3% of the total trials — were removed from the final analysis. The unanswered trials came from four different test trials. Twenty-seven (75%) of the unanswered trials were presented in the first half of the test. Twenty-nine (78%) of the unanswered trials were from the unequal prospect pairs. Twenty-eight unanswered trials came from two trials which had an average combined word length of 118 words. The remaining nine unanswered trials came from the other two trials which had an average combined word length of 81.5 words. Responses were calculated with the adjusted numbers and are shown in Table 1.

The first hypothesis determines whether a specific cognitive heuristic was used to combine complex probabilities. If the combination operation is in use, participants' responses to the equal prospect pairs should show no bias for either the complex or simplified formats. As predicted, the choice responses from the timed condition are evenly distributed between the formats (.50 complex, .50 simplified). In the un-timed condition, choice responses are bias toward the simplified format (.40 complex, .60 simplified: see Figure 1). A chi-square goodness- of-fit test was used to test how the actual frequency distribution compared to the expected frequency based on the idealized model proposed by the hypothesis. The test indicated that there is a perfect fit between the actual and expected frequency distributions for the timed condition and a bias toward the simplified format for the un-timed condition, $\chi^2 (1, n = 46) = 7.04, p = .008$.

The second hypothesis determines whether employing the heuristic leads to consistent rational decision-making. With one prospect offering a statistically superior option over the other, it was predicted that a significant proportion of participants would select the superior prospect. Both timed and un-timed conditions yield identical choice responses (.58 superior, .42 inferior: see Figure 2). Due to the difficulties of determining a goodness-of-fit test with the expectation of zero responses to the inferior prospects, we factored in a 3% human error in response accuracy. We concluded this was a reasonable error in action due to motor inadequacies and not cognitive miscalculations. After this error was considered, the results show no significant bias toward the superior choices by either the timed, un-timed condition or overall, χ^2 (1, $n = 42$) = 778.66, $p < .001$, χ^2 (1, $n = 46$) = 868.49, $p < .001$, χ^2 (1, $n = 88$) = 1638.32, $p < .001$, respectively.

The above analysis suggests that participants' choices are not greatly influenced by the content of the superior probabilities or by time constraints, even though there was a tendency to choose the superior prospect over the inferior prospect. Given that participants' choices were not guided by probability, alternative variables need to be explored. One possible variable that could explain their choices was prospect format. Taking into account all the prospects – equal and unequal – no bias was found toward formatting style in either the timed or un-timed conditions, χ^2 (1, $n = 42$) = 1.08, $p = .30$, χ^2 (1, $n = 46$) = 1.32, $p = .25$, respectively.

DISCUSSION

The results of the timed condition with equal trials support our first hypothesis (H1) in that there is no bias between the simple and complex formatted prospects. These results suggest that participants used the combination heuristic to accurately perceive the equivalent probabilities between the two prospects. Perhaps with a limited amount of time, participants were unable to utilize other heuristics in their decision-making deliberations. The benefit of using fewer heuristics is supported by the data from the un-timed condition. Participants were biased toward the simplified prospect over the complex prospect despite the equivalence of their probabilities. More time could allow participants to utilize more heuristics thus

increasing the likelihood of miscalculations. Tversky & Kahneman (1986) show evidence that higher-stake choices and more deliberation can lead to more erroneous choices.

If participants are indeed utilizing the combination heuristic early in deliberation, then the same combination heuristic should identify the superior over the inferior prospect (H2). Regardless of the time constraint, participants chose the superior probabilities over the inferior probabilities, but less than expected. Our analysis and experimental design excludes accounting for the bias using the prospect format (complex vs. simplified) and screen position. Given the controls and design of the experiment, the tendency to choose the superior over the inferior probabilities may reflect the accurate use of the combination heuristic. What remains unaccounted for is the extent of the difference. Despite the attempts to limit the prospects that would engage only the combination heuristic, Kahneman and Tversky (1979) suggest that the same prospects can be edited differently indicating use of a different heuristic. In other words, different individuals given the same problems may edit them differently. In this context, the observed differences in the results should be given greater consideration.

This research sheds light onto the time course and efficiency of components that have previously been underspecified in established decision processing models. Future research may consider other heuristics and the factors that influence the sequence of their use. This ambition mirrors the call for research by Kahneman and Tversky in their seminal work of the decision making process.

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TABLE 1. Frequency of Response Selection
by Time Constraint, Condition and Prospect Format

	CONDITION	
Format	Timed	Un-timed
Unequal trials		
Superior	80	107
Inferior	59	77
Equal trials		
Simplified	80	110
Complex	80	74
	$n = 42$	$n = 46$

Note: Participants from the timed condition and participants from the un-timed condition were presented with the same four unequal probabilities and four equal probabilities. Due to the 35000 ms time constraint of the timed condition, some trials were left unanswered as the program automatically advanced to the next trial.

FIGURE 1. Proportion of simplified and complex choices by timed vs. un-timed condition.
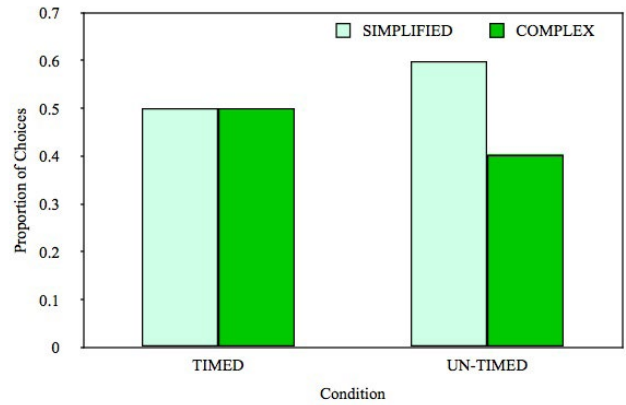
No bias was found for the timed condition, but a bias for simplified formatted prospects was found for the un-timed condition.

FIGURE 2. Proportion of superior and inferior choices by timed vs. un-timed condition.
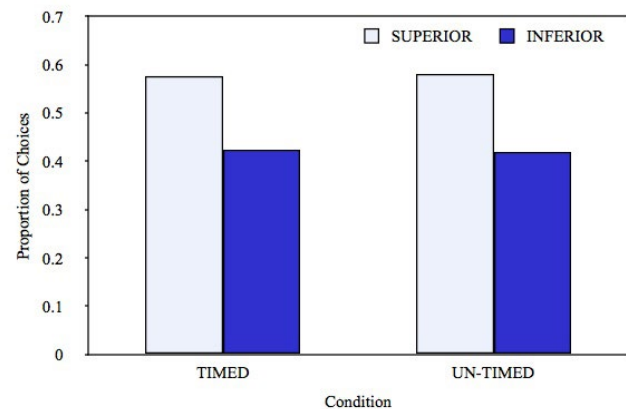
Regardless of time constraints, participants showed a tendency to choose the superior prospect over the inferior.

MOLA: THE TEXTILE ART OF AUTONOMOUS INDIGENOUS KUNA WOMEN OF SAN BLAS, PANAMA

by MARIANA DE PAULA

ABSTRACT

A generous collection containing 97 molas was inherited from Dr. Clyde Woods and donated by his brother, Mr. Frederick Woods, to the Corpus Christi Museum of Science and History in 1982. The artifacts and their cultural significance had not yet been individually studied and were inaccessible to the general public. Molas are textile art fabricated by Kuna women of Panama, sewn into blouses and typically worn as part of their traditional dress. The Kuna consists of an indigenous autonomous society; production and wearing of the molas goes deep within Kuna culture. Molas represent cultural identity and promote Kuna cultural pride. The purpose of the research was to document the collection of 97 mola panels utilizing recognized museum standards, and publish them online for general public education. Research consisted of interpreting, describing, and photographing the artifacts and putting them online on the Corpus Christi Museum's website.* Kuna culture, history, and art were studied in order to provide the cultural value of molas. Gathering of ethnographic information was organized to provide the basis for this collection to be developed into a future museum exhibit. The research provides valuable interpretive information on the collection of this major Central American indigenous society (the Kuna). The paper concludes with the author's perspective about how Kuna women have successfully managed the conservation and commercialization of mola production to strengthen internal cultural identity and establish a lucrative economic income for their families and communities.

INTRODUCTION

In 1982, a collection containing artifacts representing Kuna culture was donated by Frederick R. Woods to the Corpus Christi Museum of Science and History. The collection includes manuscripts, photographs, slides, diaries, and molas. Until now it had remained unclear why the donation was made to the museum. The items and their cultural significance had not yet been individually studied and they were stored in a section of the museum inaccessible to the general public. Molas are textile art fabricated by Kuna women of Panama (Powell, 2007). They are sewn into blouses and are typically worn as part of their traditional dress; the word mola means blouse in Kuna (Powell, 2007). The Kuna consists of an autonomous society that has
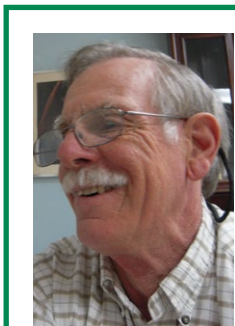
MENTOR
Dr. Robert P. Drolet

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Corpus Christi Museum
of Science and History

worked hard to maintain their identity in the midst of Western influences for the past five centuries, and the production and wearing of the molas goes deep within their culture (Powell, 2007).

FIGURE 1: Kuna women wearing traditional molas.

Photograph illustrates Kuna women wearing traditional molas while performing a dance on an unidentified island of San Blas. Photograph obtained from the 1960s era from the Woods Collection Archive (Corpus Christi Museum, 2011).

The purpose of the research was to correctly document the collection of 97 mola panels using recognized museum standards and to make them available to the general public for education purposes. Research consisted of interpreting, describing, and photographing the artifacts and putting them online in the Corpus Christi Museum's website. Studies of Kuna culture, history, and art were consulted in order to provide the cultural background of molas. Gathering of ethnographic information for this project was organized to provide the basis for the collection to be developed into a future museum exhibit. The research provides valuable interpretive background on this major Central American collection of the Kuna indigenous society.

Ann Parker and Avon Neal did research on molas and wrote a book in the 1970s called *Molas: Folk Art of the Kuna Indians*. As mentioned by Parker and Neal, tracking down specific source of inspiration where a mola design originated from can be an exhausting and a nearly impossible quest (Neal & Parker 1977). In addition, molas can also be the product of abstract

thoughts and artistic value that only the artist could accurately describe.

THE STORY BEHIND THE COLLECTION

In 1982, a collection of artifacts, including 97 molas collected from the Kuna Indians of the San Blas Islands in Panama during late 1960s, were donated to the Corpus Christi Museum of Science and History. Until recently it was thought that the donor, Mr. Frederick Woods, had collected the items. It was unclear why he made such a generous donation to the museum, although it was thought that a personal friendship between Mr. Frederick Woods and a museum staff member was the reason. The artifacts were donated along with photographs of the trip to Panama where the molas were obtained, and a box full of papers belonging to Mr. Frederick Woods' brother, Dr. Clyde Woods. Imagine our surprise when during the course of the research, all clues indicated Dr. Clyde Woods was the actual collector of the Kuna artifacts!

The pictures and the box full of papers contained a collection of items that belonged to Dr. Clyde M. Woods (hereafter referred to as Dr. Woods). Two job applications that Dr. Woods filled out indicated he received a medical degree at Baylor University, and obtained his Texas medical license in 1956 (Spohn Hospital 1977) (Physician's Placement Service Texas Medical Association 1977). He was a general practitioner and anthropologist who died at age 50, the day after his birthday in April of 1982 (Milan County Obituaries 2005). Mr. Frederick Woods made the donation to the museum on the same year his brother died. Upon scanning more carefully through museum files, one included information that the items donated by Mr. Frederick Woods had been inherited from Dr. Woods.

Other files in this collection that belonged to Dr. Clyde Woods include a grade letter for an anthropology course he took at University of California, Riverside from 1967 (University of California, Riverside 1967). Also found are several Xeroxed articles—many on the topic of Kuna genetics and health—that Dr. Woods obtained via inter library loan at the UCR, containing his handwritten notes in the margins that were also part of the donated items. The files also contain several articles about

hereditary traits, language, and culture of the Kuna. Dr. Woods studied many aspects of Kuna Indian society and wrote an extensive report about the Kuna (however several pages are missing) (Matson 1965).

Dr. Woods was a family physician and an anthropologist, so it makes sense that he would take interest in the Kuna of San Blas, because they are an ancient, unique human population with a high incidence of genetic traits (such as albinism due to prohibited interracial marriages) (Howe 1998). Dr. Woods was well educated, and his files contain articles in Spanish, English, French, and German. From his files, it appears Dr. Woods also studied Kuna linguistics.

Upon searching for Dr. Woods' publications, a few matches were found, including the book *The Process of Medical Change in a Guatemalan Town* by Dr. Clyde M. Woods and Theodore D. Graves, published in 1976 (Grollig & Haley 2011). This book matched interests of Dr. Woods, as illustrated by one of his articles found with the donated items: *Nutrition and Infection Field Study in Guatemalan Villages, 1959-1964* by Matson and Swanson, published in 1967 (obtained from the Woods Family Collection). The authors contacted Dr. Theodore Graves to help identify Dr. Woods in the photos of his trip to Panama. Dr. Graves was helpful but an additional acquaintance of Dr. Woods is needed for confirmation.

Despite Dr. Woods' apparent interest in doing anthropological research on the Kuna Indians, he never returned to Panama. Rather, he had already developed a strong interest in Mesoamerica, where he conducted fieldwork from 1965-1966 which was sponsored by Stanford Program in Medicine and Behavioral Sciences. Dr. Woods transferred from UCR to Stanford University, where he received his Ph.D. in Anthropology in 1968 (Costanzo-Kapur 2003).

Within the donated collection, there are quantities of photographs from different Islands of San Blas, Panama, including Aligandi, Ustupo, Wichubwala, and Mamitupo. Some of the pictures have the location, month, and year where they were taken printed on them. In some of the photos, Dr. Woods appears to be examining Kuna individuals with ailments and health conditions. Dr. C. Woods spent an unknown period of time with the Kuna Indians of Panama around 1968 and 1969 (according to dated pictures).

In 1969 he was on the faculty at UCLA and in the early 1970s continued field research on the Maya of highland Guatemala. The research focused on health, development, modernization, and culture change. After publishing a book with Dr. Graves in 1976, in the mid to late 1970s Woods left UCLA and was on the faculty at UT Austin (Grollig & Haley 2011). Dr. Woods then coauthored another article about his Guatemalan studies with James D Sexton entitled *Demography, Development and Modernization in Fourteen Highland Guatemalan Towns*, published in 1982. That same year Dr. Woods passed away in Corpus Christi, Texas from an unknown illness (Sexton & Woods 1982).

MATERIALS AND METHODS

The materials used were the 97 mola panels collection donated by the Woods family. The methodology to study the collection consisted of a literature review, photographing the collection with a digital camera, and inputting pictures and information about each mola on the Past Perfect computer program at the Corpus Christi Museum of Science and History. The research reflects extensive reading on Kuna culture, customs, history, and art. Researching reliable bibliographic sources with a qualitative comparison of information was done in order to avoid any bias (Hayhoe & Huges 2008). Additional resources are Dr. Robert Drolet and Dr. Patricia Drolet, who have lived in Panama and visited the Kuna to contribute to the research with personal insight on Kuna reality due to their experiences with the Kuna.

BACKGROUND

The Kuna are a Native American autonomous indigenous society who inhabit a series of islands located in the San Blas Archipelago, which lies off the eastern coast of Panama (Powell 2007). They are among the few New World indigenous groups that have achieved and maintained autonomy while preserving their culture for centuries (Powell 2007). In addition, they have been able to adapt to outside influences in a way that made their society strong; for example the population is bilingual and therefore understands the importance of communicating not only in their native language but

also in Spanish (Arauz 1974). Language allows them to send members of their society to be educated in fields such as law and agronomy in Panamanian universities so that they are familiar with modern practices and politics that affect them and their territory (Howe 2002). Studies of the Kuna have focused on many aspects of their culture (Powell 2007). (The Kuna have also been studied for high incidence of albinism as a result of not intermixing with outsiders (Tice 1995)). This study is intended to show how the mola textiles reflect traditional cultural identity and the impressive adaptability of the indigenous Kuna people.

DATA

The Mola and Its History

Molas are a symbol of adaptation; they evolved from body paint into textile art, probably due to outside contact influencing the Kuna to wear clothes. Molas are the art used by Kuna women to express their thoughts and creativity and to demonstrate their sewing skills. Sources of inspirations for the molas can originate inside and outside of Kuna territory. Their traditional lifestyle has constantly been challenged with outside influences, and the mola promotes cultural pride. Although the word *mola* means blouse, it "is a precious personal artistic creation...each pattern is an original creation, reflecting the thoughts and feelings of the individual creator, a true artist in every sense" (Cristobal 1967).

From the 1960s through the 1980s, mola sales became one of the most significant sources of income for the San Blas region. Mola commercialization is considered one of the most important social changes that occurred in that region in the past century. The mola has evolved drastically from its origins. Kuna legends say that Kikkatiriyai and Nagagiriyai, the most important women in Kuna history, gave origin to the molas. Kikkatiriyai (female) and Ipeorkun (male) are considered important Kuna teachers, who lived around the same time as Jesus Christ. Kikkatiriyai taught the women to make cloth from plant fibers, and also taught them to make dresses and hammocks decorated with dyes made from native plants. Initially, those longish dresses were in plain solid colors (Tice 1995).

Decorative designs were later introduced by Nagagiriyai (female). Nagagiriyai learned the designs when in her dreams she visited Kalu Duibis, a mythical dwelling place that only women may enter. There Nagagiriyai discovered colorful geometric designs which she memorized and taught to Kuna women to decorate molas and other items. The geometric mola designs were initially painted onto Kuna women's bodies or bark cloth using natural dyes. Nagagiriyai was one of the Kuna eight great seers who taught them customs, traditions and values long before the Kuna had any contact with Spanish conquerors (Tice 1995).

While both Kuna genders create art, designs used are specific to gender. Women's mola designs existed long before Kuna women had access to scissors and needles that they use to craft molas as we know today. The first descriptions of the geometric patterns painted on Kuna bodies was described in 1680 by outsiders navigating through Kuna territory (Tice 1995).

It is not clear where or when cloth, needles and scissors first became available to Kuna women. The mola technique of layering cloth panels, cutting through and painstakingly sewing them into fashionable geometric patterns for women's attire originated in the 1900s (Tice 1995). Although molas contained geometric patterns only, with time flowers and animals became mola motifs.

The Kuna rebellion took place in 1925 due to Panamanian government oppression and the attempt to acculturate Kuna. After the rebellion, molas came to symbolize cultural pride associated with the traditional Kuna way of life. The Second World War led to the commercialization of molas. The U.S. Air Force set up camps on some of the islands and the airstrips they built improved accessibility to the area. The men serving in the armed forces bought used molas as souvenirs to send home. Friendships were made between the American servicemen and the Kuna of San Blas, and a tourist market for molas developed from those connections (Tice 1995).

Molas have undergone a shift from feminine wardrobe to having the additional purpose of commercialization. The switch, however, was neither complete nor abrupt; it started around the 1940s-1950s and has continued since. Mola commercialization started to increase in the 1960s due to the development of a tourist industry supported by the Panamanian government as well as

changes in local crop harvesting. Agricultural variety decreased due to coconut cash cropping, which became the Kuna's main source of income during the first half of the twentieth century (Tice 1995:63).

In the 1950s and 1960s, the coconut harvest was badly diminished by blight, deeply affecting the San Blas Kuna's income. This happened around the same time the market for molas was starting to grow. At this time, many Kuna men were leaving the islands and seeking wage labor on the mainland. Migration of men took a toll on the subsistence farming and fishing. Women began to trade and sell molas to obtain food and other needed items that were previously provided by the Kuna men. Intermediary men that bought and sold the Kuna women's molas underpaid them for their products. Although Kuna women were initially contented with selling their worn-out molas, as Karin Tice mentions (Tice 1995:65), "they soon realized that they were being exploited. Desperate to sell their molas, but unwilling to accept the low prices offered by intermediaries, Kuna women actively looked for alternative markets" leading them to organize a mola cooperative (Tice 1995).

The increase of Panamanian tourism and demand by United States armed forces for Kuna artifacts further developed mola commercialization (Tice 1995). Mola sales came to provide a significant amount of the region's income. Modern influences of capitalism and the diminishing variety of cultivated crops along with increasing population lead islanders to seek outside resources. Commercialization of the mola was an astute strategy of the women to bring resources into their homes. The exquisite art attracted attention, promoted the Kuna way of life, and allowed women to continue their household chores. Mola motifs have vastly increased through the years and are no longer limited to geometric patterns, flowers, and animals. Mola trends come and go, and in modern days one might see characters such as the Ninja Turtles or the Kellogg's Tiger depicted on a mola. It is not uncommon for a mola to make a political statement, as they can represent a variety of Kuna ideas (Museum of Anthropology 2011).

History of San Blas Kuna and Their Women

Although the San Blas Kuna Indians have interacted frequently with outside foreigners, they have preserved their culture throughout their history. This does not mean that those interactions were always peaceful. Kuna people have long been noted by outsiders as friendly, suspicious, skillful, strong, and curious. This ancient society is very different from ours because it is matriarchal, somewhat matrilineal, and egalitarian. The birth of a female baby is more cherished than that of male babies and is considered an asset. The opposite is true for a son because after marriage, the groom is expected to move into his wife's household and abide by the rules of her eldest female relative. Dr. Clyde Woods mentioned that "ancient and modern writers agree that women are well-treated by Kuna. While they take no active part in the government, they exercise considerable control over the household and farming...The most important persisting Kuna ceremony is centered on the girl's puberty, and secondary ones on her birth and marriageability. There are no such ceremonies for boys" (Woods, n.d.). Kuna people have traditionally been proud of their race and its purity. Kuna Indians prohibit intermixing. Although the rule has not been strictly followed, marrying non-Kuna is a taboo, and can be biologically noted by the high incidence of albinism in their population.

Written history suggests the most significant Kuna interactions with outsiders were with Scots, French, Spanish, English, and Colombians. Kuna autonomy was not easily gained; they fought for years with people of different nationalities in order to maintain control of their territory. Shortly after the Panamanian separation from Colombia in 1903, the Kuna rebelled against the Panamanian government. Due to the new government's inability to suppress and incorporate the significant San Blas Kuna population into their government, they turned to missionaries for help. Most attempts by the missionaries were unsuccessful at taming and oppressing the San Blas Kuna, culminating in forceful governmental attempt to acculturate the Indians. According to James Howe who has done extensive research on the Kuna "the most important effect of mission rivalry up to 1920 on the later secular struggles was to establish in the minds of police and bureaucrats that the contest was not just between civilization and savagery, but in part between Panama and North American culture...What is most striking is the way in which Kuna converts appropriated missions for their own purposes, and the degree to which mission rivalry affected the consciousness, not of

the Kuna, but of the administrators and police sent to pacify them"(1990:162).

In 1915, the Panamanian government installed a governor in El Porvenir, and in the following years Kuna political and/or religious meeting houses were shut down. According to Karin Tice, who lived with and studied the Kuna, "Traditional Kuna women's dress, methods of healing, and other forms of sociopolitical expression were prohibited. Those who refused to comply were fined, jailed, and sometimes beaten" (Tice, 1995:40). *Revolución Tule* or Kuna Revolution followed in 1925, where the Panamanian policeman who refused to flee were killed and San Blas was declared independent (Arauz 1974).

Although many influences caused the revolution in 1925, "the treatment of Kuna women was a key factor leading to the decision to take action against the colonial policeman" and "women were forced to take off their molas, to wear western clothes, to remove their nose rings and wini [traditional bead patterns worn on lower legs and forearms], and were prohibited from painting their noses...Furthermore, young women were forced to attend obligatory western-style dances and dance with the colonial police. *Chicha* [alcoholic drink] celebrations were prohibited." Partial autonomy recognition by the Panamanian government took place in 1930. In 1938, the San Blas region was officially recognized as a Kuna reserve, and in 1945, Kuna obtained complete legal control of the San Blas Archipelago, becoming integrated and represented in Panamanian politics.

The Kuna Indians have high standards of morals and sex is rarely a topic of molas. Even talking about sex is considered taboo. Kuna have a strong sense of community and the way they get most matters resolved is by popular vote in *sociedades* or community organizations. In Kuna religion "there is but one divine command: it is necessary to be a good neighbor. That is the foundation of community" (Wassen 1947:92).

Mola Motifs

Three major categories that describe mola motifs are: Geometric Molas, Effigy Molas, and Multicultural Molas. In *Molas: Folk Art of The Kuna Indians*, Ann Parker and Avon Neal divide them into two categories: indigenous molas and acculturation molas (Neal &

Parker 1977:39). In this report, preference is given to the three subdivisions because the original mola designs did not contain fauna and flora designs (which are included under Parker and Neal's indigenous molas). In addition, the term acculturation carries a negative stigma in modern days, and can be considered outdated because the reference by Parker and Neal was written in the 1970s. Multicultural seems to be a more proper term to define mola motifs that originated outside of Kuna culture, because an outside source becomes multicultural once it is part of the Kuna mola art. Once the molas are made by the Kuna women, they hardly ever look like a carbon copy of the original source of inspiration which becomes evident in the Kuna artist's interpretation.

After World War II, Kuna accessibility to modernization was drastically improved. Many of them made friends with U.S. servicemen that used to be stationed in the San Blas Archipelago region during the war. After the war, many of those US servicemen moved to the Panama Canal area, attracting and opening the doors for Kuna to seek wage labor in that region. Before then, Kuna had limited access to modernization and other cultures and from that period on, their interaction and exposure to globalization began. Since then, "just about anything could and did appear on molas" (Neal & Parker 1977:39).

Geometric Molas

Geometric molas consist of intricate abstract geometric pattern designs; they are mostly limited to two or three colors, including red, orange, yellow, black, white or red and blue. Geometric molas are sometimes referred to as *muu* molas, meaning grandmother mola; these molas contain designs that belong to traditional Kuna legend and around the 1980s they were popular with Kuna grandmothers (Tice 1995). The geometric designs of molas were around before Kuna women had access to cloth and sewing tools; they used to be painted on their bodies with natural dyes extracted from native plants. The first report by non-Kuna of those designs seen painted on their bodies was made in 1680 (Tice 1995:59).

The Woods Family collection has 27 molas that fall into this category. Geometric designs are traditional of this folkloric art. The most predominant combinations are

blue and red; orange, yellow, and black accompanied by pink; and pink, green and lavender. In these molas, black and red were the most predominant colors. The designs resemble a variety of common household objects of the Kuna. Two molas are very similar (items number 769 and 772) but one is clearly superior in quality. The museum collection numbers of the geometric molas are: 769**, 772**, 776**, 786, 819, 823, 824, 825, 826, 827, 829, 830, 831, 832, 833, 834, 835, 837**, 838, 839, 840, and 841**.

**The marked molas represent pairs of molas—a front and a back panel—therefore they count as two panels.

FIGURE 2: Mola Motifs

A. Geometric Mola

B. Effigy Mola

C. Multicultural Mola

D. Multicultural Mola

Molas obtained from the 1960s era from the Woods Collection Archive, Corpus Christi Museum 2011.

Effigy Molas

Following the folkloric Geometric designs, Effigy designs were the next addition to the mola motifs. According to Kuna legend, Nagagiriyai taught the geometric designs to Kuna women. Nagagiriyai was the only female *nele* out of the eight great *neles* in Kuna history, *nele* meaning seer in Kuna. The source for the diversification of mola motifs into fauna and flora is obviously their surroundings. The natural environment of the San Blas Kuna contains a rich variety of tropical plants and animals. Panama is known for having an extraordinary biodiversity of birds, and it is no wonder Kuna women frequently depict birds in their mola art. Kuna of San Blas have traditionally fished for subsistence because of coral islands in the archipelago. Sea life is commonly represented in molas, due to the exquisite marine life in the region, particularly the colorful parrotfish, *Scarus croicensis* and *Scarus iserti*.

A total of 52 molas out of the Woods Collection fall into this category. One mola has a combination of plants and animals, 6 molas depict plants, and animals are depicted in 45. The combinations of colors that occur often in this section are blue and red; black and red and orange, with details in various colors; pink and black are also seen together as the main colors in one of the mola blouses. Red, yellow and black are the most predominant colors in the 52 Effigy Molas. Figures that appear repeatedly in the Effigy molas are birds, sea life, people, and lizards. Some animals are so abstract, it can be difficult to recognize them with certainty. The museum collection numbers of the effigy molas are: 770**, 774**, 775**, 777**, 790, 791, 792, 793**, 794**, 795, 796, 797, 799**, 800**, 801**, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 820, 821, 822, 828, 836**, 842, 843, 844, 845 and 847.

Multicultural Molas

Multicultural molas integrate outside sources of inspiration into the feminine Kuna art of mola. Because the outcome of the artifact is a combination of Kuna and outside cultures, it can be considered multicultural. Their sources can come from just about anywhere and anything, including coins, commercial advertisements, political advertisements, modern cartoons, and more. It is common for these to include writings on them in either English or Spanish, although often misspelled. According to Neal and Parker, "Design copying from other molas or outside sources is an integral, healthy and indispensable aspect of mola making...a major test of appeal of a newly introduced image is how soon and how widely it is cribbed" (Neal & Parker 1977:48-49).

When a woman makes a new mola and it becomes popular, others may try to copy her design. If a particular trend comes from a mola containing writing, after the design has traveled around through the interpretation of similarly fashioned molas, the lettering can sometimes

change beyond recognition. Misspellings probably occur because not all mola makers are literate and the art of the mola is a type of reverse appliqué. Therefore, if a letter was properly stitched on the back of the mola, it will appear inverted in position on the front. There are 18 molas in the Woods Family collection that fall into this category. Spanish is seen alone in 10 of them; Spanish combined with English is seen in 3 molas; English writing is depicted in 2 molas. There are 3 molas of unknown outside source. Writing is commonly misspelled. Some of the themes present are politics, boxing and a sport trophy. These can sometimes be used as if they were a history book because they depict social aspects usually pertaining to specific time periods or events. Red, black and orange is a combination predominant throughout the Multicultural motifs. The museum collection numbers of the multicultural molas are: 771**, 778**, 779, 780**, 781, 782, 783, 784, 785, 787, 788, 789**, 798 and 846.

Crafting the Mola

The crafting of the molas is a rather complicated art and requires fine sewing skills. The technique employed is appliqué or reverse appliqué. Kuna girls usually start to practice sewing molas around age 7 and continue to improve as they age. They are usually skillful mola makers by the time they reach marriageable age (Neal & Parker 1977).

Constructing a mola is no easy task; it requires envisioning and organizing in order to achieve the desired design. The colors are typically vivid and will appear multiple times in the same mola. Predominant colors are red, orange, yellow, blue, green, pink, black and white. Embellishments and embroidery may be used in decorating them. In a fine work of mola art, outline layers are expected to be even, stitches should be minute or hidden, corners should be graceful and no areas of the mola neglected or lumpy. Most molas present signs of wearing and fading from the strong tropical sun, except for the ones meant strictly for the tourist market.

Layers of different colored cloths are placed on top of each other and cuts are made to reveal the different colors underneath. Figures and patterns are usually outlined in a different color. A "good mola" can be discerned from a "bad mola" depending on how uniform or straight outlines are presented, and how fine or carefully the sewing is done. In the eyes of a Kuna woman, a good mola has no areas without colors (including the corners), and patterns should be evenly distributed within the mola.

"Tourist molas" or molas meant for the commercial market are usually not the best crafted of the molas, because it can be difficult for the foreign untrained eye, to define the quality of a mola. Tourist molas are usually made to appeal specifically to tourists and it seems that they are often rich in red and blue (which are also used in traditional folkloric molas). The stitches of a tourist mola may be rough, but the bright colors and curious designs have the exotic appeal that most tourists desire. Figure 3, provides the data distribution from the Woods collection, and the number in parenthesis represents the amount of molas in that category.

FIGURE 3: Distribution of Collection Data.

DESIGN MOTIF	TYPES	TOTAL
Geometric	Geometric (27)	27
Effigy Figures	Plants (6) Animals (45) Plans & Animals (1)	52
Multicultural	Spanish (10) English (2) Spanish & English (3) Unknown (3)	18

Mola design motifs and decorative style types from the Wood's mola collection. Numbers in parentheses indicate molas represented within the respective style type

Prices of molas can vary according to the market where they are sold and depending on qualities such as craftsmanship and age of the mola. Presently, molas can cost around $20.00 or more and can be purchased online. Videos of women marketing their molas can be seen on websites such as YouTube. Molas made with sewing machines are not as highly valued as hand stitched molas. Table 1 shows mola production and sales in San Blas during 1960, 1970, and 1980. Figure

2 shows the prices of molas in different markets. Both Table 1 and Figure 2 were obtained from the book *Kuna Crafts, Gender, an the Global Economy* respectively from pages 68 and 88 (Tice 1995):

TABLE 1: Mola Production and Sales, San Blas, 1960, 1970, and 1980.

	1960	1970	1980
No. of households answering survey questions	1,826	2,404	2,930
Molas produced	31,706	92,411	101,900
Molas sold	414	39,229	60,239

Sources: "*Cuadro 34—Producción y venta de la industria doméstica, en las áreas indígenas de la república: censos de 1950, 1960, 1970 y 1980,*" in *Censos nacionales de 1980: Cuarto censo nacional agropecuario 17 al 24 de Mayo 1981* (Panama City: *Dirección de Estadística y Censo,* 1981:59–60). Information about *mola* production and sales was not collected in 1950. Informants were asked about the number of *molas* produced and sold over a one-year period.

FIGURE 4: Mola Marketing: From Producer to Consumer.

Prices are approximately what buyers paid in 1984 for an average three-layer mola panel.
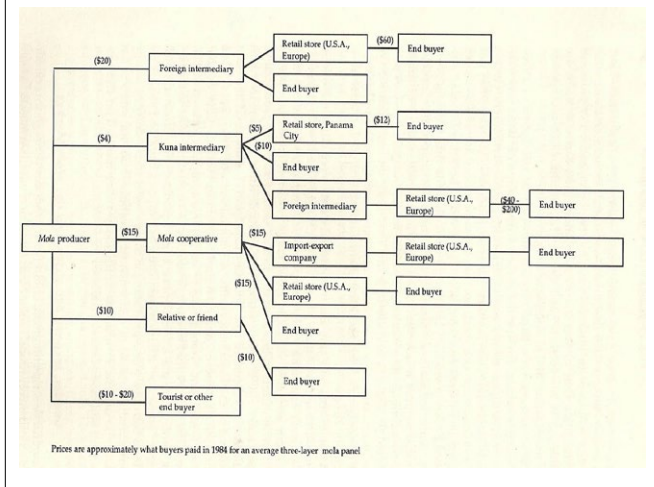
DISCUSSION & CONCLUSIONS

After studying the Kuna history and art, it became evident how highly Kuna prize everyday esthetics in their culture. Kuna women are so proud of their beautiful art that they wear it! The perspective of the female Kuna mola makers was clarified through background reading. The women are more likely to stay in the islands than to move out of the archipelago. Traditionally, Kuna men have traveled around the world, but the women stayed. Although female Kuna may not travel as much as male Kuna, their work of art can travel the world. Mola commercialization allows for women to work at home while continuing to care for their children. Kuna

men and children have received education in Panama through the revenue from mola sales (Tice 1995).

In the end, the Kuna women of San Blas have figured out a way to obtain income by working at home. On the other hand, they project their thoughts onto molas that will reach the eyes of people outside of their tribe. Their art is likely to be appreciated by a variety of people around the globe due to many molas being pictured in books, museums, online, etc. Kuna women have a deep connection with their environment, as depicted in fauna and flora in molas. Becoming a skillful mola maker takes years of practice. It is a skill that Kuna women develop throughout their lifetime and it is no wonder mola artifacts are highly valued by Kuna as well as outsiders. Additionally, the term San Blas is mostly used by outsiders, because the Kuna usually refer to their territory as Kuna Yala, which means Kuna Land (Salvador 1997:39).

Studying all of the donated files along with the collection provided major clues for understanding the mystery behind the generous donation made to the Corpus Christi Museum of Science and History. Online search of Dr. C. Woods' obituary, and his brother Mr. Frederick Woods' birth certificate was necessary in order to fit the pieces of this story together. The mola collection gained new meaning with each page of reading done on Kuna history and art. The molas are a major symbol of cultural pride and of the Kuna's persistence to preserve their ethnicity. The hypothetical limitation for this study was time. If more time had been allowed for the research to take place, more background information could have been collected. Therefore more in depth and accurate interpretations of molas could be achieved.

We are currently attempting to find someone who can confirm identification of Dr. C. Woods in his pictures from the Panama trip. There are several pictures taken in a healthcare facility in which two men are pictured examining patients. Considering Dr. C. Woods got a medical degree at Baylor University, it would make sense for one the men in those pictures to be Dr. Woods. Dr. Theodore Graves, who wrote a book with Dr. C. Woods, was contacted via email and after examining the pictures, was fairly certain that one of the men pictured was indeed Dr. C. Woods. However, because Dr. Graves has not seen Dr. C. Woods for about thirty years, he was not completely sure of the identification. The picture with the gentleman currently

believed to be Dr. C. Woods has the following writing on the back: "intrepid anthropologist carrying cement block on mainland so Island Indians can build an ugly concrete school." Dr. C. Woods did graduate studies in Anthropology at University of California, Riverside. One interesting aspect of the research is how all of my professional background knowledge was necessary to arrive at these conclusions. Some of the writing on the back of Dr. C. Woods' pictures contained medical jargon abbreviations that are usually unknown to anthropologists. My biomedical science background, along with proficiency in Spanish and English made it possible to study and decipher the collection.

Conclusions achieved are that the Kuna have a strong sense of community, cooperation, and adaptability. Their relationship with one another is cooperative rather than competitive. Kuna Indians value one another and work together to solve communal problems. They are democratic, cherish each other and share their resources. They understand that people working together can achieve more than individuals working alone and so they form cooperatives or *sociedades*. The cooperation amongst their society is evident in the way they build houses—with the help of their neighbors. It makes sense that Kuna women would eventually organize in order to market their molas and therefore avoid exploitation from intermediate sellers. The earnings from the mola sales are distributed among the women in mola cooperatives of San Blas. Mola sales is one of the leading economic activities through the San Blas Archipelago. Furthermore, the astute Kuna women have been able to further adapt their commercialization of molas through the internet, which allows them to market their products worldwide from home. Today, thousands of Kuna molas are sold annually (Howe 2002).

Many Kuna women continue to live their lives in a traditional indigenous Kuna style. The Woods Family collection reflects Kuna women's adaptability to other cultures not by acculturation, but by integration of non-Kuna aspects into mola art. Some of the multicultural molas contain English and Spanish writing, used to appeal to a non-Kuna market; for example mola number 780 in the collection depicts "EL GALLO Y LA GALLINA COMEN MAIZ THE CHITKE," meaning the rooster and the chicken eat corn, but at the end the English word chicken follows (although misspelled). Another example is mola number 782, which has the following writing: "THE HORSES EL CABALLO" (el

caballo means the horse in Spanish). Kuna women successfully integrated themselves in global marketing and modern society because they understand modern business principles. It is impressive how they have adapted to modernization but carry their lives like many Kuna women did centuries ago.

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The museum's website is undergoing changes and the artifacts are expected to be available online after the changes have been completed.

APPENDIX 1

86.78.810 ~ Mola   07/29/2011

Collection	Ethnography Collection		001\8678810.JPG
Other#		Object name 2	
Old#		Object name 3	
Accession#	86.78	Othername	Mola Panel
Received as	Gift	Received date	31720
Cataloged by	RD	Catalog date	
Source	Woods, Mr. Fred		
Creditline	No		
Home loc	Upstairs Storage:55:1		

Kuna Mola, San Blas, Panama

Description   Mola panel, blue top fabric with shrimp pink underneath, design of a stylized rooster and another bird with a smaller bird in between. Made with red and white fabric. Made by the Kuna Indians of San Blas Islands, Panama.

Date	1960s			Status date	05/14/2011
Year Range	0 - 0			Status by	RD
Condition	Good			Status	In Storage
Height	0.000 in	Width	17.500 in	Dim Notes	
Length	13.750 in	Depth	0.000 in		
Diameter	0.000 in	Circum	0.000 in		
Weight	0.000 oz	Count			
Subjects				Classification	
Search terms				People	
Legal				Repatriation	
Publications				Related Notes	
Maint start				Maint notes	
Maint cycle					
Condition	Good			Cond date	
Condition by				Cond notes	
Appraiser				Acq value	Current value min
App notes				Value date	Current value max
Notes					

APPENDIX 1 (continued)

Collector	Coll date / /
Site	Site#
Excavated by	Excav date / /
Identified by	Ident date / /
Preparator	Prep date / /
Pl origin San Blas,Panama	
Event	
Material Cloth	
Found	
Used	
Made Kuna	
Owned Woods, Dr. Clyde	
Provenance	

Title	Artist
Signed loc	Artist2
Signed name	Artist3
Medium	
Material Cloth	
Technique	
Culture	
School	
Accessories	Frame desc
Image size	Frame size
Inscription type	Inscription text
Inscrip techq	Inscription position
Inscrp lang	Inscription translation
Makers mark	
Dating Method	
Feature	

Unit	X-Cordinate 0.00	Datum
Level	Y-Coordinate 0.00	Box Number
Stratum	Z-Coordinate 0.00	Bag Number
Presrv Method		

Habitat
Skeletal Elem

Kingdom	Sub-Family	Age
Phylum	Genus	Era
Class	Species Mola	Period
Order	Sub-species	Epoch
Family	Sex	Stage
Varieties		

Ocurrence

Texture

Formation	Lithofacies
Member	Assem zome
Rock type	Origin San Blas,Panama
Chemical comp	Grain size
Crystal System	Classification
Spec Gravity	Color
Hardness	Fossils
Luster	Pressure
Streak	Temperature
Fracture	Surface Proc
Updated/by 07/09/2011 12:33 PM Ashley	Dataset

Appendix 1 contains an example of a Corpus Christi Museum of Science and History Mola Catalog Record from the Past Perfect database prepared by the author. All of the 97 Molas in the Woods Family Collection were documented using the same record form.

THE EFFECTS OF COLOR, TEXTURE, DISTANCE, AND ANGLE ON LIGHT EXPOSURE

by VALERIE FERDIN

ABSTRACT

This research project, building on current research on the use of infrared proximity sensing (IPA) to develop a computer 3D interface model, focuses on light exposure of certain objects based on color, texture, distance, and angle. The goal of this research is to measure the effect of color and texture, in order to be aware of the depth of the reflection of light on a 3D sensor. The research was designed to use an infrared light source and a web camera to determine the possible effects light may have on certain objects. Similar research projects performed based on photon entanglement and Einstein's quantum theory of light provide a framework for this research. Also, Phong's illumination model and the photometry theory state that an infrared sensor is known to have reflected light intensity. With this speculation in mind and a good understanding of Phong's model, a correlation of data provides sufficient results based on the graphical figures obtained. Phong's model is the main basis for the research results because this particular model works with infrared sensors to measure the intensity of reflection light.

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INTRODUCTION

Throughout life every human being has had at least one moment where he or she is asked to gather together for a picture. There are usually moments when someone is asked to dim the lights or to turn on the lights. Some people wear sunglasses when the sun seems too bright and some people are not as sensitive to light and do not wear sunglasses. Each individual reacts and sees light differently. The human eye can only tell so much about light intensity and what truly is taking place as certain types of light shine on different materials. The focus of this research is to determine the effects of color, texture, distance, and angle on light exposure. Materials such as seven felt color sheets, seven color paper sheets, a piece of balsa wood, a piece of Styrofoam, a piece of plastic, and a piece of sponge were used to generate results. These materials provide a variety of color and texture and are usually used throughout everyday lives. Therefore, people who are asked to take a picture may be wearing these colors or someone wearing sunglasses may actually be providing a light source effect to their view and not even know their glass lenses are doing so. As stated before, every individual sees and recognizes light differently. The focus of the research ahead is to

actually be able to explain what is occurring as LED light hits these certain materials stated. With a proper recognition of the correlation of results this research project will allow for the conclusion based on the data acquired.

In this research project, led light sources, focused with a lens, will be used in order to determine the light exposure of certain objects based on color, texture, distance, and angle. These parameters will be taken into account in the analysis of the light exposure on the object being investigated. For example, if I take an led light and mount it to a circuit board and face it towards the ceiling and a web cam facing the ceiling as well, I can take a picture of the light being shined on whichever material being tested in a photo booth. The results from a test will allow for a better insight of similar research projects performed based on photon entanglement and Einstein's quantum theory of light. A photon is a particle that is the quantum for electromagnetic energy and Einstein's quantum theory is the belief that light is built from photons. Also, Phong's illumination model and the photometry theory state that an infrared sensor is known to have reflected light intensity. With these theories in mind and a good understanding of Phong's model, if a correlation of results is seen through the lab process, I can be able to conclude sufficient results based on the graphical data obtained once the procedures are performed and accurately stored. Phong's model is the main basis for the research results because this particular model works with infrared sensors to measure the intensity of reflection light. Phong's illumination model provided the basis and main idea for working with LED light and web camera software because the light source being used is based upon infrared proximity sensing (IPA). This means that in a previous research project there was the use of an IPA and I will be furthering the research of this interface and see if results can draw conclusions that will validate what a human eye cannot see.

METHODOLOGY

The first step of the project was to build an accurate photo booth for taking pictures with the light source. This booth was be constructed with metal bars and black felt covering any areas that could cause reflection of light. This photo booth is supposed to be similar to that which

actual photographers use to capture a clearer image. This can also resemble a photo booth in which friends can find at the mall or movies that print a strip of five pictures. At the top center there is to be one metal rod that can be adjusted for distance and angle purposes. This rod is to have Velcro on the bottom of it so that each different piece of paper, felt, sponge, wood, or plastic, can be attached and unattached to the rod for testing. The light source and web cam must be installed
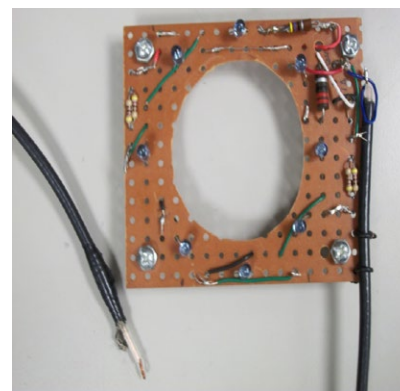
and connected to the power source and computer for testing. The light sources originally intended to use were laser diodes, but unfortunately the power source was not strong enough for these diodes to work.

Thus, the light source being used is just a regular LED light source that is very commonly used throughout everyday life. A circuit board will be used to mount the LED light and web camera, so that both the light and camera are facing upward from the ground to the rod with Velcro. Once the photo booth is built and the circuit board with the light and camera is successfully running and powered, pictures can be taken and saved according to the particular focus of that certain picture. For instance, one picture being taken of a certain material could be related to distance, which requires the rod to be moved vertically in increments of 2cm or another picture could be the angle at which the material is placed at different distances. These are only two examples that will be performed during research. There will be many charts and graphs that will be generated for the observer to understand what is actually taking place. The next step of the experiment is to identify the
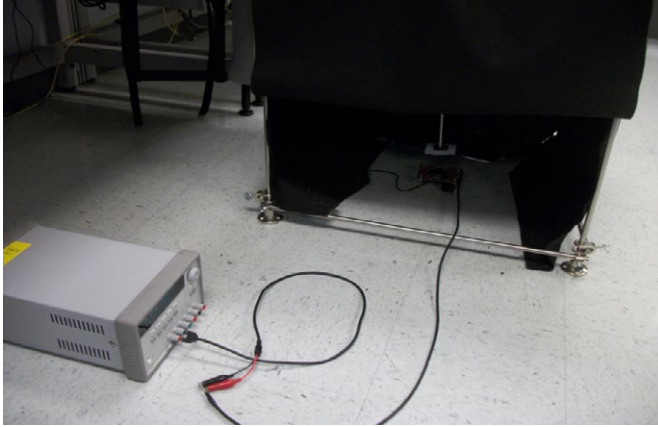
correlation of the objects being tested. This means that once all pictures are taken and graphed, I can conclude if my research data is actually accurate based upon the materials I am using. For example, I can see whether a white piece of paper matches any of the results for a black sponge and if it does not, why does it not match. These questions are to be further investigated to see if Phong's illumination model is accurate based on the reflected light intensity. Once these pictures are saved, the angle of the object being tested will be taken into account, as well as the exposure of the light source based on the webcam software being used. The angle will let me, as the researcher, know at what point does light stop reflecting or at what point does light reflect given a certain angle. Fixing the exposure of the light source will play a major role in determining how much light an object needs to be seen. When all pictures are taken and saved, MATLAB is then to be opened and used to run a program that will generate the results for the amount of light exposure in each

image. These results then will be gathered together for each case and will be summarized. MATLAB is software that can mathematically graph results and provide a mathematical output for programs that are written to specification. In my research case, my mentor and I will write a program that can obtain the average sum of the reflected light intensity being exposed on the material being measured. Thus, once the research experiment is complete, an outside observer will learn exactly what Phong's model is and grasp the concept of reflected light exposure.

RESULTS

Preliminary results will show the differences of light being absorbed based on the color, texture, distance and angle of the object.

Colored Paper

After taking ten pictures from 2 centimeters to 20 centimeters of each of the seven different colored papers, graphical data was obtained through the MATLAB software. Based on the software programs results a chart was generated along with a graph to show the resulting average values of light that actually emitted to each object.

Depth of Light on Colored Paper

Distance (cm)	Blue (Pixels)	Black (Pixels)	Orange (Pixels)	Green (Pixels)	Red (Pixels)	White (Pixels)	Yellow (Pixels)
2cm	1.6014	0	0.3939	0.684	3.7097	1.1478	1.6891
4cm	10.135	4.89E-04	9.364	8.9845	15.1948	9.953	10.2123
6cm	6.5219	5.22E-04	7.0351	6.8116	10.3321	6.2169	6.8336
8cm	4.0691	0.006	4.013	3.8435	9.3226	3.9716	5.1966
10cm	3.6642	0.0025	3.9317	3.5138	8.9017	3.6049	3.8393
12cm	3.1846	0.0036	2.9194	2.7673	7.597	2.6677	2.7146
14cm	1.7332	6.00E-04	1.8303	1.5669	5.9955	1.7064	1.3027
16cm	1.1137	1.67E-04	0.9831	0.8514	4.5998	0.8656	0.9028
18cm	0.5939	4.44E-05	0.4627	0.3273	3.3013	0.4012	0.4316
20cm	0.3892	8.89E-05	0.1847	0	1.9671	0.2067	0.1754

Depth of Light on Colored Paper
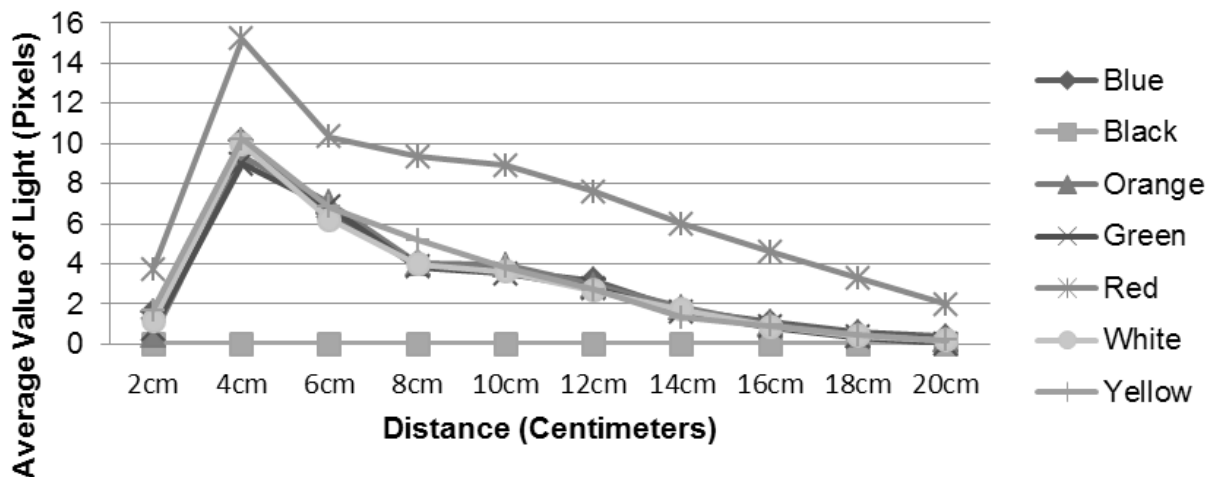
This chart and graph show the seven colored papers, blue, black, orange, green, red, white, and yellow. The graphical data shows a reoccurring downward trend as distance increases. This means that the average amount of light that was hitting the center of the object weakened with distance. Depending on the color of paper, the average value was relatively higher or lower compared to the others. For instance, the red paper seemed to have the most depth of light since the average pixel values were higher. Comparing the red paper to the black paper, the black paper seemed to have little to no value of light reflection.

Depth of Light on Different Colored Felt

Distance (cm)	Black (Pixels)	Orange (Pixels)	Green (Pixels)	Blue (Pixels)	Red (Pixels)	White (Pixels)	Yellow (Pixels)
2cm	0.002	0	0	0.0115	0.6197	0.0129	7.44E-04
4cm	0.0291	1.03	0.2739	4.6146	12.7109	2.7649	5.9101
6cm	0.009	1.7219	0.0998	2.1932	9.7942	1.9261	5.1336
8cm	0.0039	0.7571	0.0054	1.632	7.2641	0.9851	3.6062
10cm	0.0034	0.7895	0.014	1.7875	7.0099	0.7932	3.8409
12cm	0.0024	0.5098	0.006	1.3605	6.0898	0.7024	3.2303
14cm	0.0023	0.2578	0.0016	0.8756	4.9359	0.3284	2.1307
16cm	0.0014	0.0484	2.67E-04	0.3961	3.4011	0.1036	1.7075
18cm	0.0028	0.0133	1.78E-04	0.2623	2.1148	0.0223	0.8103
20cm	0.0056	0.0038	0	0.0621	0.9353	0.0027	0.5464

Depth of Light on Colored Felt
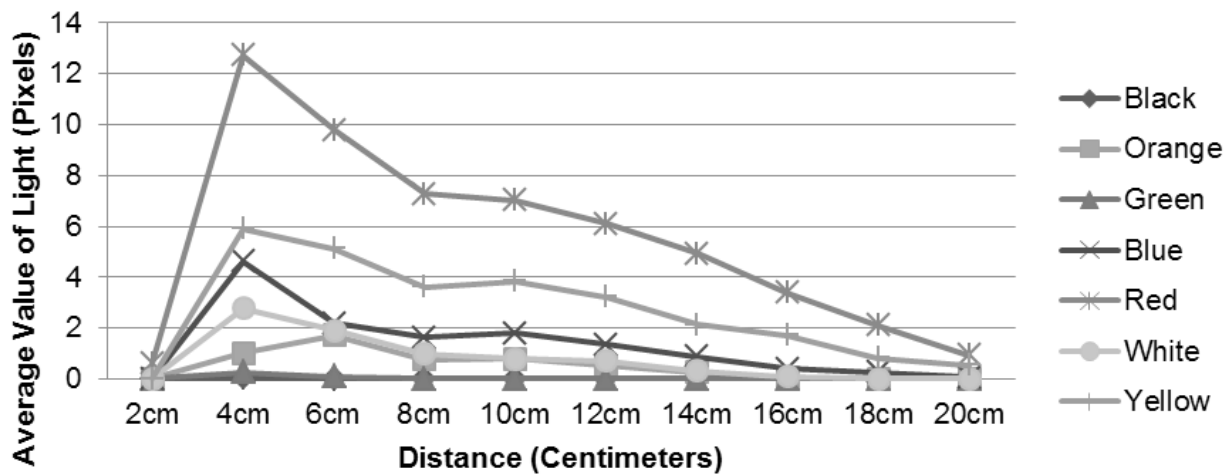
Colored Felt

After taking ten pictures from 2 centimeters to 20 centimeters of each of the seven different colored felt, graphical data was obtained through the MATLAB software. Based on the software programs results a chart was generated along with a graph to show the resulting average values of light that actually emitted to each object.

Similar to the colored paper, the colored felt specimens seem to have a reoccurring downward trend as distance increases. Texture did not play a key role in the experiment after all. The order in which the objects are ranked from highest average light values to the lowest average light values appears to be the same. Thus, cloth compared to paper did not seem to matter. It does seem though that when looking at the absorption of light cloth did average less than paper because the average values were less compared to paper.

Depth of Light on White Styrofoam and Balsa Wood		
Distance (cm)	Styrofoam (Pixels)	Wood (Pixels)
2cm	0.0809	0.2068
4cm	7.3644	10.3122
6cm	6.7498	7.7353
8cm	6.4952	4.3926
10cm	6.8061	4.2449
12cm	6.5304	3.1713
14cm	5.341	2.2552
16cm	4.5208	1.0711
18cm	3.4254	0.5795
20cm	2.6363	0.2208

White Styrofoam and Balsa Wood

After taking ten pictures from 2 centimeters to 20 centimeters of the white Styrofoam piece and balsa wood, graphical data was obtained through the MATLAB software. Based on the software programs results a chart was generated along with a graph to show the resulting average values of light that actually emitted to each object.

Balsa Wood and Styrofoam also had a downward trend as distance increased but majority of the numbers obtained for the average value of light were relatively higher than that of paper and felt.

Depth of Light for White Styrofoam and Balsa Wood
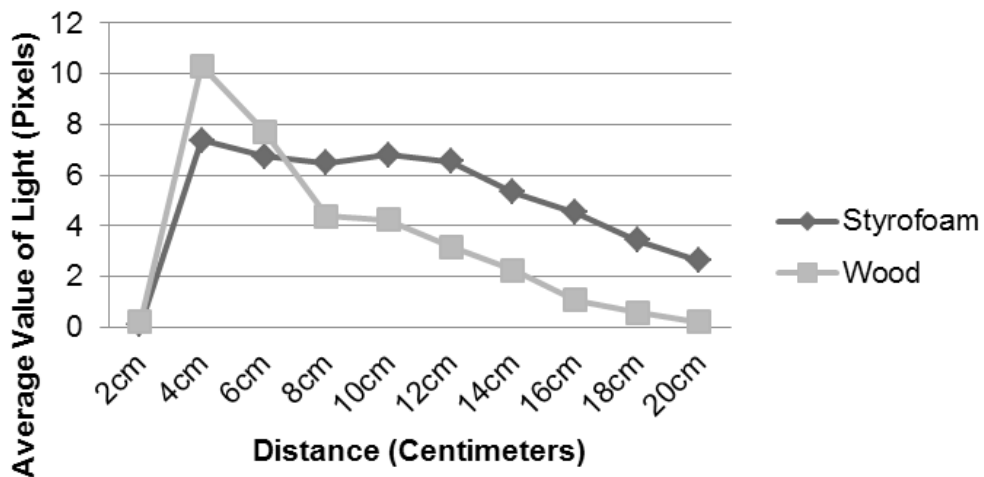
DISCUSSION

Looking at the results and seeing the downward trend with distance, as a researcher, conclusions can be made to understand what effects color, texture, distance, and angle have on light exposure. The results obtained after taking pictures, running through programs, and outputting graphs and charts, seem to be very accurate. It is very common for light to decrease with distance. Sound sometimes has effect when this occurs. Due to the light source not emitting as much light as wanted there are future plans to project 12 volts compared to the 6 volts used to obtain the results present. Many questions do come to mind. Why do building materials such as Styrofoam and Balsa Wood have more depth of light compared to everyday objects such as paper and felt? This too will require further investigation as more results are being generated. Paper seems to have more reflection of light then felt does which was also expected. What was not expected is for felt and paper to have the same ranking of color. Thus, the experiment is still being investigated further as the power source of 12 volts will allow for a more in-depth conclusion of how light is being reflected.

CONCLUSION

With preliminary results present and more research to come. The results obtained from this particular experiment are a good foundation for the previous research experiment conducted by my mentor Dr. Dugan Um based on Infrared Proximity sensing.

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UNDERSTANDING SOCIAL MARGINALIZATION THROUGH THE VISION OF JEAN-MICHEL BASQUIAT'S ARTWORK

by ARDIE GRADY

ABSTRACT

The focus of this research is to prove that Jean-Michel Basquiat (1960-1988), a self-taught artist, should be considered part of the Surrealist art movement instead of the Neo-expressionist art movement. The artist is considered outside the mainstream culture in the category of marginalized art. He was one of the innovators of New York's street-art movement and is considered the single most influential artist to emerge from the graffiti era. Basquiat is famous for the New York City graffiti tag, SAMO, which means Same Old Shit. As an anti-bourgeois, Basquiat invented SAMO as an alternative to bourgeois culture. The artist became part of the Neo-expressionist art movement in the 1980's. The conservative art critics did not have a full understanding of what Basquiat's work entails. This artist's work was not analyzed thoroughly before categorizing him in the Neo-expressionist art movement. His images contain underlying hidden messages that are waiting to be discovered. Basquiat is a renowned artist who used his cultural background to reach a widespread audience. This paper examines one of his works with a review of the aggressiveness, the humor, and the dichotomies that are found in "Obnoxious Liberals." This research provides background information about his life, followed by a discussion of his influences in order to better understand his work, and then a conclusion about one of his painting's relationship to the Surrealist art movement.

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BASQUIAT'S BACKGROUND

Jean-Michel Basquiat was born on December 22, 1960, in Brooklyn, New York. He was the first of three children. Basquiat's father, Gerald Basquiat, was an accountant from Haiti. The artist was raised in a middle class family in Brooklyn, but he portrayed himself as a poor boy living on the edge. His mother, Matilde Andradas, was of Puerto Rican heritage. Basquiat was trilingual and

learned all three languages at home: English, Spanish, and French. Growing up he drew constantly. The family had a lineage of drawing skills, and his mother gave him all the primary tools for drawing (Hoban 16-17).

His mother inspired him to be an artist by taking him to the Brooklyn Art Museum regularly. As a child, he was inspired by artists such as Pablo Picasso, Jean Dubuffet, Cy Twombly, and Jackson Pollock. Basquiat's mother was schizophrenic and was in and out of the mental hospital. She was not mentally or physically there for her children. When Basquiat was seven years old his parents separated. Matilde was considered to be too unstable, so Gerald gained full custody of the children (Hoban 17-18).

The father became the disciplinarian of the household. A classic example of rebellion against his father is his vandalizing of lower Manhattan. At 15, Basquiat ran away from home and left home permanently at the age of 17. He disguised himself by shaving his head and fled Brooklyn. Homeless, Basquiat supported himself by selling shirts and post-cards that he painted. In Hoban's book, *Basquiat: A Quick Killing in Art*, there are stories of how both of Basquiat's parents were abusive to him. For example, his father stabbed him in the buttocks because he was having sex with his male cousin (Hoban 22). When he was a child, his mother whipped him for wearing his underwear backwards, believing he was homosexual (Hoban 17). He was abused by both of his parents. It seems there was a wall between him and his parents.

During the 1980's (the crack epidemic), the experimentation of drugs was present amongst the youth, along with inner-city poverty, and the AIDS crisis. Mushrooms and acid were two of the many drugs used in the club scene. Basquiat was the definition of 'hip'. He went to the latest clubs, had a crazed hair style, dressed in bum clothes, and had a sense of aloofness that appealed to everyone. He was the center of attention. He started his own New York band, Gray, playing at the Mudd Club, the One University, and Mickey Ruskin's post-Max's restaurant. The short lived band played at unusual places where the art crowd had migrated (O'Brian). He wooed women on the spot with his boyish looks, sexual intensity, and artistic talents. His energy and creativeness are shown in his poetic

graffiti tag, SAMO, and his paintings. Basquiat spray painted his SAMO sayings on walls in lower Manhattan (see Figure 1). Basquiat wrote different sayings with his graffiti tag, SAMO. Below are some of his graffiti tag sayings:

SAMO as an end to mind wash religion, nowhere politics, and bogus philosophy

SAMO as an escape clause

SAMO as an end to bogus pseudo-intellectual. My mouth therefore an error. Plush safe he think

SAMO as an alternative 2 playing art with the "radical chic" set on Daddy's $funds

(Braziel 174-175)

FIGURE 1

SAMO is iconic. As a true Surrealist, Basquiat expressed anti-establishment, and was against being indoctrinated by an institution and controlled by an establishment (Hoban 41). Through his political work he was an authoritarian, meaning he was his own boss. Thus, he had a mind of his own and did not want to be governed or manipulated (Hoban 42). Basquiat would include iconic symbols such as the copyright sign to his images. The copyright sign is a form of ownership and a sign of authority (Hoban 27). This sign is visible in majority of Basquiat's images including his painting called *Obnoxious Liberals* (Figure 2); the trademark is located near the top center of the painting. Basquiat's vandalism shook up the art world by going against traditional art. He captured the SoHo art world's attention by spraying his graffiti tags throughout lower Manhattan. There

were a number of art critics, dealers, and authors who did not understand his political work, as their taste in art was conservative. In the words of Hoban, about Basquiat's work, "One thing was eminently clear: this was to art what punk was to music. Self-consciously in-your-face fun, anarchy without ideals, the work without work" (66). Basquiat's former art dealer, Diego Cortez stated, "I think people were expecting an introduction to New Expressionism, but the show wasn't about painting at all" (Hoban 66). Cortez referred his art as "Neo-Pop." There was so much hype created around Basquiat that people immediately categorized him before understanding him and his cultural background. They seemed to want to cash in on the artist. To say Basquiat's work was not purposeful is just wrong. He used his cultural background and art influences to challenge the use of media.

Art influences

The era of Pop Art was at its height in the 1960's, although there were many other art movements taking place. Pop artists produced art that was geared toward the consumer culture and mass media, because it was relatable and easily accessible to the American public (Kleiner 981). Andy Warhol was the leading figure during this movement. At this time, Andy Warhol influenced millions of young people to create and franchise Pop Art (Hoban 6). Around the early 1980's, Basquiat came to know Andy Warhol, who became recognized as a father-like figure to Basquiat. Warhol inspired Basquiat and made a long lasting impression throughout his adolescence. Basquiat seemed to be the modern day Warhol sharing the same attributes such as having a coy attitude, hip clothing and crazed hair style. Both men had a lucrative mindset. "Writing of Warhol's "Marilyn" paintings, which appeared in 1962 just after the movie star's death, critic and author Justin Spring notes in "Fame and Misfortune's" informational, well-designed catalogue: "Warhol seemed to suggest that the works were a reflection of America's skewed social and cultural values, even as he exploited the image of a recently deceased celebrity to further his own artistic career" (Bennett). One thing for sure the apple did not fall too far from the tree. Basquiat and Warhol were not afraid to use people or even each other to gain publicity. This surrogacy would be one of Basquiat's many failed relationships (Hoban 31).

His other influences from his adolescence included William Burroughs (1914-1997), Jack Kerouac (1922-1969), John Belushi (1949-1982), Charlie Parker (1920-1955), and Miles Davis (1926-1991) (Deitch and Hoban). He did not know these figures personally, but they can be recognized as his heroes. These iconic figures helped characterize who he was. Burroughs was a prolific writer who appeared as poetic, mysterious, deep, and highly innovative to Basquiat. Like Burroughs, Basquiat experimented with writing that became iconoclastic, as for example, his graffiti tag sayings. The use of the word 'asbestos' repeats itself as depicted in Basquiat's *Obnoxious Liberals*. The repetitiveness in language is evident in both Basquiat's and Burroughs's styles.

Kerouac was an underground celebrity who touched on every topic there was to write about. Kerouac was another literary writer, who was the leader of a literary group called the Beat generation during the 1950s and 1960s (Saltzman). The Beat movement got its name from jazz enthusiasts who sparked mutiny in the ideal American life (Saltzman). The Beat members were spiritual liberators, they sought personal fulfillment through sex, drugs, and religion (Saltzman). Like Kerouac, Basquiat's was a non-conformist in a materialistic world. According to Bockris, Kerouac's and Basquiat's composition was spontaneous. Another heroic figure was John Belushi, who died of a drug overdose like Basquiat. The SNL (Saturday Night Live) show allowed Belushi to relate to the American public easily through television. Belushi's appearance on SNL allowed him to entertain people with current issues that were exaggerated for America's entertainment. This utilization of humor, stupidity, and ignorance are visible in Basquiat's work. He utilized current historical events from his lifetime. Basquiat's paintings such as *Obnoxious Liberals* seem to test society's knowledge with iconographic images.

Basquiat grew up listening to jazz artists such as Charlie Parker and Miles Davis. These jazz artists are deep and their music favors a certain audience. Their music has rhythm and gives off a dreamy vibe. Basquiat's band, *Gray,* was all about experimenting with random influences that were a mixture of jazz, early hip-hop, and

electronica. Jazz and *Gray* are like Basquiat's paintings—autonomous— and their effects only appeal to a certain audience. In the words of Deitch, "It is important to understand Basquiat's leadership of the band Gray and his involvement with the downtown music community in order to understand the aesthetic innovations of his early work" (13). Basquiat realized how music is easily accessible to the public. Basquiat build another brand, this time, using his Musicians and band to make him popular wherever the art crowd hanged. Part of making it in the industry comes down to making oneself easily accessible. Basquiat did radio, magazine, and television interviews, making it easier for others to promote him. Basquiat was interested in becoming a historic figure in the art world (Deitch's interview with Arto Lindsay 147).

What all these influential men have in common is that they were all addicted to sex and drugs, and all felt entrapped by loneliness. 'Fame and misfortune' followed throughout their lives. What drove these men was the desire for fame. These savants related to America in an economic, random, and experimental way. They encouraged rebellion against the mainstream culture. Warhol and other Pop artists tried to stop art from being alienated from the urban environment. Warhol, with a modernist mindset, reached a wide audience because of the communicative power of art. As for Parker and Davis, they were opposing the white supremacists. Burroughs and Kerouac experimented with the use of language. Belushi challenged the use of media. These figures were iconic to Jean-Michel Basquiat, but were not the only influences that can be seen in his art.

Obnoxious Liberals depicting Surrealism

In the words of Andre Breton (the chief of Surrealism), "*the liberation of the mind*, the express aim of surrealism, demands as primary condition, in the opinion of the surrealists, the *liberation of man*, which implies that we must struggle with our fetters with all the energy of despair; that today more than ever before the surrealists entirely rely for the bringing about of the liberation of man upon the proletarian Revolution" (Bigsby 44). The Surrealism movement covered all areas: painting, writing, theatre, and music. Surrealists' work concerns political involvement; they work to try to keep the lower classes from being suppressed. They reinforced the use

FIGURE 2.
Jean-Michel Basquiat, *Obnoxious Liberals*,1982.
Acrylic and oil paint stick on canvas, 68 x 102 inches,
The Eli and Edythe L. Broad Collection, Los Angeles.
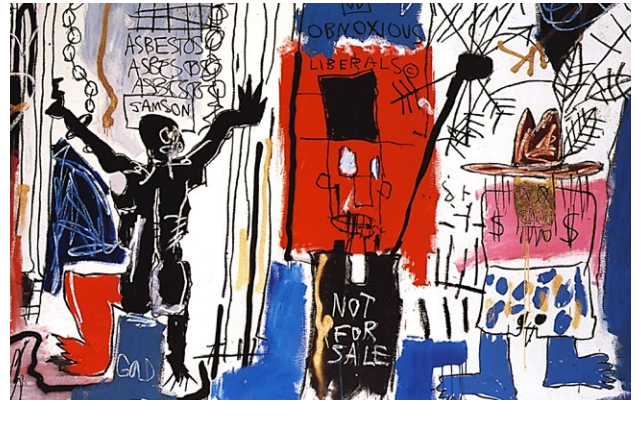
of the unconscious mind. Surrealism is not supposed to be filtered like our mainstream system (education, news, religion) because Surrealism is supposed to be the truth. According to Mayer, Surrealists "exploited the unconscious, the random, the primitive, and the insane, for aesthetic purposes, but also in a Freudian attempt to glimpse a fundamental humanity deeply hidden beneath culture and history" (49). The aim of Surrealism was to reject and destroy the foundations of western thought. They challenged the traditional techniques and styles of bourgeois art institutions. The movement expressed anti-establishment, it was a search of liberation by using anti-authoritarian actions.

Some of Breton's surrealist elements are seen in *Obnoxious Liberals* such as, Primitivism, word games (semiotics), gender positioning, analysis of dreams, a fetishistic character, and a Paranoiac-critical method. Surrealism derived from Primitivism (Tythatcott 59). Primitivism is an untrained style that is related to child-like rendering and art of the insane. "Yet this uncritical mingling of the primitive, the mad and the child had dangerous implications, for it was precisely the idea that non-Western peoples resembled children or the insane, and were thereby incapable of self-determination, that had ideologically justified colonialism" (Tythacott 54). Basquiat's gestural style is similar to the abstract expressionist artists such as Jean-Dubuffet, Jackson Pollock, and Cy Twombly. As seen in *Obnoxious Liberals* (refer to Figure 2), Basquiat's work seems more purposeful than abstract expressionists'

work that is random and experimented with chance. Basquiat's child-like imagery is of colonization in race, class, and sexuality. The importance of Basquiat's naïve (untrained) style shows his appreciation of children's art, but also how he is against conventional art. Tythacott explained as, "Members idealized the world of childhood as unconditioned and unencumbered: for them, children lived in a world of innocence, uncorrupted by bourgeois convention" (55).

Another surreal element is the word games (semiotics). Basquiat utilized semiotics in his imagery to always keep his viewers entranced at a theoretical level as Burroughs. O'Brian stated this about Basquiat and his work: "He would test everybody, and he was qualified to judge. It was sort of like Dali's idea of critical paranoia" (Deitch's interview with Glen O'Brian 20). The paranoiac-critical method was developed by Salvador Dali who utilized it for his imagery. The surrealist method is an example of resulting work as a double image or multiple images in which an ambiguous image can be interpreted in different ways (Lippard 210 and Malt 190). As for gender positioning there is role playing. In *Obnoxious Liberals*, the artist expressed a character that plays a submissive-recipient role in sexual bondage and also suggests another character as a dominant male. The image shows vulnerability, easy access for sexual intercourse, and abuse. Basquiat's sexual fetish is how one can easily be screwed with.

Basquiat's work is raw and personal. He incorporated his cultural background in his art pieces. In a number of Basquiat's paintings there can be seen integration vs. segregation and inner vs. outer experience. To be more specific, *Obnoxious Liberals* showed class problems: proletariat vs. capitalism. This form of exposure relates to Surrealism. Basquiat depicted class issues in *Obnoxious Liberals* so as to serve the fundamental purpose of Surrealism--to change our perception of the world and hence to change the world itself. In an age growing daily more materialistic, Lotringer stated: "The central relationship is between consumer, product and agent in a loveless and parasitic system in which people manipulate each other" (56). Basquiat's scene of torture and madness depicts the parasitic system in *Obnoxious Liberals* (figure 2). This image bridge the antithetical relation between reality and (a) dream—fused together to create the "surreal."

METHODOLOGY

For the methodology, only one painting of Basquiat's was analyzed. Using Laurie Schneider Adams' book, *The Methodologies of Art,* the viewer will be able to examine his use of iconography, Marxism, and psychoanalysis.

An iconographic study focuses on the meaning of the subject matter, rather than on form (Adams 36). The iconography is about studying the prevailing cultural style during a particular time and place in which the image emerged (Adams 37). An example of something that is iconographic is SAMO, which is one of Basquiat's famous styles.

Svetlana Alper's and Ernst Fischer's Marxist perspective were utilized in this research. In order to understand the political and economic circumstances that surrounded Basquiat, one will need to apply Svetlana Alpers's Marxist approach. This analysis reflects awareness of economic factors on the production of art and the artist's relationship to the marketplace (Adams 59). The artist was a commodity producing numerous works for self-enrichment. Refer to *Table 1,* for the value of Basquiat's work during his art career (1981-1988). As for Fischer's analysis, it shows the political view of art (Adams 60). "Artists, like writers, should renounce bourgeois elitism and join the proletariat. Only in that way could artists create images of real life, which would assist the masses in achieving historical progress" (Adams 61). Basquiat revolted against the capitalist system in *Obnoxious Liberals*. From a Marxist perspective, one could read this work as reflecting alienation from the mainstream world (meeting working class or bourgeois criteria).

The psychoanalytical methodology from Freud's *Oedipus Complex* is suitable for understanding the artist himself. "This is a complex method, which involves not only the art itself but also the artist, the aesthetic response of the viewer, and the cultural context" (Adams 179). The *Negative Oedipus Complex* was significant to this research, allowing the viewer to have a better understanding of Basquiat's background by relating it to his childhood, personality, and sexuality. Examining the symbols in Basquiat's paintings question the possibility of whether they were influenced by his childhood. Basquiat showed great expression in his paintings. Could his aggressiveness in his paintings resulted from childhood trauma, the absence of his mother, or his

father not acknowledging him? Freud's psychoanalysis enabled one to understand the emotional effects in his paintings.

As for the sources, documentaries, biographies, past interviews, books on psychoanalysis, and articles were used for this research.

FINDINGS

Hilton Kramer was an art critic who formerly made a harsh remark about Jean-Michel Basquiat's artwork in a 1980's CBS interview. According to Lipson, Kramer said in a review for the New York Observer:

"The career of the late Jean-Michel Basquiat was one of the hoaxes of the 1980's art boom." Kramer accused a museum of putting "a new gloss" on Basquiat's career by depicting him as "an artist of social consciousness, dealing with greed, racism, the inhumanity of American society, and so on. This is the key to the way Basquiat is going to be marketed for the 1990's. It's all pure baloney" (Lipson).

Basquiat's work did not appeal to certain art critics who relished minimalist and conceptual art. This elitist comment from Kramer sparked this research along with other intellectuals such as Jana E. Braziel, who is an English professor and author affiliated with University of Cincinnati. In Braziel's book, *Artists, Performers, and Black Masculinity in the Haitian Diaspora* (2008), she interpreted a few of Basquiat's paintings.

The painting that was examined for this research was *Obnoxious Liberals*. The evaluation of Basquiat's art by some art intellectuals only summarized what lies on the surface of his paintings. For example, Braziel gave her own interpretation of *Obnoxious Liberals*. In the words of Braziel, "Obnoxious Liberals (1982), a painting from one year earlier, seems to strikingly personalize those colonialist and colonizing forces, exploring their psychological and material effects" (183). The author did not go into depth about his cultural background and his influences, or the symbols and words in this painting. The author interpreted the image through a pre-iconographic analysis allowing the viewer to understand only one point of view. This research provides a pre-iconographic, iconographic, Marxist, and psychoanalysis approach to better understand the

artist and his business mindset, and most importantly how his *Obnoxious Liberals* has ties to Surrealism.

Basquiat's paintings are complex, deep, and emotional. One can view his artworks and feel they expressed ambiguity. They are humorous and painful simultaneously, and it can lead to frustration due to their complexity. Race was not the only issue depicted in his paintings. Basquiat's paintings depicted different kinds of sociopolitical issues. *Obnoxious Liberals* shows class problems between a struggling laborer from the lower working classes and a profitable capitalist from industry. Proletariat vs. capitalism is just the beginning of what his *Obnoxious Liberals* entails.

The iconographic approach to Basquiat's painting helped the viewer understand the meaning of his imagery. The majority of Basquiat's works deal with sociopolitical issues. *Obnoxious Liberals*, dated from 1982, is an example of social marginalization. The pre-iconographic analysis is what one sees in the image without applying a cultural context. The reading would be as follows: The obnoxious liberal with 'NOT FOR SALE' written on his shirt, is slightly near the center. He is standing and seemingly gesturing with his arms in the air. The figure's left arm (viewer's right) is in the air and has a fist full of arrows. The liberal's head and part of his arms are within a red rectangular painted box. The viewer can instinctively see a strong emotion from this effect. The artist's choice of color plays a very important role in characterizing the figures and showing emotion. The proximity and the placement of the figures matter in this painting. The artist wanted his audience to look at the center first, then at the right side of the painting. The figure on the right is wearing a ten gallon hat with leaves sticking out from the side. Money signs are visible on his pink shirt.

What is odd about this character is that he does not have any arms; making the viewer question the artist's thinking process. The other figures have arms but not the figure to the right. Why? When the viewer's eyes are attracted to the yellow and blue polka-dotted shorts, one may be aghast to find the figure's small genitalia are showing from his shorts. Another thing that color does is to help lead the viewer's eyes around the canvas. The pop of red on the lower bottom leads the eyes below to the word, GOLD, and then follows

from the black figure's leg to the upper part of the body. The black figure is naked, holding his arms out in a sacrificial way, while his arms are chained to two pillars. The eyes are enlarged and the mouth is visibly open as if expressing fear or anger. Above the black figure's head is the name, SAMSON, and then above Samson is the word ASBESTOS. Asbestos is repeated three times. Finally, there is a box filled with cross-hatched lines above asbestos.

Iconography perspective

The iconographic key to this painting lies in the image itself. The three figures-- the name, Samson, and the word asbestos-- are all iconic. If we know the story of Samson from the biblical text we can understand the three main concepts in this imagery: betrayal, slavery, and vengeance on the Philistines. The black figure being chained to the two pillars reinforces his relationship to Samson in the biblical text. According to the text, the strong heroic man named Samson had a secret which was his strength, but when his hair was cut off by the Philistines he lost his strength. The Philistines took him as a prisoner and gouged out his eyes. After Samson grew back his hair in prison, he prayed to God to help him get vengeance while bracing himself against the two pillars which held up the temple. He pushed the two pillars with all his might and killed not only himself, but the lords and all the people who were in the temple (*New King James Bible*, Judges 16:25-30). This enslaved black figure without any hair represents a man from the working classes who has no power and is held against his will. The laborer seeks vengeance like Samson.

The word ASBESTOS is defined as a noncombustible grayish mineral that occurs in fibrous form and has been used to insulate machinery and factories, and was found in a wide range of household products. If we are familiar with the deadly use of asbestos which has resulted in a cancerous illness called mesothelioma we can understand this image a bit more. The mesothelioma sufferers became well-known to the public in the 1970's. As a result, the United States government banned asbestos from production. The injustice was that no one took responsibility for these victims' illnesses. The workers were not covered with health insurance. "These cases have revealed a major

injustice crying out to be righted either by statute or by a greedy insurance industry scheme" (Rozenberg). The brutality of corporations not insuring their laborers is devastating. The laborers were not able to have a good livelihood. The illness prevented them from providing for their families. The word Gold depicted below the black figure could represent the value of a laborer's life. Asbestos is repeated three times. One can assume the laborer's life is much more valuable than three times what asbestos is worth.

It seems this painting has ties to the lower classes, as well. In Hoban's *A Quick Killing in Art,* the author describes Basquiat's use of Hobo language to express his ideas in his paintings. He was once a bum camping out in Harriman State Park, NY for a number of nights after he ran away from home. He lived an unstable life, living from one friend's house to another. The hobo symbol is placed above asbestos. It is depicted as a box with cross-hatching marks. According to Henninger, this hobo sign symbolizes jail (251). Asserting this new meaning, someone needs to be punished. Basquiat could be referring to either the Philistines (the corporation) or to someone like Samson (the working classes) who is in a tough predicament. *Obnoxious Liberals* is an ex-voto (latin term) which is a testimony of a distressed individual praying for a miracle from God. Basquiat's ex-voto showed empathy for the people who struggled, died, and survived the asbestos factories. The obnoxious liberal in the center defines the injustice and the brutality. The arrows in his right fist depict the uncivilized battle in lawsuits between the working classes and industry.

The figure with a ten gallon hat without any arms shows he is not in the working classes. Money signs are on his pink shirt to show he is wealthy and is presumably the one who is making money off of the laborers. Basquiat wrote 'NOT FOR SALE' on the obnoxious liberal's shirt. Braziel interpreted 'NOT FOR SALE' sign as colonization: "NOT FOR SALE"! "NOT FOR SALE"! Refusing to be auctioned on the slaver's (if not art auction's) block, the artist, if ambivalently, still denounces the capitalistic and social-cultural marketing of black men's bodies, as well as their ideas, art forms, music, and achievements" (184). Another interpretation for the 'NOT FOR SALE' sign is, whether or not the artist is referring to himself, saying *I am not for sale,* to his art dealer. In a Marxist

perspective, he works for his art dealer by producing a great number of paintings to be sold in exchange for pay. He could be using this strong imagery to justify the way he felt about himself working with his art dealer, Annina Nosei. This strained relationship between the artist and art dealer can be depicted in this painting. Basquiat seemed to fear being taken advantage of by the mainstream culture. He had a short relationship with Annina Nosei and had a new art dealer soon thereafter.

Marxist perspective

Utilizing a Marxist perspective, one is able to examine Baquiat's relationship to the marketplace. In so doing, the viewer will be able to reflect on the artist's personality, style, and iconography. Basquiat's seven year art career flourished because of his networking with the art world and his numerous artist/dealer relationships. He used people for sex, money, and to gain fame. Basquiat left *Gray* to start his career as a professional artist. He dissolved his relationship with his art dealer when he got in *The New York Times* magazine, at the time he reached his peak of fame. He used one of his girlfriends, who was a secretary for Andy Warhol, to get closer to the pop artist. And whenever his current art dealer was unable to meet his demands, like exhibiting his art work in an art museum, he would quit on them. In a eulogy, Keith Haring said: "He disrupted the politics of the art world and insisted that if he had to play their games, he would make the rules. His images entered the dreams and museums of the exploiters, and the world can never be the same" (Hoban 5).

The rebel Basquiat preferred not to conform to the prevailing system. Like Rembrandt, Basquiat approached his work in a most capitalistic way. He sold paintings directly to people to make a quick profit (Hoban 124). Basquiat even tried to squirrel away a number of paintings from his eager art dealers. "In the eighties, the bifurcated role of art as a vehicle for stardom and art as raw commodity reached its zenith" (Hoban 10). "In 1983, the art market in New York alone was estimated at $ 2 billion" (Hoban 10). At this time, Basquiat had just entered New York's art market. The hottest thing during the 1980's was investing in art. During Basquiat's art career, he squirreled away 917 drawings, 25 sketchbooks, 85 prints, and 171 paintings in warehouses (Hoban 4).

He made his own decisions during his short art career. Basquiat was a rebel who never bowed to the system. According to Christie's Auction House, the value of Jean-Michel Basquiat's paintings today is extremely high. Basquiat was successful, because he understood how the marketing art world worked. He strategically caught the SoHo galleries' attention with his vandalism, which created opportunities for him. He showed his work at creditable galleries, those that promoted him and put his work out in the public. His work has met outstanding sales' figures due to hype in the 1980's. Art collectors at the time wanted to cash in on a prolific young talent, making him a renowned prodigy of the modern age. Basquiat was in control of his art career from the beginning to the end of his life.

Psychoanalysis perspective

The psychoanalytic approach involves the art, the artist, the aesthetic response of the viewer, and the cultural context. Psychoanalysis has been integrated with iconography, Marxism, and other art methodologies (Adams 175). Analyzing *Obnoxious Liberals* with a psychoanalytic perspective allows the researcher to interpret his imagery as fantasies and try to relate them back to his childhood. This methodology is interesting because Sigmund Freud discovered the power of the unconscious mind. "In the view of Freud and his followers, the process of making art was energized by the instincts but controlled and formed by the synthetic functions of the ego" (Adams 182). *Obnoxious Liberals* is a powerful image because of its symbolic meaning. After analyzing the artist's creativity, one can make an interpretation of how his love-hate relationship with his father can be depicted in his imagery. The love-hate relationship he had with his father could be a result of him being bisexual and heavily using drugs. Here is an excerpt from Basquiat's interview with Anthony Haden from Hoban's book:

> "Talk about the problems of being a successful artist in New York."

> "The problems? Specifically which ones… the ones I bring upon myself, or the ones that are brought upon me?"

> (Interview with Anthony Haden-Guest Hoban 335).

The artist was successful at the time of this interview. As a researcher, one can wonder how a successful artist like him who has fame and fortune could have problems. The interview leads to question whether or not his childhood trauma could have influenced his work or even his relationships. The Oedipus complex played a significant role in this research. Freud's psychoanalysis of the Oedipus complex is about the boy competing with his father for maternal love. The boy's jealousy is the father possessing his mother, which makes the boy fear retaliation from the father. This research gives an account of the "negative" Oedipus complex, which is the reverse of the positive Oedipus complex (Adams 183). Freud "discovered the bisexual character of the complex, and the fact that the boy also identifies with his mother and wishes to be the passive love object of his father" (Adams 183). According to Adams, Freud figured bisexuality is heightened in creative individuals (184). Basquiat was bi-sexual. Basquiat's painting *Obnoxious Liberals* represents authoritarianism. Considered in a reversed oedipal context, Basquiat's black figure (the laborer) displays both expressions of anxiety and resentment toward his figure with the two money signs (the capitalist). This black figure represents tensions between classes.

The tension between classes can be identified with Basquiat's love-hate relationship with his father. Along the lines of identification, it is worth mentioning that Basquiat's father was from a wealthy Haitian background. The father was an accountant and was able to provide himself and his family with a middle class life style. According to Hoban, former neighbors of the family described Gerald as "a strict, self-absorbed father who appeared to have little or no understanding of his son" (Hoban 19). By the association with social marginalization, Basquiat struggled with his own "freedom"-- the strict father who disciplined and confined him for being a rebel. He identifies with the black figure and paints his imagery in the most aggressive way possible. Basquiat's aesthetics express some type of torment. Whenever Basquiat got into trouble in school there were allegations about the father beating the "mess" out of Basquiat. Basquiat feared his father. The resentment between the labor class figure and the bourgeois figure in the painting expresses the strain in the father-son relationship. The proletariat

(Samson) seeks vengeance on capitalists (Philistines), which is a revolt against the authoritarian system--as the 17 year old Basquiat had to "free" himself from Gerald's ideology.

The imaginative Basquiat wanted love and affection from his father but did not receive it. He would desperately search for the love he missed when he was a child through drugs, women, art dealers, and surrogate parents (Hoban 31). There were times when he withdrew into paranoia and pain (Hoban 31). The drugs provided him his only escape from the Freudian father-fixation (Hoban 31). Throughout his life and career, he hurt those who loved him. "Jean had this quality of pulling people in and then slapping them in the face. It wasn't intentional, it was something out of his control. And then he couldn't understand why people were hurt" (Hoban 34). This, in fact, resulted in him not being able to maintain relationships and to live an unstable life. Fame, fortune, women and men, travels, heavy use of drugs, sex and betrayal: he experienced it all, before he died of a heroin overdose (1988).

His artworks were shown in galleries in New York, Paris, Tokyo, and Dusseldorf. Basquiat's work was marginalized from art museums because it was considered street art. "Four years after his death, Basquiat finally got the museum recognition he had so desperately desired during his lifetime" (Hoban 321). From 1992 to 1993, the Whitney Museum hosted a touring exhibit that traveled to other states (Hoban 321). In 2005, The Brooklyn Museum designed a *Basquiat* catalogue that encompasses 330 works (Mayer). The museum also displayed his work and hosted a touring exhibit. The values of Basquiat's paintings are outstanding. According to Christie's Fine Art Auction House, one of his pieces was worth nearly $14 million (Table 1) in 2007. The high values reflect the demand for Basquiat's paintings.

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TABLE 1. The Values' Table	
Career (1981-1988)	**Prices**
1981	$2,500
1982	$5,000
1984	$8,000-$15,000
1985	$25,000
Deceased (August 1988)	**Prices**
1988	$25,000-$3,302,500
2002	$5,509,500
2007	$13,522,500
2008	$14,600,000

CONCLUSION

This presentation highlighted the exploration of Surrealism in his artwork, his integration of history, the influences of music and past artists, and his cultural background, including personal relationships and drug use. Analysis of the painting provided an insight into the artist's personality, which revealed how he felt about being controlled and manipulated by authoritarian figures in his life. Basquiat's painting also expressed the unfairness in our establishment. It seems as if he wanted an end to capitalism, the stereotypes, the marginalization, and above all, an end to authoritarianism. As his idols challenged the system with iconoclasm, he, too, did the same with his graffiti tag, SAMO, and his paintings. In an economic sense, Basquiat had attained upward mobility within society. Basquiat was no longer a "poor boy from the streets" because he eventually became rich and famous from his paintings. The portrayal of him as a poor boy living on the edge was to gain notoriety and respectability. He lacked attention when he was a child. Some of the surrealist elements can be seen in *Obnoxious Liberals,* such as politics, hidden messages, random influences, images of paradox and fantasy. According to Breton's surrealist elements, Basquiat depicted the unconscious and political action. Surrealism is free and integrates cultural influences to bring consciousness to the people.

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Figure 1. Untitled Graffiti

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Figure 2. Obnoxious Liberals (1982)

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HAPPINESS AS PREDICTORS OF AFFECTIVE CHOICES BEHAVIOR

by ELIZABETH L. GRANT

ABSTRACT

Many studies have shown that the more specific and the more assessable an attitude is, the more accurate a prediction of future behavior is going to be; however, looking at happiness as both a trait and state variable has not been widely studied. This experiment examined happiness as both a state and a trait variable and then attempted to connect these variables to the prior research that has been done on attitudes by considering happiness as the affective component of an attitude. This allows for the use of happiness as a means of predicting the future affective choice behavior of individuals. The benefit of operationally defining happiness in this way is it allows for a better understanding of how individuals use their subjective conception of happiness as a determinant of their affective choice decisions. Participants in this study completed two state happiness measures and two trait happiness measures, a personality measure, a self-esteem measure, and a simple affective choice task.

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College of Liberal Arts

STATE AND TRAIT HAPPINESS AS PREDICTORS OF AFFECTIVE CHOICE

When a child wants money from their parents, they intuitively think that they should ask when one of their parents is happy because the child believes that the parent's positive affect will cause their parent to be more willing to oblige their request. This common scene of childhood demonstrates that we believe, even from an early age, that happiness is used as a determinant in our behavioral choices. A possible explanation for this belief could be the prevalence of ideas such as 'happiness is a measure of a good life' and 'judging things should be based on how happy they make you'. We are taught early in life how valuable our happiness should be. When the United States determined that they wanted to separate from British rule they clearly stated that "all men …are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness" (Declaration of Independence) and that Britain was taking these rights away. Since children learn about the Declaration of Independence early in their education and they learn that people died so that the United States could break away from British rule, this could tell children that happiness is so valuable that you should give your life to protect it.

An early, albeit disappointing, finding in social psychology was that attitudes were not nearly as correlated with behavior as one would expect (see LaPiere, 1934, for example). Since these early discoveries, researchers have advanced their understanding of the attitude-behavior link and have developed new models such as the theory of planned behavior (Ajzen & Fishbein, 1980) which can be used to explain when attitudes are better predictors of behavior. Central to the discoveries made regarding this link are attitude specificity (Davidson & Jaccard, 1979) and attitude accessibility, which refers to the amount of time it takes for an attitude about an object or behavior to come into conscious awareness when an object or behavior presents itself, greater speed is associated with heightened predictability (Fazio, 2000). Attitudes are shown to be better predictors of behavior when they match the specificity of the behavior. That is, general attitudes better predict general behavior and specific attitudes better predict specific behavior.

The primacy of our beliefs and evaluations about the attributes of an object or behavior form our attitudes toward that object or behavior (Fishbein & Ajzen,1975). Situational factors influence individuals to conform to social norms that they then must conform to their own unique personality (Campbell, 1967). Based on the positive reinforcement that is gained from enacting social norms, this limits the potential behavior that an individual would consider doing and the predispositions, beliefs, emotions, values, and attitudes that they will create toward objects and behaviors (Campbell,1967). While an individual may have many beliefs that can influence the attitude they form toward a particular object or behavior, usually there are a small amount of beliefs (five to nine) that determine attitude formation (Fishbein & Ajzen,1975). This would imply that attitudes can change if the individual focuses on other, non-salient beliefs and connects them to the particular object or behavior in question; this would cause those previously non-salient beliefs to become salient and they would therefore change the individual's attitude toward the object or behavior. Therefore, an attitude can be defined as a learned tendency to respond in a consistent way toward a distinct object, or behavior (Fishbein & Ajzen, 1975; Sherif, 1967). Most would agree that the affective component is regarded as

the most distinctive feature of an attitude (Fishbein & Ajzen 1975).

An attitude "can be described in terms of direction, intensity, salience, importance, clarity, stability, consistency, content, and verifiability" (Rosenburg, 1967, p. 27). We can measure an attitude by the liking or disliking that an individual possesses for an object or behavior. We can measure an attitude by the amount of like or dislike the individual possess toward an object or behavior. We can measure an attitude by the salience of the attitude. We can measure an attitude by the amount of influence that an individual perceives the attitude to have on their behaviors and cognitions. We can measure an attitude by the amount of specificity that the attitude contains. We can measure an attitude by the amount of endurance and consistency that the attitude displays over time. All of these would influence the attitude's content; and the verifiability of the attitude is dependent on the individual's beliefs about the veracity of the justifications that the individual uses for keeping the attitude (Rosenburg, 1967).

An attitude should be connected to the aggregate of behaviors that an individual performs toward an object but it may not be related to one behavior (Fishbein & Ajzen, 1975; Fishbein, 1967). For instance, a person could have an extremely positive and strong attitude about eating chocolate cake, but may choose to not eat it because they are on a diet. However, if we were to look at all the behaviors that this individual enacted toward eating chocolate cake while they had this strong and positive attitude for it, we would probably see that most of their behaviors would be in line with their strong and positive attitude. Most evidence would suggest that attitudes may be able to predict behavior without being very exact because an individual can have many differing attitudes toward one object (Kiesler, Collins, & Miller, 1969).

The theory of reasoned action states that the situational norms and expectations that exist will affect the correlation between attitude and behavior. If the situational factors strongly parallel the attitude that an individual possesses, then there should be a high correlation between the individual's attitudes and behaviors. When situational factors do not strongly parallel the attitude that an individual possesses, then

there should not be a high correlation between the individual's attitudes and behaviors (Kiesler, Collins, & Miller, 1969; Fishbein & Ajzen, 1975). We can better predict behavior by using an individual's 'attitudes toward a behavior' rather than their 'attitudes toward an object'. An individual with a positive attitude toward a behavior or object may decide to behave in the same way as an individual with a negative attitude toward that behavior or object (Fishbein & Ajzen, 1975). For instance, a person with a positive attitude toward Christianity may pray to God because they believe that God wants them to behave this way; a person with a negative attitude toward Christianity may also pray to God because they fear eternal damnation. The attitudes and reasons in this example are different for each individual yet both individuals performed the same behavior. It can also be the case that two people could have the exact same attitude about an object or behavior, but choose to behave differently even if they were in the same situation (Fishbein, 1967).

The theory of reasoned action also states that attitudes toward behaviors influence intentions (the motivation to carry out an action), which in turn influence non-habitual, volitional behaviors that do not require specialized skills or resources to complete them, this means that the theory of reasoned action has limited applicability due to its narrow scope (Eagly & Chaiken, 1993). The theory itself does not include a majority of variables that are considered important to intention formation such as moral obligation and self-identity (these variables when added improve the ability to predict behaviors from attitudes) (Eagly & Chaiken, 1993). An individual's identity is a cluster of attitudes that an individual has toward their own self, so the individual becomes both the attitude holder and the object of the attitude, therefore the attitude will probably have a positive direction and have a great deal of both salience and importance because the attitude is about the individual (Rosenburg, 1967). Therefore, attitudes about the self play an important role in behaving in line with attitudes (Rosenburg, 1967). The theory of planned behavior was a response to the criticisms that were made about the theory of reasoned action (Eagly & Chaiken, 1993). One of the main differences between the two theories is the theory of planned behavior accounts for the amount of perceived control that an individual

possesses over the resources and the situational factors that are relevant for completing a desired behavior; that is, the perceived ease of completing a behavior has a direct impact on attempting to do that behavior (Eagly & Chaiken, 1993). The theory of planned behavior is well supported (Sommer, 2011). According to Ajzen & Fishbein (1980), when people do willful behaviors they usually consider their specific attitudes toward the behavior; therefore, only specific attitudes can be expected to be a predictor of future behavior. This would suggest that our attitudes can be based in our current emotions and our behaviors can be predicted through our current, specific, emotional states.

General attitudes influence the specific determinants of behavior, which is why general attitudes are at most only moderately able to predict specific behavior (Eagly & Chaiken, 1993). In order to have a good chance of predicting behavior with attitudes we must look at the attitudes that are specifically related to the behaviors of importance (Fishbein, 1967; Eagly & Chaiken, 1993). For instance, instead of trying to predict whether someone will eat Brussels sprouts based on general attitudes about vegetables, we should look at this individual's attitudes toward eating Brussels sprouts. By using their specific attitude about eating Brussels sprouts, we have a better means of predicting their consumption behavior toward the Brussels sprouts.

People have attitudes based on emotion, so emotion may be used to better predict behavior from attitudes (Breckler & Wiggins, 1989). Our current emotions affect our evaluation and therefore our attitude formation. If we are currently feeling positive emotions, such as happiness, we will tend to have more positive attitudes toward objects, people, and the environment (Schwarz & Clore, 1988). Attitude accessibility refers to the connection between an object and how we evaluate it using attitudes (Fazio, 2000). Since our emotions affect both how we evaluate a thing and the attitudes we have toward the thing, it stands to reason that our emotions play a key role in our attitude accessibility.

Many believe that happiness should include everything that humans find positive value in as a state or good; this complicates the quest to find a universal definition for happiness (White, 2006). We face a plurality of aims, wants, goals, motivations, etc., which may be in

conflict, which means if they are in conflict then they, by definition, cannot define the same concept, but most are willing to agree that happiness is a good state (White, 2006). The next question is: can we even conceive of a universal definition of happiness? While most philosophers have attempted this, all who have tried have failed to find a universal definition of happiness that can survive scrutiny (Bok, 2010; White, 2006). According to White (2006), an objective conception of happiness should "state, insofar as that's possible, how the whole multiplicity of our aims, desires, etc., should best be taken into consideration in an overview of a life or other relevant period of time" (p. 13). The problem is who can define, for everyone, which aims should be considered more important?

Most people have a conception of happiness (White, 2006). Since this is not a universal conception, it is therefore subjective. The philosopher Immanuel Kant believed that we can never be certain of the empirical world since we are not omniscient, which means that all the subjective conceptions of happiness that exist may not even correlate with actual happiness (Bok, 2010; White, 2006). If we could know the empirical world with certainty, we would still have a problem knowing how to combine all of the conflicting aims that we as individuals possess, into a logically consistent definition of happiness (White, 2006). This becomes critical when we consider how individuals allow their vague, subjective conceptions of happiness to become a determinant in their decision making (White, 2006).

The hedonic treadmill model is considered an adaptation to happiness; people respond for a to a change in their state happiness level, which is determined by situational and environmental factors, and then go back to their genetically determined set point (trait happiness, which is determined by personality and genetically based factors) (Bok, 2010). Most people stay within a state of hedonic neutrality (meaning that their state and trait happiness is at the same point) most of the time because that is the most cognitively consistant (Diener & Biswas-Diener, 2008). Adaptation allows us to respond to changing environments while the organism attempts to maintain homeostasis (Diener & Biswas-Diener, 2008; Bok, 2010). For instance, most people who win the lottery reach a level of state happiness that far exceeds their genetically preprogramed set point; within a year of winning the lottery, however, their happiness is strongly and positively correlated with their level of happiness before they won the lottery (Bok, 2010). According to the hedonic treadmill model, there is no such thing as a lasting increase in happiness (Diener & Biswas-Diener, 2008; Bok, 2010). This theory is criticized because it cannot explain how, in some instances, we do not return to our previous state of happiness, or how people who chronically suffer would have problems adapting (Bok, 2010). One way to get around these criticisms of a genetically preprogrammed set point is to use a genetically preprogrammed range of happiness instead (Diener & Biswas-Diener, 2008). This seems more plausible because a lot of empirical research shows that events such as marriage or unemployment can have lasting effects on happiness, and we must remember that happiness is only 50 percent determined by genetic factors (Diener & Biswas-Diener, 2008; Bok, 2010).

Arguments exist for both trait and state happiness as the most appropriate measures of happiness. People have a preference for emotions that are consistent with their traits if they are motivated by situational factors to feel that way (Tamir, 2009). This postulates that the emotions displayed and felt by an individual are based primarily on the environmental cues that the person is receiving externally. This suggests that happiness has both state and trait factors, but that the state factors are more important in decision making and attitude formation. People with higher extraversion scores tend to prefer happiness more than people with lower extraversion scores (Tamir, 2009). This would suggest that happiness is an interplay between the situational factors (state) and the dispositions of the individual (trait). According to Nes (2010), situational factors are just as important as the dispositions of an individual (Nes 2010). and according to Stones, Hadjistavropoulos, Tuuko, & Kozma (1995), happiness is not a consequence of situational factors because of the stable qualities it possesses in most instances.

Our conception of happiness and the statistics used to investigate happiness may play a role in the conclusions drawn from the research. According to Veenhoven (1998), if happiness is conceived as more stable and less variable, the experiment will have a bias toward happiness as a trait phenomenon; whereas if happiness

is conceived of as based more in perception, cognition, or the judgments of the individual, the experiment will have a bias toward happiness as a state phenomenon. Because happiness is an intangible variable, it is necessary for the research protocol to provide an operational definition of happiness for the experiment. This choice has implications for the research question, design, results, and conclusions that can be drawn. Statistics also play a major role in how conclusions are drawn in happiness research. According to Stones et al. (1995), "Correlational research favours trait models if both variables are person measures, whereas variance decomposition designs… favour state interpretations" (p. 138). This would suggest that the differences in results between studies is due, in part, to how the researcher chooses to operationally define happiness and which statistical analysis the researcher chooses to use to interpret results.

The present study examines how state and trait happiness can be used as a predictor of affective choice behavior. Our hypothesis is based in part on the Theory of Planned Behavior in that state happiness will be a better predictor of affective choice behavior than trait happiness. We also hypothesize that there will be a strong, positive correlation between attitude-formation and an individual's belief that their behavior will conform to their attitudes, in part because we are moderately able to predict behavior from attitudes. In order to test this hypothesis, we asked participants to complete several happiness scales, a personality measure, a self-esteem measure, and an affective choice task.

METHOD

Participants: We recruited 103 college students from Texas A&M University - Corpus Christi for this study. Participants were recruited from a variety of undergraduate classes in the College of Liberal Arts.

Materials: Every participant received and was asked to fill out the TIPI (the personality scale), the STCI-T <30> (a trait-happiness scale), the STCI-S <30> (a state-happiness scale), the Oxford Happiness Questionnaire (a state-happiness scale), the General Happiness Scale (a trait-happiness scale), and the Rosenberg Self-Esteem Scale (a self-esteem measure). These scales were chosen because they have been validated in previous studies.

The TIPI was validated in Gosling, Rentfrow, & Swann (2003). The STCI-T <30> and the STCI-S <30> were validated in Ruch, Köhler, and van Thriel (1997) and in Ruch & Carell (1998). The Oxford Happiness Inventory was validated in Stewart, Watson, Clark, Ebmeier, & Deary (2010). The Oxford Happiness Questionnaire, which came out of the Oxford Happiness Inventory, was validated by Hills & Argyle (2002). The General Happiness Scale was validated in Lyubomirsky & Lepper (1999). The Rosenberg self-esteem scale has been validated in Martín-Albo, Núñez, Navarro, & Grijalvo (2007).

Every participant completed an affective choice task (ranking task). For this task, 9 basic romantic comedy film descriptions were created. For each film, a happy ending, a sad ending, and a neutral ending were created. Each film with an assigned ending was placed into one of three task groups. 34 participants were randomly assigned to each group. Participants were asked to evaluate 9 different films which were grouped together based on the ending (3 happy ending, 3 sad ending, and 3 neutral ending). Participants were asked to rank the movies in terms of the desire to watch the movie on a scale from 1 (most desire to watch) to 9 (least desire to watch). In addition, participants were asked to indicate the desire to view each film using a scale from 0 (not interested in seeing) to 5 (definitely would like to see). For example:

TABLE 1. Distribution of Movie Endings by Group

Movie	Task Group 1	Task Group 2	Task Group 3
Movie 1	Happy	Sad	Neutral
Movie 2	Happy	Sad	Neutral
Movie 3	Happy	Sad	Neutral
Movie 4	Neutral	Happy	Sad
Movie 5	Neutral	Happy	Sad
Movie 6	Neutral	Happy	Sad
Movie 7	Sad	Neutral	Happy
Movie 8	Sad	Neutral	Happy
Movie 9	Sad	Neutral	Happy

We formed 3 different groups of 34 participants each. The differences between the groups was the order of the materials of the packet; we did this because we wanted to reduce the amount of potential confounds that might occur from the location of the trait-happy, state-happy, self-esteem scales, and the personality scale. In group one, the trait-happiness scales, state-happiness scales, self-esteem scale and the personality scale were located in the front of the packet with the ranking task located behind it. This is the group that the researchers believed might be primed to the fact that the study was about happiness as we believed that this might affect how participants completed the ranking task. In group two, the ranking task was located in the front of the packet with the trait-happiness scales, state-happiness scales, self-esteem scale and the personality scale located at the back of the packet. This was the group that the researchers believed would not be primed to the task. In group three, the personality scale was placed in the front of the packet, then the ranking task, and finally the trait-happiness scales, state-happiness scales, and the self-esteem scale were placed at the very end of the packet. The researchers believed that this group would be semi-primed to the variables of interest, i.e. the personality characteristics of the participant, however, they would not be aware of what part of the personality was of importance to the study until after they completed the ranking task.

Procedure: Each group of participants will be given the designated packet for the group they will be randomly assigned to. Every participant will complete a consent form and will be instructed to complete the packet in order and to try to answer all the questions. After the participants finish, we will collect the packet from each participant and thank them for their participation. We will then gather all the data and compare how people completed the state happiness measures, trait happiness measures, personality inventory, and self-esteem measure, to how the participants completed the ranking task and then we will be able to tell if state happiness is a better predictor of specific affective choice behavior than trait happiness.

RESULTS

Reliability coefficient (Alpha) was calculated for all multiple item measures. The General Happiness scale (α (N=103) = .703), Oxford Happiness scale (α (N=103) = .882), Rosenberg Self Esteem Scale (α (N=103) = .898), State Cheerfulness Scale [from the STCI – S <30>] (α (N=102) = .849), State Bad Mood Scale [from the STCI – S <30>] (α (N=102) = .877), Trait Cheerfulness Scale [from the STCI – T <30>] (α (N=103) = .867), and Trait Bad Mood Scale [from the STCI – T <30>] (α (N=103) = .832) were all found to be reliable. The order of movie endings presented to participants was found to have an effect when making judgments of sad movies, $F(2, 100) = 4.536$, $p = .013$. As presented in Figure 1, sad movies were rated lower in attractiveness when they were presented last. No other order effects were found.

The Rosenburg Self-Esteem Scale was reverse scored (meaning that a lower score on this scale means that a participant has a higher level of self-esteem). The correlations between the scales used in this study and movie ratings are presented in Table 1. Although we predicted that state measures of happiness would be better predictors of affective choice, we found consistent evidence that trait measures performed as better predictors. First, the General Happiness Scale was found to be a predictor of attractiveness ratings of happy movies, $r(103) = .233$, $p=.018$. In addition, the Trait Bad Mood Scale was also found to predict attractiveness ratings of sad movies, $r(103) = .221$, $p = .025$. Interestingly, the State Bad Mood Scale was also found to predict sad movie ratings, $r(103) = .218$, $p = .027$.

FIGURE 1. Order Effects of Movie Endings by Group
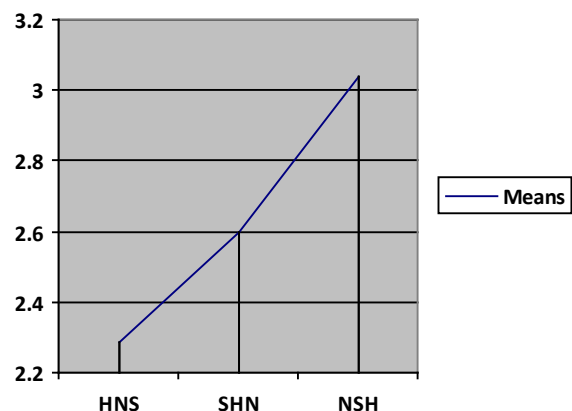
HNS: Happy, Neutral, Sad (Group 1)
SHN: Sad, Happy, Neutral (Group 2)
NSH: Neutral, Sad, Happy (Group 3)

TABLE 2. Comparisons Between Happy, Sad and Neutral Ending Movies

(I) Order	(J) Order	Mean Difference (I – J)
HNS	SHN	-.31232
HNS	NSH	-.75350*
SHN	HNS	.31232
SHN	NSH	-.44118

HNS: Happy, Neutral, Sad (Group 1)

SHN: Sad, Happy, Neutral (Group 2)

NSH: Neutral, Sad, Happy (Group 3)

TABLE 3. Correlations of Scales

	1	2	3	4	5	6	7
1.) State Cheerfulness	1						
2.) Trait Cheerfulness	.496**	1					
3.) State Bad Mood	-.429**	-.300**	1				
4.) Trait Bad Mood	-.457**	-.587**	.621**	1			
5.) Oxford Happiness Scale	.403**	.745**	-.401**	-.714**	1		
6.) General Happiness Scale	.298**	.531**	-.175	-.417**	.588**	1	
7.) Rosenburg Self-Esteem Scale	-.129	-.238*	.146	.359**	-.348**	-.344**	1

** correlation is significant at the 0.01 level (2 – tailed)

* correlation is significant at the 0.05 level (2 – tailed)

TABLE 4 . correlation of the means of participant preference for movies and the means of participants' rank score

	1	2	3	4	5	6	7
1. mean first 3 movies (group 1)	1						
2. mean first 3 movies (group 2)	-.150	1					
3. mean first 3 movies (group 3)	.277	.056	1				
4. mean second 3 movies (group 1)	.543**	.062	.194	1			
5. mean second 3 movies (group 2)	-.111	.166	-.225	-.390	1		
6. mean for the second 3 movies (group 3)	.476**	-.040	.617**	-.029	-.162	1	
7. mean for the third 3 movies (group 1)	.143	.056	.045	.343	-.200	.208	1
8. mean for the third 3 movies (group 2)	-.168	.265	-.137	-.545**	.764**	-.004	-.100
9. mean for the third 3 movies (group 3)	.224	.229	.720**	.044	-.004	.381*	-.067
10. mean for the first 3 movie ranks (group 1)	**-.425***	.409*	.205	-.202	-.200	.085	.300
11. mean for the first 3 movie ranks (group 2)	-.044	**-.270**	-.056	-.155	-.005	.008	-.429
12. mean for the first 3 movie ranks (group 3)	.695**	-.234	**.120**	.322	.052	.226	.136
13. mean for the second 3 movie ranks (group 1)	.145	-.058	-.107	**-.155**	.339	.213	.480**
14. mean for the second 3 movie ranks (group 2)	.081	.361*	.164	.296	**-.137**	.041	.432*
15. mean for the second 3 movie ranks (group 3)	-.390*	.276	.045	-.031	.091	**-.289**	-.216
16. mean for the third 3 movie ranks (group 1)	.221	-.323	-.073	.208	-.029	-.184	**-.533***
17. mean third 3 movie ranks (group 2)	-.025	-.003	-.097	-.102	.155	-.055	.178
18. mean third 3 movie ranks (group 3)	-.189	-.102	-.152	-.261	-.143	.123	.125

** correlation is significant at the 0.01 level (2 – tailed)

* correlation is significant at the 0.05 level (2 – tailed)

bolded numbers are of interest

TABLE 5: Correlation of Preference of Endings with Scales				
	Happy Ending	Sad Ending	Neutral Ending	Order
1.) State Cheerfulness	.093	-.056	.120	-.090
2.) Trait Cheerfulness	.081	-.032	-.046	-.069
3.) State Bad Mood	.161	.218*	.073	.045
4.) Trait Bad Mood	-.014	.221*	.030	.070
5.) Oxford Happiness Scale	.015	-.024	.019	.085
6.) General Happiness Scale	.233*	.064	.158	.034
7.) Rosenburg Self-Esteem Scale	-.052	.128	.093	.031

* Correlation is significant at the 0.05 level (2-tailed)

TABLE 4 (continued)

8	9	10	11	12	13	14	15	16	17	18
1										
-.013	1									
.030	.249	1								
-.028	-.042	-.338	1							
-.090	.147	-.376	-.331	1						
.519**	-.114	.008	-.277	.121	1					
.057	.119	.393*	-.715**	-.021	.327	1				
.130	.177	.417*	.192	-.492**	-.138	.130	1			
-.335	-.129	-.801**	.483**	.190	-.584**	-.549**	-.235	1		
-.021	-.068	.077	-.657**	.495**	.058	-.058	-.414*	-.126	1	
-0.65	**-.317**	-.137	.072	-.315	.048	-.124	-.671**	.097	.030	1

DISCUSSION

One of the reasons that trait happiness would be a better predictor in this case is that the task itself is not really ego-involved, meaning that regardless of what a participant chooses, there will not be that much cognitive dissonance because the participant doesn't really have a motivation to care about the task in the first place (Cacioppo & Petty,1984). This means that participants will not use effortful or structuralist processing when determining how to behave toward the affective choice task; participants will tend to use less effortful or constructivist processing because they are not motivated to make an effort. We know that structuralist processing is based more on situational factors whereas, constructivist processing is based more on general constructs. This implies that non ego-involved tasks will be based more on constructivist processing and less based on structuralist processing and therefore will be based more on generalized (i.e. trait) factors.

One of the reasons that trait happiness may be a better predictor in this case is through the hedonic treadmill model. We never manipulated the trait and state levels of happiness in participants. Participants were found to have highly correlated levels of state and trait happiness. Meaning that for most participants, both the state and trait happiness would fall in the genetically predisposed range of happiness, according to the hedonic treadmill model (Diener & Biswas-Diener, 2008; Bok, 2010). They therefore, would be attempting to stay hedonically neutral. Since the task itself was not ego-involved and

would not cause a person much cognitive dissonance, this suggests that the reason why the neutral-ending movies were better predicted was because the happy-ending and the sad-ending movies could have moved the participant out of hedonic neutrality; something that the body was trying actively to avoid. It could also be the case that most of the participants state and trait happiness remained constant throughout the study.

A possible explanation of the order effects is a function of perceptual contrast. A possible reason why participants ranked the sad movies significantly lower in group 1 is because the sad ending movies came after the happy ending ones, whereas in groups 2 and 3 the sad ending movies came before the happy ending movies. In group 1, the happy ending movies and the neutral ending movies may have led to participants viewing the sad ending movies as sadder than they would have if the sad ending movies had come before the happy ending movies and the neutral ending movies for group 1.

Our hypothesis that a participant's attitude formation would be strongly and positively correlated with their belief that their behavior will conform to their attitudes was not supported (see table 4). We actually found the opposite to be true, with only group one showing any significant relationship. Group 1 showed a significant relationship between their attitude formation for the happy movies and their ranks for the happy movies: they also showed a significant relationship between their attitude formation for the sad movies and their ranks for the sad movies. This suggests that the link between attitudes, happiness, and behavior is complex. This could even partially be used to explain the order effects that were observed between the three groups, group one had significantly lower means than group 3.

Even though our hypothesis was not supported, the theory of reasoned action and the theory of planned behavior are still valid because they both contain components that we did not test, such as: the behavioral and cognitive dimensions of attitudes, the norms that the individual perceives before action, and the intentionality that guides that behavior. Because the theories try to explain the attitude-behavior link in different ways than the experiment, the experiment cannot be used to falsify the theories (Popper, 2002).

FIGURE 2: Ten Item Personality Inventory (TIPI)
(Gosling, 2009)

INSTRUCTIONS: Here are a number of personality traits that may or may not apply to you. Next to each statement mark an X through one of the 7 alternatives to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other. Please try to answer every question, and try to not omit any. Please use the following scale:

1: Disagree Strongly

2: Disagree Moderately

3: Disagree a Little

4: Neither Agree nor Disagree

5: Agree a Little

6: Agree Moderately

7: Agree Strongly

I see myself as:

1. Extraverted, enthusiastic.............(1) (2) (3) (4) (5) (6) (7)

2. Critical, quarrelsome ....(1) (2) (3) (4) (5) (6) (7)

3. Dependable, self-disciplined.......(1) (2) (3) (4) (5) (6) (7)

4. Anxious, easily upset...................(1) (2) (3) (4) (5) (6) (7)

5. Open to new experiences, complex.......................................(1) (2) (3) (4) (5) (6) (7)

6. Reserved, quiet ....(1) (2) (3) (4) (5) (6) (7)

7. Sympathetic, warm ....(1) (2) (3) (4) (5) (6) (7)

8. Disorganized, careless ....(1) (2) (3) (4) (5) (6) (7)

9. Calm, emotionally stable.............(1) (2) (3) (4) (5) (6) (7)

10. Conventional, uncreative..........(1) (2) (3) (4) (5) (6) (7)

FIGURE 3: State and Trait Cheerfulness Inventory, Standard State Form (STCI - S <30>)
(State-trait-cheerfulness-inventory (STCI))

INSTRUCTIONS: Below are a number of statements that refer to your current mood and mental state. Read each of the statements and mark an X through one of the 4 alternatives. Please try as much as possible to describe your current feelings and state of mind. If you find some of the questions difficult, please give the answer that is true for you right now. Please answer every question, do not omit any. Please try to answer every question, and try to not omit any. Please use the following scale:

(1) strongly disagree   (2) moderately disagree

(3) moderately agree   (4) strongly agree

1. I am in a bad mood. .... (1) (2) (3) (4)
2. I am set for serious things. .... (1) (2) (3) (4)
3. I feel chipper. .... (1) (2) (3) (4)
4. I am sad... (1) (2) (3) (4)
5. I have important things on my mind. .... (1) (2) (3) (4)
6. I am cheerful.. (1) (2) (3) (4)
7. I am in a thoughtful mood. .... (1) (2) (3) (4)
8. I could laugh at the drop of a hat. .... (1) (2) (3) (4)
9. I feel grouchy. .... (1) (2) (3) (4)
10. I have a serious mental attitude. .... (1) (2) (3) (4)
11. I feel merry. .... (1) (2) (3) (4)
12. I feel downhearted. .... (1) (2) (3) (4)
13. I am in a pensive frame of mind. .... (1) (2) (3) (4)
14. I am ill-humored. .... (1) (2) (3) (4)
15. My thoughts are profound. .... (1) (2) (3) (4)
16. I feel great. .... (1) (2) (3) (4)
17. My mood is spoiled................................. (1) (2) (3) (4)
18. I am in a serious frame of mind. .... (1) (2) (3) (4)
19. I am amused. .... (1) (2) (3) (4)
20. I am peeved. .... (1) (2) (3) (4)
21. I see the funny side of things. .... (1) (2) (3) (4)
22. I regard my situation objectively and soberly. .... (1) (2) (3) (4)
23. I'm walking on air. .... (1) (2) (3) (4)
24. I feel gloomy. .... (1) (2) (3) (4)
25. I am in a crabby mood. . ... (1) (2) (3) (4)
26. I am delighted. .... (1) (2) (3) (4)
27. I feel dejected... (1) (2) (3) (4)
28. I'm prepared to do a task in earnest. ...... (1) (2) (3) (4)
29. I am ready to have some fun. .... (1) (2) (3) (4)
30. I am in a sober frame of mind. .... (1) (2) (3) (4)

FIGURE 4: State and Trait Cheerfulness Inventory,
Short Trait Form (STCI, T <30>)
(State-trait-cheerfulness-inventory (STCI))

INSTRUCTIONS: Below are a number of statements that refer to your moods and mentality in general. Read each of the statements and mark an X through one of the 4 alternatives. Please try as much as possible to describe your habitual behavior patterns and attitudes. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time. Please try to answer every question and try to not omit any.:

(1) strongly disagree   (2) moderately disagree

(3) moderately agree   (4) strongly agree

1. Everyday life often gives me the occasion to laugh. .... (1) (2) (3) (4)
2. I prefer people who communicate with deliberation and objectivity. .... (1) (2) (3) (4)
3. I am a rather sad person. .... (1) (2) (3) (4)
4. One of my principles is: "first work, then play." .... (1) (2) (3) (4)
5. I am often sullen .... (1) (2) (3) (4)
6. I can easily unwind and enjoy the moment...(1) (2) (3) (4)
7. I am a serious person .... (1) (2) (3) (4)
8. Many adversities of everyday life actually do have a positive side .... (1) (2) (3) (4)
9. I often smile .... (1) (2) (3) (4)
10. In everything I do, I always consider every possible effect and compare all pros and cons carefully....................... (1) (2) (3) (4)
11. When friends try to cheer me up by joking or fooling around, I sometimes become more morose and grumpy .... (1) (2) (3) (4)

12. I am often in a joyous mood .... (1) (2) (3) (4)
13. There are many days on which I think, "I got up on the wrong side of the bed.".......... (1) (2) (3) (4)
14. In most situations, I initially see the serious aspect .... (1) (2) (3) (4)
15. I like to laugh and do it often................... (1) (2) (3) (4)
16. Even if there is no reason, I often feel ill-humored............................. (1) (2) (3) (4)
17. When I communicate with other people, I always try to have an objective and sober exchange of ideas. .... (1) (2) (3) (4)
18. I feel completely contented being with cheerful people .... (1) (2) (3) (4)
19. I am often in a bad mood .... (1) (2) (3) (4)
20. When I watch TV, I prefer informative reports to "shallow" programs ....(1) (2) (3) (4)
21. I often feel despondent .... 1) (2) (3) (4)
22. I try to spend my free time doing things as useful as possible .... (1) (2) (3) (4)
23. I often feel so gloomy that nothing can make me laugh..(1) (2) (3) (4)
24. My everyday life is filled mainly with important things and matter ....(1) (2) (3) (4)
25. Laughing has a contagious effect on me... (1) (2) (3) (4)
26. Some annoying circumstances are capable of spoiling my mood for quite a while .... (1) (2) (3) (4)
27. I am a cheerful person............................. (1) (2) (3) (4)
28. Sometimes I am distressed for a very long time... (1) (2) (3) (4)
29. It is easy for me to spread good cheer.... (1) (2) (3) (4)
30. When I am in contact with others, I often find that I have thought many thingsthrough more thoroughly than they...................... (1) (2) (3) (4)

FIGURE 5: Oxford Happiness Questionaire
(Hills & Argyle, 2002)

INSTRUCTIONS: Below are a number of statements about happiness. You will need to read the statements carefully because some are phrased positively and others are phrased negatively. Then mark an X through one of the 6 alternatives. If you find some of the questions difficult, please give the answer that is true for you currently. Please try to answer every question, and try to not omit any. Please use the following code:

1: strongly disagree   2: moderately disagree

3: slightly disagree   4: slightly agree

5: moderately agree   6: strongly agree.

71. I don't feel particularly pleased with the way I am ....(1) (2) (3) (4) (5) (6)
72. I am intensely interested in other people...(1) (2) (3) (4) (5) (6)
73. I feel that life is very rewarding.......(1) (2) (3) (4) (5) (6)
74. I have very warm feelings towards almost everyone ....(1) (2) (3) (4) (5) (6)
75. I rarely wake up feeling rested........(1) (2) (3) (4) (5) (6)
76. I am not particularly optimistic about the future..............................(1) (2) (3) (4) (5) (6)
77. I find most things amusing ....1) (2) (3) (4) (5) (6)
78. I am always committed and involved ....(1) (2) (3) (4) (5) (6)
79. Life is good.....................................(1) (2) (3) (4) (5) (6)

80. I do not think that the world is a good place ....(1) (2) (3) (4) (5) (6)
81. I laugh a lot....................................(1) (2) (3) (4) (5) (6)
82. I am well satisfied about everything in my life ....(1) (2) (3) (4) (5) (6)
83. I don't think I look attractive...........(1) (2) (3) (4) (5) (6)
84. There is a gap between what I would like to do and what I have done. .... (1) (2) (3) (4) (5) (6)
85. I am very happy..............................(1) (2) (3) (4) (5) (6)
86. I find beauty in some things ....(1) (2) (3) (4) (5) (6)
87. I always have a cheerful effect on others ....(1) (2) (3) (4) (5) (6)
88. I can fit in everything I want to ....(1) (2) (3) (4) (5) (6)
89. I feel that I am not especially in control of my life.............................(1) (2) (3) (4) (5) (6)
90. I feel able to take anything on ....(1) (2) (3) (4) (5) (6)
91. I feel fully mentally alert ....(1) (2) (3) (4) (5) (6)
92. I often experience joy and elation ..(1) (2) (3) (4) (5) (6)
93. I do not find it easy to make decisions ....(1) (2) (3) (4) (5) (6)
94. I do not have a particular sense of meaning and purpose in my life....................(1) (2) (3) (4) (5) (6)
95. I feel I have a great deal of energy .(1) (2) (3) (4) (5) (6)
96. I usually have a good influence on events...(1) (2) (3) (4) (5) (6)
97. I do not have fun with other people ..(1) (2) (3) (4) (5) (6)
98. I don't feel particularly healthy ....(1) (2) (3) (4) (5) (6)
99. I do not have particularly happy memories of the past. ....(1) (2) (3) (4) (5) (6)

FIGURE 6: General Happiness Scale (Seligman, 2002).

INSTRUCTIONS: Below are a number of statements about happiness. Read each of the statements and mark an X through one of the 7 alternatives. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time. Please answer every question, do not omit any.

Each Question will have a different scale:

100. In General I consider myself:
Scale:
1: Not a Happy Person   to   7: A very Happy Person
(1)   (2)   (3)   (4)   (5)   (6)   (7)

101. Compared to most of my peers, I consider myself:
Scale:
1: Less Happy   to   7: More Happy
 (1)   (2)   (3)   (4)   (5)   (6)   (7)

102. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?
Scale:
1: Not at All   to   7: A Great Deal
(1)   (2)   (3)   (4)   (5)   (6)   (7)

103. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?
Scale:
1: A Great Deal   to   7: Not at All
(1)   (2)   (3)   (4)   (5)   (6)   (7)

FIGURE 7: Rosenburg Self-Esteem Scale
(Morris Rosenberg Foundation)

INSTRUCTIONS: Below are a number of statements about self-esteem. Read each of the statements and mark an X through one of the 4 alternatives. If you find some of the questions difficult, please give the answer that is true for you in general or for most of the time. Please answer every question, do not omit any. Please use this scale:

(1) strongly agree   (2) agree

(3) disagree   (4) strongly disagree

104. I feel that I'm a person of worth, at least on an equal plane with others .... (1) (2) (3) (4)

105. I feel that I have a number of good qualities.. (1) (2) (3) (4)

106. All in all, I am inclined to feel that I am a failure................................... (1) (2) (3) (4)

107. I am able to do things as well as most other people .... (1) (2) (3) (4)

108. I feel I do not have much to be proud of... (1) (2) (3) (4)

109. I take a positive attitude toward myself .... (1) (2) (3) (4)

110. On the whole, I am satisfied with myself .... (1) (2) (3) (4)

111. I wish I could have more respect for myself .... (1) (2) (3) (4)

112. I certainly feel useless at times............. (1) (2) (3) (4)

113. At times I think I am no good at all........ (1) (2) (3) (4)

FIGURE 8: An Example of a Movie Description

Ranking Task (Endings are underlined)

INSTRUCTIONS: Read each movie description and rank how much you would like to see each film. Mark an X on "How much would I like to see each film with (1): not at all to (5): very much.

A Crazy Thing Called Love

Meg and Joe have been married for thirteen years and have decided to get a divorce. After a few sessions with their divorce attorneys, they decide that the best thing would be to sell their house and spilt the profits. They decide that they may need to do some renovations to their home before they put it on the market. They end up going to Lowe's. They fight about everything until that their lives are turned upside down when they realize that the store is being robbed by 20 men.

Happy Ending: Joe calls the police and protects Meg from the robbers, even risking his own life to save Meg's. Meg and Joe realize that they still love each other and decide to give their marriage a chance.

Neutral Ending: Meg and Joe decide to hide in the Gardening section of the store because it is the furthest away from the cash registers. Someone in the store calls the police. Once it is safe to leave the store, Meg and Joe decide to go to Home Depot instead.

Sad Ending: As Meg and Joe try to hide, the come across 2 of the robbers, Harry and Mark. Harry grabs Meg and puts a knife to her throat. Harry gets mad that Mark is losing the fight with Joe so he cuts Meg's throat and kills her. Harry flees, leaving Mark to die. Joe realizes how much he loves Meg.

How much would I like to see this film:
(1) (2) (3) (4) (5)

FIGURE 9: Ranking Task Part 2

INSTRUCTIONS: Now that you have read all nine movie descriptions. Mark an X to rank the movies from 1-9 with 1: most likely to go see and 9: least likely to go see.

A Crazy Thing Called Love .... (1) (2) (3) (4) (5) (6) (7) (8) (9)

XOXO I <3 U LOL :^X............ (1) (2) (3) (4) (5) (6) (7) (8) (9)

Ad Common Sense,
Pretty Please .... (1) (2) (3) (4) (5) (6) (7) (8) (9)

Do You Really Love Me? ....(1) (2) (3) (4) (5) (6) (7) (8) (9)

He and He Love Me.............. (1) (2) (3) (4) (5) (6) (7) (8) (9)

Falling in Love With Love ..... .(1) (2) (3) (4) (5) (6) (7) (8) (9)

A Cross-Cultural Love Affair.. (1) (2) (3) (4) (5) (6) (7) (8) (9)

There's Lipstick on the Collar ... 1) (2) (3) (4) (5) (6) (7) (8) (9)

Viva La Spain Por Favor .... (1) (2) (3) (4) (5) (6) (7) (8) (9)

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EVER CHANGING LOVE FOR A MODERN WORLD: A CONTENT ANALYSIS OF GENDER DIFFERENCES AND CHANGES IN RELATIONSHIPS IN US ROMANTIC DRAMAS

by KATHERINE HEEB

ABSTRACT

Arguably, filmmakers grasp cultural desires to escape reality by reflecting ideologies in films, and appealing to the larger audience in an attempt to make the highest profit. Although society creates and alters diverse ideologies over time, films portray various items of relevance which may not correlate with contemporary societal views. My study observed gendered differences of pursuance in romance films. Specifically, I searched for cultural messages, expressed through the characters' storied lives in American romantic dramas, that could explain how representations of ideologies have changed over time, and to what extent those ideologies effected the portrayal of pursuance in these films. Data for this study came from of a total of 12 American romantic dramas, filmed within two specific time spans: 1980-1989 and 2000-2009. All 12 of the films chosen were chosen by the order of the highest grossing films in the genre of romantic dramas, for their specified decade. From the study, it seemed that ideologies portrayed through the films were predominately focused on traditional roles of society, while expressing both class and gendered inequalities. Consequently, the more recent films included in the study seemed to portray the importance of social interactions, while playing with time in unique ways. This study, both, reflects and declines other arguments in the field of sociology. Although film is said to be a portrayal of our ideologies, in attempt to socialize society, it seems that film may actually be socializing society with ideologies that are not correlated with our reality.

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INTRODUCTION

It is no doubt that films have become vivacious, communicative elements of culture that are a greatly appreciated aspect of American society. People throughout the country still go to the movies for various reasons. With movie attendance increasing, it is apparent that people have made watching films a "popular social experience" viewed "to escape, to be

enlightened, to be entertained" (Sutherland and Feltey 2010:3). Films utilize technology to present symbols, signs, and languages in an effort to tell a story. Through this use of symbolic culture and communication, film holds the power to teach the practices of society by reflecting the values of those in it. These stories "reflect our culture at the same time as they are an element that constitutes it" (Sutherland and Felty 2010:3).

Films act as agents of socialization, "constructing our sense of who we are and our relative standing in society" (Ryan and Wentworth 1999:5). This is done through the reflection of ideological images of interaction, relationship, and community, which, in turn, frame our social reality (Cosbey [2010] 2010:176). Historically, theaters in some communities ran certain films to assimilate immigrants into the way of life in their new country. Jean-Anne Sutherland and Kathryn Feltey (2010) describe that during the early 20th century special features were available on Sundays, when theaters were not usually open, "to educate and familiarize foreign speaking people with the customs, principles, and institutions of our American life" through the expression of the immigration story and life in the new country (p. 2) . Even as time has proceeded, the film industry has still appealed to large audiences by portraying widely accepted views of American culture.

Romance is a stimulating genre to research that has the potential to express the values of American society, including principles of mate selection. In reference to romance, a few questions are relevant to analyze. If cultural values are portrayed, to what extent have portrayals of ideologies in American romantic dramas changed over time, and how do these ideologies effect the portrayals of pursuance in these films. Using content analysis data, I search for cultural messages of who should pursue whom, how they are to do so, and what factors affect the pursuance and stability of romantic relationships, as portrayed through American romantic dramas. Through the use of American romance movies, I will demonstrate that, while mate selection is a natural component of American culture, the criteria for selection is affected by societal constraints.

LITERATURE REVIEW

A Gendered Society

Societal ideologies of gender have shifted since the feminist movement during the 1960s. Before the shift, traditional ideologies were the foundation for gender roles, yet later views seemed to shift perceptions of those gender roles. The traditional views of the society were "characterized by beliefs that men are more 'important' than women and that women should be subservient to men" (Best and Foster 2004:159). Historically, perceptions of women's roles in society were also centered on the notion that women were these beautiful, passive creatures that utilized their seductive nature to attract males. This form of femininity is often referred to as emphasized femininity. This is quite different from cultural perceptions of masculinity. Often, hegemonic masculinity "is associated with an uncontainable aggression or sexual virility" which relates to the notion of male dominance in relationships (Alderson 2002:633). As U.S. history evolved, cultural perceptions of gender changed. "Modern ideologies are more egalitarian and are consistent with the notion that women and men are equally important and that neither sex has the right to dominate the other" (Best and Foster 2004:159). These contemporary perceptions are a reflection of the shift.

Gender and Romance

Along with cultural expectations of gender roles, there seem to be expectations in American society related to intimacy, grounded in the traditional values that men are expected to be the initiators of relationships, and women are socialized to be pursued. With this comes the role of women to be coy and express their feministic attributes to attract a potential mate.

In cases of intimate relationships, studies have shown the existence of different styles of loving based on gender. Today, love seems to be "feminized" in its overemphasis of "talking and feeling", "a mystification of the material basis of attachment", and tendency "to ignore physical love and practical aspects of nurturance and mutual assistance" (Kimmel 2008:272). This is quite different than men's style of intimacy or love, which is focused on "practical help, shared physical activities, spending time together, and sex" (Kimmel 2008:272). This is not

to say, however, that men and women don't equally express their love. Many stereotypes express men to be practical lovers, while women are seen as romantic lovers. Although some studies have confirmed these stereotypes, there is evidence that men are "stronger believers in romantic love ideologies than are women", such as love at first sight (Kimmel 2008:273).

Men have often reported falling out of love faster than women. This may counteract evidence supporting that women are actually the ones that "initiate the majority of break-ups" (Kimmel 2008:273). In the realm of relational endings, experiences after break-ups seemed to also be gendered. Women seem to "have an easier time accepting their former romantic partners as friends than men do", while men, who are supposed to be the less emotional gender, " report more loneliness, depression, and sleeplessness than woman do" (Kimmel 2008:273). Interestingly enough, these findings all seem to both confirm and deter traditional ideologies of love.

Gender and Film

Gender is an important aspect in film, especially in the genre of romance. Romantic dramas greatly depend on gender and societal ideologies. The range of representations of women in film are often described as limited and stereotyped in both limiting and negative ways which reproduce the experience of lived oppression, thereby perpetuating social marginalization (Wolfreys 2002:592). Consistent with sociologists' beliefs, cultural representations portrayed through film "can only change when cultural perceptions… outside filmic representation have changed" (Wolfreys 2002:592). Which lays the groundwork for the basic research question, have ideological portrayals through film changed?

Some studies have shown that a culturally new version of masculinity began to emerge as a result of the women's movement. The sensitive man is described as "one who was in touch with his feelings and was nurturing to others" (Benshoff and Griffin 2004:276). However, this type of presentation of males began to be prominent in comedies, rather than other genres of film. For women, however, ideologies portrayed through film haven't paralleled too much with contemporary ideologies. Historically, there was an increase of sexual content and sexploitation in the film industry. However, it wasn't long until a number of females began to climb

into a new occupation in the film industry. Since the movement, women are entering positions as writers, directors, and producers of films. However, women in Hollywood who want to be successful in the mass marketplace "are obliged to work within the same narrative structures and normal codings as are male filmmakers" (Benshoff and Griffin 2004:282). It's not to say, however, that female roles portrayed in films haven't changed at all. Societal changes have enabled some women to mobilize into female leads in films, as well as created some acceptability to address concerns of gender.

Societal Factors and Film

Scholars have found that, because of women's economic independence transformed from the women's movement, women have gained the luxury of relying on love alone when considering marriage (Kimmel 2008:274). Results from these studies have also shown evidence of our definitions of love having to do with other cultural differences, rather than gender alone (Kimmel 2008:274). This supports the notion that other social factors could potentially affect the creation and stability of intimate relationships.

These social factors are often presented in films. Racial identification is a fundamental aspect that has the ability to alter films. Many studies have focused on the whiteness of film, or the tendency of films to portray white privilege and power; although recent decades have shown sensitivity to racial and ethnic relations. Yet, Hollywood narrative form and the film industry continue to marginalize non-white people in many ways (Benshoff and Griffin 2004:52).Race, however, is not the only social factor that is an element of reasoning in movies.

Work and class identification help to categorize people by economic prominence. Previous studies have shown that "our beliefs about the class structure and social mobility more generally serve to reinforce existing levels of social inequality as inevitable and normal, and are replicated and supported through the countless popular films we have enjoyed from early childhood well into adulthood" (Dowd [2010]2010:45). Ideologies of classes and inequalities surrounding class concepts, such as race, can alter the stories told through film. This can be the case in romance films, as well as other genres.

Love in Film

Scholars have also investigated other societal factors that appear in American films. In most films, we can see the presence of gender issues, racial identification, class or work identification, social interactions, or some other types of cultural representations. "A common theme in movies is inequality" based on some or one of these issues (Sutherland and Feltey 2010:5). These aspects portrayed through films can help lead us to understand societal norms and values, and how they are structured in our world.

"By watching film, we learn about social interaction in the context of relationships, everything from friendship, to romance and dating, to family life" (Sutherland and Feltey 2010:5). Scholars have researched societal factors in relation to recurring trends of intimacy. Previous studies have also found evidence of cultural expectations in films, including ideologies of masculinity, femininity, and appropriate interactions based on one's place in society. Although sociologists are increasingly analyzing the social aspects of film, very few have examined the content of romantic dramas. My research intends to fill this gap in the literature. In this research, I analyze the gendered characterizations of men and women characters in American romantic dramas during two different time periods, in search of cultural messages of who should pursue whom, how they are to do so, and what factors affect the pursuance and stability of romantic relationships in romantic dramas.

METHODOLOGY

Research Design

Data for this study came from of a total of 12 American romantic dramas, filmed within two specific time spans: 1980-1989 and 2000-2009. All of the 12 films were purchased and viewed during July 2011.

Sample

Of the 12 films I chose to use, 6 came from each of the specified time spans. These time periods were chosen because of their fundamental significance in American society. All 12 of the films chosen were, first, chosen by the order of the highest grossing films in the genre of romantic dramas, for their specified decades. They were, then, chosen by their availability to me for purchase and viewing, during the month of July 2011. These films were the films that, based on the money they made, were seen by the most number of people. By choosing these films, I examined films that potentially had the most impact on viewers' ideas of gender and romance. I limited my sample to stories focused on heterosexual relationships. The following two tables show the lists of the 12 films that were viewed for this research. The first table shows films chosen and viewed that were released between the years 1980-1989. These films include *The Officer and the Gentleman*, *Dirty Dancing*, *Urban Cowboy*, *Always*, *The Accidental Tourist*, and *Children of a Lesser God*. The second table shows films chosen and viewed that were released between the years 2000-2009. These films include *Pearl Harbor*, *Cold Mountain*, *The Notebook*, *The Time Traveler's Wife*, *P.S. I Love You*, and *The Lake House*.

TABLE 1. Sampling and Data Collection Set 1: Films chosen and viewed that were made between 1980-1989.

Film Title	Release Date	Overall Box Office Rank
The Officer and the Gentleman	7/30/82	5
Dirty Dancing	8/21/87	18
Urban Cowboy	6/6/80	31
Always	12/22/89	34
The Accidental Tourist	12/23/88	43
Children of a Lesser God	10/3/86	45

TABLE 2. Sampling and Data Collection Set 2: Films chosen and viewed that were made between 2000-2009.

Film Title	Release Date	Overall Box Office Rank
Pearl Harbor	5/25/01	3
Cold Mountain	12/25/03	8
The Notebook	6/25/04	11
The Time Traveler's Wife	8/14/09	19
P.S. I Love You	12/21/07	25
The Lake House	6/16/06	27

TABLE 3. Protocol Sheet- Preliminary Codes.

Category	Theme	Code
Women	Traditional Role (Emphasized Femininity)	TRW
	Non-Traditional Role	NTRW
	Pursues Male	PM
Men	Traditional Role (Hegemonic Masculinity)	TRM
	Non-Traditional Role	NTRM
	Pursues Female	PF
Work/Social Class	Work/Occupation	WO
	Class Identification	CID
Race/Ethnicity	Racial Identification-NON-WHITE	RID
Social interactions	With Family	FAM
	With Friend	FRD
	With Stranger	STR
Age	Teen	TN
	Adult	AD
	Middle Aged	MA
	Elder years	EY

TABLE 4. Protocol Sheet.

Category	Theme	Codes
Women	Traditional Role (Emphasized Femininity)	TRW
	Non-Traditional Role	NTRW
	Pursues Male	PM
Men	Traditional Role (Hegemonic Masculinity)	TRM
	Non-Traditional Role	NTRM
	Pursues Female	PF
Work/Social Class/ Education	Work/Occupation	WO
	Class Identification	CID
	Educational Attainments	ED
Race/Ethnicity	Racial Identification-NON-WHITE	RID
Social interactions	With Family	FAM
	With Friend	FRD
	With Stranger	STR
	With Superiors	SUP
	With Work Colleges	WOC
	With Significant other	SO
Age	Child	CH
	Teen	TN
	Adult	AD
	Middle Aged	MA
	Elder years	EY
Places	Home	HM
	Public Sphere	PS
	Work Area	WA
	School	SCH
	Private Area	PA

Measures

I used grounded theory coding to code scene by scene, with special emphasis given to coding of social factors. I coded by gender, work/ class, race, social interactions, and age. I took detailed notes on the character's actions, as well as some of the dialogue used, as it related to mate selection. From the codes, I utilized the notes to connect actions and language used to encourage and discourage the relationships portrayed in the dramas. The following is my original protocol sheet, which lists my preliminary codes that I used when watching the films. These codes represented themes that I expected to see when viewing the films. Among these themes were gender roles that women and men would play in the films and who pursues whom, occupational status of characters and self-identified class identification, self-found racial identification, social interactions with other characters, and ages of characters in the films.

While viewing the films, I found that many of the preliminary codes for themes I anticipated were evident. However, I also found that some themes that were not originally coded for seemed to arise. As I watched the films, I added some secondary codes to the protocol sheet, as some of the themes began to be relevant in many of the films. The following is the protocol sheet that I used, which lists all the themes I coded for in

the films. These codes represent the same themes as the preliminary codes, yet a few themes were added. The added themes consisted of items, such as educational attainments, social interactions with work colleges and superiors, childhood as an age bracket of relevance in characters, and places in which interactions took place.

FINDINGS

Analyzing 12 American romantic dramas developed interesting results regarding the ideological aspects of pursuance in American culture. Conclusions drawn from the results may be surprising, as some presentations through films are not quite as some sociologists would have expected. The following table displays the instances in which the coded themes seemed to occur. As can be seen, there were significant results in regard to gender, class, and social interactions. These seemed

Category	Theme	Instances in films made 1980-1989	Instances in films made 2000-2009
Women	Traditional Role (Emphasized Femininity)	26	16
	Non-Traditional Role	12	6
	Pursues Male	8	11
Men	Traditional Role (Hegemonic Masculinity)	13	12
	Non-Traditional Role	5	2
	Pursues Female	15	15
Work/Social Class/ Education	Work/Occupation	6	7
	Class Identification	8	8
	Educational Attainments	1	1
Race/Ethnicity	Racial Identification- NON WHITE	0	1
Social interactions	With Family	9	22
	With Friend	8	26
	With Stranger	12	9
	With Superiors	7	0
	With Work Colleges	6	5
	With Significant other	23	33
Age	Child	1	2
	Teen	1	2
	Adult	2	5
	Middle Aged	3	3
	Elder years	0	1
Places	Home	2	5
	Public Sphere	2	3
	Work Area	3	2
	School	0	2
	Private Area	2	6

TABLE 5. Coded Themes.

to be the fundamental aspects that helped determine the creation and stability of relationships in the films. However, there were a few astonishing twists that were apparent in the films that seemed to also affect the portrayed relationships.

Stick to the status quo: Gender in Romantic Dramas

The data reflected some astonishing information regarding the presence of gender in romantic dramas. It would seem as if ideologies portrayed through the films were predominately focused on traditional roles of society, despite the passing of time and changing of societal ideologies.

In the films viewed, there were a total of 42 incidences of women taking on traditional feminine roles: 26 of these were presented in films from 1980-1989 and 16 from those presented from 2000-2009. For example, in the film *Children of a Lesser God,* Sarah, the female protagonist is seen cleaning, cooking, and acting submissively towards her love interest, which indicates traditional femininity. Interestingly enough, it wasn't as if only particular movies portrayed this type of behavior several times, yet it was apparent that these roles were played by women in every movie that was viewed. However, a more surprising aspect is the presence of non-traditional femininity being portrayed. Of all 12 films viewed, there were only 18 instances of these roles being performed, with 12 shown in earlier films and 6 in more recent films. In this case, the presence of this type of femininity was only seen in a few films within the decades, and most of the instances presented seemed to be played only to discourage women participating in such behaviors, with the exception of only one film. This discouragement can be dramatically seen in the film *Urban Cowboy*. Throughout the film, Sissy, the female lead, desires to be an independent woman by attempting to ride a mechanical bull at one of the bars that she and her husband are often seen at throughout the film. Views against her behaviors are obviously seen when her husband first tells her no, expressing that it's "too dangerous and it ain't for girls." This behavior is quite different than one film that neither condoned nor discouraged woman participating in non-traditional femininity. In the film *Cold Mountain,* many of the women acted in both traditional and non-traditional ways in the absence of men. Because the film was based around the time of the Civil War, it was seen as acceptable for women to participate in non-traditional types of femininity, such as preforming manual labor and aggressively protecting their property, which is the case for many of the women portrayed in the film. However, it is apparent that this behavior is more than likely only acceptable because of the absence of male figures, since one of the female characters is still seen doing traditional roles, such as hanging clothing, cooking, and attending to others needs, because her husband is not away at war and is able to perform masculine tasks.

It was not surprising that my results also correlated with other previous studies, in regard to male gender roles. From my analysis, I found that presentations of traditional roles were also prominent in both decades that were studied. In fact, these roles were also the most dominate, with 13 instances in films from 1980-1989 and 12 instances in films from 2000-2009. This traditional masculinity can be seen in the film *The Officer and the Gentleman*, as the officer that is portrayed throughout the film behaves in an aggressive and unsympathetic manner in order to encourage his assigned recruits to act in the same manner. The same can't be said for the presence of non-traditional masculinity, which was only seen a mere 4 instances in films from 1980-1989 and an astonishing 2 in films from 2000-2009. What seems more interesting to note is that these instances were only seen in three particular movies. One of the films that dramatically shows this type of masculinity, *The Accidental Tourist,* really only depicts this type of behavior when the male protagonist, Macon, is home alone and has to do things for himself, such as laundry and picking up around the house. However this role doesn't last long, because he finds himself struggling with these tasks and decides to move to his fathers' home, where his sister takes on traditional femininity and performs these tasks for him.

The portrayals of these types of masculinity and femininity are quite important because of their contribution to pursuance that was observed in the studied films. It was seen that portrayals of pursuance in the viewed films were, for the majority, grounded in the traditional values that men are expected to be the initiators of relationships, and women are socialized to be pursued. However, there was some evidence

of females pursuing male partners. In the 12 films viewed, there were 8 instances of this type of pursuance in films from 1980-1989 and 11 instances in films from 2000-2009. On one hand, women pursuing men seems less traditional, as women are typically pursued. However, the women initiators pursued men in somewhat feminine ways. For instance, in the film *The Time Traveler's Wife,* the film first introduces the character's relationship to the viewers in an interesting manner. Because the male lead, Henry, is a time traveler, it seems he has no memory of any relationship with Clare, the female lead and love interest. In this film, viewers see Henry's love interest taking him to dinner and expressing her love for him. This seems unusual because traditional ideologies express male pursuance of female partners. However, in the film's context, this non-traditional portrayal seems to fit.

Obstacles of Love: Factors that Effect Pursuance and Stability of Romantic Relationships

Gender wasn't the only factor that contributed to intimate relationships. From the results and actual contexts in which they occurred, it is apparent that upward mobility is somewhat a determining factor in film relationships. From the data, it can be seen that, from the 12 films, there were a total of 13 instances in which characters' occupations were able to be identified, 16 instances in which social class was identified, and 2 instances in which education attainments were related. The numbers of times these occur in each studied decade seem relatively equal, which helps support the notion that these factors have equal importance in both time periods.

The two most obvious expressions of the importance of these factors in relationships can be seen in the movies *Dirty Dancing* and *The Notebook*. Both these films stress the importance of success in one's ability to choose a mate. In the film *Dirty Dancing* viewers are introduced to the lives of the two main characters, and are, right away, able to see the importance of occupational prestige and class at play. Francis, also known as Baby, is the lead female role in this film. She is introduced in the film as the daughter of a successful doctor who has high hopes for her future. In one of the first few scenes, film makers give the audience an idea of the ideal mate for Francis, as well as her sister, when they are introduced to Robby,

a waiter at the vacation area where Francis's family is staying. He seems to come from a well-off family, and is said to be attending medical school. However, despite other's desires, Francis shows interest in Johnny, the male lead and love interest. Unlike Robby, Johnny is a working class dancer who is barely getting by. Because of the differences in their societal positions, Johnny and Francis's relationship is discouraged and goes through a short break towards the end of the film. However this separation does not last long, because the two challenge cultural expectations and end the film together. *The Notebook*, which is a more recent film, also depicts a couple from different economic situations. Like Francis, Allie, the female lead, is a city girl who comes from a wealthy family. While she is spending the summer at her family's vacation home, she meets Noah, the male lead and love interest. Noah is a working class country boy that doesn't seem to have much figured out. The difficulty in Allie and Noah's relationship is seen as Allie's mother explains that Noah is "trash" and not for her. Later in the film, Allie meets her ideal mate, who is a surviving soldier that comes from "old Southern money". There exists a challenge of societal ideologies when Allie, despite her parents' desires, leaves what seems to be her "ideal" mate for Noah. These depictions illustrate the issues of social class identification and demonstrate how class influences our life chances. Aside from class, it seems that films also present viewers with other criteria for the ideal relationship.

Although it wasn't quite a huge obstacle in the portrayed relationships, I did notice a surprising fact in all the films that were viewed. It seems as if, despite the time period of the film, that there is an overwhelming whitening of relationships. By this I mean that, in all the relationships presented in the films, the characters seemed to be Caucasian. The only film that portrayed any other relevant character that was not Caucasian was *Pearl Harbor.* The even more surprising thing is that the character was not even a participator in romantic interactions, yet just another man in the war. It seems as though filmmakers failed to present the storied lives of people from various cultural backgrounds, legitimizing the concept of "whitening" in films. By failing to depicting the relationships of non-white characters, films not only contradict American ideas of cultural diversity, but they also raise awareness to racial/cultural issues.

Other issues seemed to influence the portrayed relationships; death seemed to be an overly represented theme in romantic dramas, which was not originally coded for. Of the 12 films viewed, there were a total of 9 that presented some type of death that was relevant to the main characters and their relationship: 3 of which were from films released from 1980-1989 and 6 of which were from films released from 2000-2009. From this data, it appears that, as time has progressed, death has become more present in these films. In all of the cases that death occurred, in the more recent films, it had an effect on the stability of the portrayed relationships. For example, in the film *P.S. I Love You*, filmmakers base the storyline after the death of Jerry, the husband of the female protagonist. The entire story portrays the relationship and life of Holly, the female protagonist, as a result of her husband's death.

The More the Merrier: The Increasing Abundance of Social Interactions

Other findings relevant to note reflect our shift to become more socialized beings. As time has progressed, characters in romantic films seem to have more and more social interactions with a greater variety of people. Many of the more contemporary films involved in this study portrayed the characters interacting with people other than strictly their significant others and family members. From the data we can see that in films from 1980-1989 characters had a total of 65 social interactions, most of which were with their significant others. Films released from 2000-2009 illustrated a total 95 interactions, also with most of them being with significant others. It is apparent that modern filmmakers are portraying characters as more socialized individuals; however, although characters still illustrate having social interactions with significant others, these interactions are not presented abundantly or as the most important. It seems as though films are able to reflect the growth in our interactions, as well as become agents of socialization to encourage viewers to engage in more socialized behaviors.

Time Twister

A surprising, relevant issue that appeared to prevail in more recent films is the variation of time and space. Filmmakers' reflection of US history is one of many examples of this variation. Of the 6 films analyzed from 2000-2009, 2 of the films were based around historical time periods. For instance, the film *Pearl Harbor* is based around the beginnings of World War II, or the year 1941. The other 4 films portrayed a different time twisted story. For example, in the film *The Lake House* the two main characters live in different times: Kate, the female protagonist, lives in the year 2006 while Alex, her love interest, lives in the year 2004. Throughout the film, Kate and Alex have difficulty having any real relationship because of their time difference. The film shifts back and forth between both characters' times to share their story. This linking of two different times to illustrate characters' storied lives is a unique aspect of modern films, which was not seen in past films. Although time seems to be fluid in these films, it's quite obvious that films are enhancing viewers' reality to engage the larger audience in a more desirable experience.

DISCUSSION

It is evident that, while mate selection is a natural component of our culture, the criteria for selection is affected by societal constraints, including issues of class, race, and gender. Data from this analysis reflected the effects of these issues, as well as brought to light other unusual factors, within U.S. films. In a sense, although time has changed various elements of film, it is quite obvious that other issues presented through film have remained.

Considering cinematic images of relationships, there seems to be an unchanging script that is portrayed in most U.S. romance dramas. Filmmakers emphasize on upward mobility as criteria for selection, illustrating to the audience that the desired relationship within society consists of successful individuals. Likewise, filmmakers also seem to present the notion that, although these types of relationships are preferred, other relationships consisting of one successful individual is possible. However, it seems to be further illustrated that relationships that deviant from the preferred are likely to experience criticism, and their stability is uncertain. Moreover, the criticism directed towards these relationships is a product of societal differences, further demonstrating the importance of social status in the portrayed relationships. The ideologies portrayed through film, then, reflect two conflicting realities, which may be far from attainable for most viewers:

a relationship between two select individuals and a relationship between one select individual and one of lower social status. By portraying these connections, viewers are able to participate in an experience that, for a moment, allows them to escape their actual realities.

Similarly, filmmakers seem to manipulate elements of a story, such as time, further creating a false reality for viewers. In exploring the more modern films, time seems to be fluid in a quite unique way. Filmmakers either reflect history or shift back and forth in time to present multiple stories as one, while possibly illustrating the impossible. This fluidity of time and mixing of fantasy and reality are major characteristics of the postmodern era. Filmmakers have very well interpreted the culture of the times to present audiences' desired realities, while allowing them to leave their everyday lives without leaving their seats. The presentation of culture through films, again, enhances viewers' realities, as well as socializes them to the thoughts and ideologies of society. That is, as filmmakers illustrate viewers' desired realities in the context of contemporary culture, viewers are influenced to create those same images and adhere to societal norms.

Films reflect the ideologies and expectations within society by socializing viewers to what is acceptable behavior, through the use of cultural messages. Filmmakers are able to create an environment of escape in order to appeal to a larger audience by creating an almost impossible experience for viewers, and allowing films to do things in which individuals otherwise may never be able to do. In essence, films create the ultimate cultural image of what viewers desire and attempt to recreate, yet will never fully achieve.

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THE EFFECTS OF AUTISM ON THE DEVELOPMENT OF NON-AUTISTIC SIBLINGS

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ABSTRACT

There is evidence that the siblings of children with developmental delays have themselves experienced some form of developmental or emotional delay due to their sibling's condition. Research has shown that siblings of children with developmental delays are more likely to show delays themselves and they are also more likely to have over all adjustment issues than that of children of normal-typically developing children. Using the Vineland II to measure for any development delays for a clinical group of children with siblings who are diagnosed with an autism spectrum disorder (ASD) and comparing them to a control group of siblings with out any diagnosed developmental delays. The result showed that externalizing behavior was approaching statistical significance.

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INTRODUCTION

Research has shown that there is both anecdotal and empirical evidence that the siblings of children whose development is within the areas of what are called the "Autism Spectrum Disorders" (APA, 2000) have themselves experienced some form of a developmental or emotional delay because of their sibling's condition. Autism Spectrum Disorders (ASD) are a spectrum of Pervasive Developmental Disorders (PDD). These spectrum disorders share features that affect the way that children achieve developmental growth. Children who are on the autism spectrum tend to have delays in development along with behaviors that affect areas of their development, which would include communication, behavior, and social skills (Klin & Volkmar, 1997). When a child is diagnosed with an ASD, they are more likely to reach developmental stages at later ages than normal-typical developing children if they reach them at all. The amount of delay or the failure to acquire developmental ability can have an affect on the development of siblings of autistic children. Siblings can be at risk for developing the same learning disabilities. Younger siblings typically use their older siblings as models and this could account for a delay that has been observed. If the normal-typical developing child is older than the child with an ASD, then the older child would be developing normally and any delays

observed after the birth of a child with an ASD would resemble those similar to a neglected child. Research has been conducted on siblings of children with autism measuring a variety of areas that include adjustment, behavior, cognitive, language, and the overall impact.

LITERATURE REVIEW

In research on language conducted by Gamliel, Yirmiya, Jaffe, Manor, & Sigman (2009) results show that language scores for siblings that were 14-54 months old were lower when they were compared to siblings of normal-typical children. They did not find the same results when they looked at the cognitive scores of the siblings of children with an ASD compared to normal-typical children. With their results they found that language is a major area of difficulty for some siblings of children with autism during preschool years. Research on the adjustment of non-disabled siblings has shown that they are under more stressors then siblings of normal-typical developing children. In doing research on siblings of children with an ASD, Barak-Levy, Goldstein, & Weinstock (2010), have shown that normal-typical siblings of children with an ASD tend to feel more pressure to help within the family and to exceed in academics as to not cause any more problems within the family unit. They also found that siblings and parents do not have the same perception as to what causes the normal-typical sibling stress. Barak-Levy et.al (2010), found that when a teacher or a parent describes a normal-typical developing child as helpful and responsible the parents or adult who is describing the child found these to be positive qualities. But when the normal-typical child is asked about these two qualities they see them as a stressor. They suggest that when anyone is doing research on siblings of autistic children that they include a self-assessment from the normal-typical sibling's point of view since parents and teachers can only assess what they observe and not what a sibling may really be feeling.

Research done by Macks & Reeves (2007), on the adjustment of non-disabled siblings has shown that the more economical sound the family the less likely there seems to be of a risk for the adjustment of the siblings to be negatively effective, and therefore more likely to have a positive impact on the sibling. They did find the opposite when the family did not have the economical resources available; the impact on the sibling was negative. The demographic factors have an impact on the outcome for the sibling, could be why there are discrepancies in some of the research findings conducted on siblings. They also found that siblings tend to have positive self-concept when compared to normal-typical siblings. "They were much more likely to have a positive view of their behavior, intelligence, scholastic performance, and anxiety" (Macks & Reeves, p. 1065). They also had a better "overall personal characteristics in comparison to siblings of non-disabled children" (Macks & Reeves, p. 1065). There are two reasons as to why these children have a more positive outlook of themselves. What they found to be possible is that the siblings used the child with the ASD as the person that they were comparing themselves too, or that they have had to mature early due to having and sibling with an ASD. Macks & Reeves discovered a difference between the siblings self report of well being and the parents report of the siblings well being. They found that the parents tend to have a negative view of their normal developing child's stress and social functioning. This is a significant finding since much of the research conducted on siblings is often conducted using the parents observations of the siblings, and could have a negative impact on the research. Macks & Reeves also found that when demographics are taken into account there is a different outcome for the siblings. One thing that Macks & Reeves (2007), lacked in their research is that they did not look at all developmental areas; they only focused on the emotional adjustment of the siblings therefore the finding of the negative view of the parents may not transcend into other areas of development. The demographic should not have an impact when looking at a normal-typical sibling of a child with an ASD if the normal-typical siblings are modeling their siblings when they are developing. There has been a lack of research that looks at the development of the siblings in all developmental areas.

Another area that has been researched when it comes to siblings of children with an ASD is the area of the relationship between them. Petalas, Hastings, Nash, Dowey, & Reilly (2009), have analyzed what the perceptions and experiences of the typically developing siblings are by asking the siblings in a semi-structured interview. Using the sibling's responses to question

gives a very different look at the relationship between the normal-typical sibling and the sibling with the ASD. They found that there are five main themes: (i) Siblings' perceptions of the impact of their brother's condition on their lives, (ii) siblings' perceptions of the attitudes of others, (iii) siblings' tolerance and acceptance towards their brothers, (iv) positive attitudes and experiences, and (v) siblings' views on support for themselves and their brothers (p. 381-399). The research on the perception gives an indication on how siblings feel about their sibling's disability but does not measure any developmental delay that these siblings may have experienced or are currently experiencing.

Gamliel, Yirmiya, Sigman (2007), have researched the development of cognitive and language skills of younger siblings of children with an ASD. They found that there are some delays in language for some siblings of children with an ASD, but their sample was not very large and they only looked at cognitive and language skills. They plan on following these children until the age of 7 where they are going to be measuring for language, cognitive and learning delays. This will give a clearer understanding if the delays that they are seeing that have disappeared will reappear into learning difficulties in the future for these children. There needs to be more studies done on other domains of development so that there is a better understanding of what types of developmental delays siblings of children with an ASD experience.

Verte, Roeyers, & Buysse (2003), looked at the effects the behavior, the self-concept, and social competence on the siblings of a child with an ASD. The participants that composed their study were all high function on the ASD. They excluded any siblings of children who have more disabilities related to their ASD. They found that children who have siblings that are considered to be high functioning autism have more internalizing and externalizing behavior problems then the control group when they were between the age of 6 and 11. They did find that outside of the ages 6-11, the siblings of the high functioning autism and the control group did not appear to have a difference in their behavior, self-concept and social competence. They found that younger siblings of children with an ASD might be displaying more behavioral problems simply to obtain more attention from their parents then rather from modeling the child with the ASD. They found that the

behavior problems that were present did not fall within what would be considered clinical ranges and that they should outgrow them without any intervention. If any group would need intervention it could possibly be a support group for the 6 to 11 year olds. This should become less of a problem as they grow older and are able to cope with their sibling's disability and have better social skills themselves. Overall this study found that siblings of children that are on the ASD spectrum but are high function do not have any more problems with adapting than siblings of normal-typical children.

The research that has been done on the early development of siblings of children with an ASD in comparison to normal-typical developing children has shown mixed results in some of the areas of development. In Toth, Dawson, Meltzoff, Greenson, & Fein conducted research with siblings of children with an ASD between the ages of 18 and 27 months. They looked at many different areas of development and used multiple scales to measure the different areas. The environment and parental stress and mental health were also measured to help control for the covariant of differences in the well being of the child's parents. The researchers found that siblings had deficits in some areas such as social communication and language, but they had other areas where there is not a noted deficit. The areas that had the deficits for the siblings of children with an ASD were "lower receptive language skills, lower adaptive behavior skills and lower overall rates of social communication and social-emotional functioning" (Toth et al., p. 152). They also found that "siblings [had] less frequent use of words, distal gestures including pointing, and responsive social smiles during social interaction" (Toth et al, p. 152). The siblings also showed difficulties in social situations as early as 13 months. They did have fewer early difficulties such as; sleep issues and crankiness at the early ages. Toth et al. (2001), did find that sibling of child with an ASD tended to be more passive then the comparison group of children. There were domains that were measured where the siblings of the children with an ASD did not show any difference in development in comparison to the comparison group. These areas were "imitation and play, and in other aspects of social communication, such as initiating and responding to joint attention" (Toth et al., p. 152). This shows that the siblings do not have deficits in development across

the board and since these siblings are at such a young age some of the differences that they did find, could be attributed to the siblings also being on the spectrum, since they are too young to measure for an ASD.

The area that relates to the theory of mind (ToM) in siblings of aspergers's syndrome (AS) has been researched by Dorris, Espie, Knott, & Salt (2004). In their research they looked at first-degree family members of children with AS tend to have some of the same social issues that are not enough to affect to the point that they would be diagnosed as having an ASD. The researchers used the Eyes Test and were able to show that children with a sibling with an ASD had a deficit when their results were compared to normal-typical siblings. They were also able to show that gender did have a factor and that males performed at a significantly lower level than female siblings. In order to have an understanding of "cognitive phenotype of AS/ASD [a person] must accept that genes can influence behavior relatively directly, as phenotype implies genotype" (Dorris et al., p. 416). With this belief then genes will have an impact on all first-degree family members to some extent of AS/ASD children; usually this is to a much lesser extent, that they will have problems with ToM. One thing that the researchers pointed out in this study is that using the Eyes Test, as a measure for ToM may not be the best method. Since there are multiply parts of the brain that are used in understanding other people feelings and emotions the Eyes Test would not be the best fit for the measurement. But overall the study showed that families of children with AS/ASD do have symptoms of an ASD just to a lesser extent when it comes to the ToM.

The understanding that siblings have of the disability that affects the child with an ASD is important to consider when looking for any developmental delays. Glasberg (2000), looked at what age children became aware of illness and were able to have a clear understanding of the illness. They found that the siblings tended to "acquire concepts relevant to the definition and etiology of autism at a slower rate than would be predicted based on illness research, with regard to the implications all three groups performed within their expected development range" (Glasberg, p. 152). Glasberg has noted that the type of illness that an ASD is may be too abstract for children to assimilate an understanding of. Another unexpected result was that some siblings had no understanding of

ASD. It was found that some normal – typical children have more difficulty understanding the meaning of ASD in their siblings. However, when it comes to explaining what it is like to have a sibling who has an ASD and what it means to that siblings future, they are able to give a clear understanding because they see the impacts every day. These findings will become useful in educating siblings about ASD, as well as with helping educate the classmates of a child with an ASD. This gains importance as schools move toward more inclusive classrooms. This study helps with understanding when children achieve an understanding of siblings ASD. However, because the families she recruited were from families that were active in the autism community the siblings may have a better understanding then a child who has never been exposed to someone on the autism spectrum.

Quintero and McIntyre (2010), looked at the effect on the adjustment of siblings of children with ASD but the primary factor was maternal well-being. They looked at families with a child with an ASD and families with normal-typically developing children. The research looked at the older normal-typical developing sibling of children on the ASD. They found the parents and teachers of both the siblings with an ASD and the normal-developing siblings feel within normal ranges for adjustment, behavior and academic achievement. These results cannot be generalized due to the research design. The design had strict controls concerning the age of the child with an ASD only being in preschool and therefore, the child may not have been living with the child with the ASD long enough to develop any significant behavior problems. They also excluded any siblings who have already been diagnosed with a disability of their own such as attention deficit/hyper activity. They did find that mothers with a child diagnosed with an ASD are more likely to suffer from depression and higher stress from life and daily hassles. The fact that the mothers feeling more stressed and depressed has a bigger impact on the older normally developing sibling's behavior as opposed to mothers who have normal-typically developing children. This study cannot be generalized to the public because the families that were included came for a secure economical background and were well educated, which prior research conducted by Macks & Reeve (2007), has shown when demographics are taken into account there is a positive impact on the siblings of a child with an ASD.

An important area that very few researchers have covered is the very real challenges that the normal-typical siblings of children with an ASD face every day. Dr. Seth Aronson (2009), covered areas of coping with the illness that the siblings and families face when a child is diagnosed with an ASD. In his article he talked with siblings whose parents took them to therapy due to unusual behaviors such as hiding their positive grades or good things that may have happen to them or the siblings just plain out pretend that they did not have a sibling at all when presenting themselves outside of the family home. By collecting his data this way he was able to catch the very candid and real issues that these siblings face besides being more prone to developmental delays. They are more likely to suffer from anxiety, anger, guilt, shame, denial, and aggression. The siblings of children who have an ASD have to be able to understand that there are two set of rules that often develop within their families that can cause a lot of anger for the sibling when they are too young to understand why there has to be a difference. Siblings of children with an ASD expected to take on more responsibility than siblings of normal-typical developing children. These responsibilities can also be beyond the scope of the ability of the sibling and cause them anxiety. They are also faced with the fact that they may suffer from guilt for feeling angry about the added responsibilities that they have to take on or that there are special rules developed for the child with an ASD. If these siblings are not shown how to cope with these feelings at a young age they are more likely to act these out in behaviors that are not desirable which will then produce a cycle of anger, guilty and anxiety.

Another area that Dr. Aronson looked at was the fact that having a sibling with an ASD brings on a wide range of feelings that many adults have a difficult time dealing with when all the information has been provided to them. Many of the children do not have the level of information that the adults in the family do so they may use the mechanism of denial to deal with fact that their sibling is autistic and they are healthy. Some children have gone as far as to pretend that they do not have a sibling at all when they are presenting themselves to the outside world. By doing this healthy child does not have to explain their sibling with an ASD to friends. Parents that do not have the ability to cope with a child that has been diagnosed with an ASD unfortunately may not answer questions that a sibling may have about their brother or sisters condition. Some children will also become so understanding of their sibling's condition that they will not become angry with the sibling who has the ASD because they understand that they cannot always control their behavior. This phenomenon has been observed by researchers when they have seen the normal typical developing child and the child with an ASD interact and they child on the autism spectrum hits the normal typical child. The response of the normal typical child was to just let the child on the spectrum to continue the abuse and not tell anyone. This can be tied back to the fact that the normal typically developing sibling may feel guilty about being the healthy sibling so they take the attacks as a form of punishment.

Dr. Aronson also found that sometimes the healthy siblings might identify with the child with an ASD by regression in the way that they behave. The healthy siblings may start to behave more baby like which is how they interpret the child with the ASD to be. They also can have dis-identification, which pushes them to exceed at everything that they can to prove the point that they are nothing like the sibling with the ASD. They sometimes will do this because they feel that their parents have enough to cope with when it comes to the child with the ASD that they do not want to place additional pressure on them.

Overall, siblings of children with an ASD have a tougher road ahead of them compared to siblings of normal-typical children. They not only could possibly show developmental delays they have a considerable amount of social adjustment and understanding that they are required to understand much earlier in life then siblings of normal-typical or even other disabled children just because of the type of disability their siblings have, since it is not something that is visible to most people. It is also such a wide spectrum when it comes to the type of disability or abilities that any one child may lack or acquire it is hard for people outside of the ASD world to understand. With this being said it makes it all the more difficult for siblings to understand and deal with the types of delays that their sibling has especially if they are having to deal with delays that they are having themselves.   There needs to be more information available to parents of children with an ASD that have other children who are not on the spectrum or are

planning to have other children. This way they are aware of what delays they need to watch for in siblings and also for emotional difficulty that their child without the ASD may need help with coping with the difficulty of having a sibling with an ASD. There also needs to be more services available to parents and siblings living with a child with an ASD so that they may cope with all the different emotions from the time a child is diagnosed with an ASD. Once there are places for everyone in the family to receive help there will be better mental health for the entire family.

The hypothesis for this study is younger siblings will have developmental delays in their own development due to modeling their old siblings that have an ASD. The older siblings of children with an ASD should have normal development until the child with the ASD is born. They will start to show delays after this time due to neglect from the parents giving all the available attention to the sibling with the ASD.

METHOD

The instrument used is the Vineland Adaptive Behavior Scale – Second Edition – Interview Form., VABS-II-IF (Sparrow et.al., 2005). This 30 to 45 minute interview yields raw scores, adjusted scale score (a v-scale score), and standard scores as well as range of derived scores and is normed for children, adolescents and young adult. The VABS-II-IF is an individual measure of adaptive behavior in five domains: Communication, Daily Living Skills, Socialization, Motor Skills and Maladaptive Behavior Index. Each of these adaptive behavior domains includes subdomains. The Communication domain is made up of the Receptive, Expressive and Written subdomains; the Daily Living Skills domain is comprised of the Personal, Domestic and Community subdomains; the Socialization domain includes the Interpersonal Relationships, Play and Leisure Time, and Coping Skills subdomains; and the Motor Skills domain is made up of the Gross and Fine Motor subdomains, and finally, the Maladaptive Behavior Index subdomains are Internalizing Problems, Externalizing Problems and Other Behavior Problems. Each domain and subdomains yields a standard score with a mean of 100 and a standard deviation of 15. Percentile rank, adaptive level and age equivalent are also provided.

The participants also completed a Pediatric Questionnaire form, a psycho-social history questionnaire that collects information on family background, pregnancy history, birth history, growth and development history, and school history.

PARTICIPANTS

The participants are parents of children with an ASD who has siblings without an ASD, and parents of normal-typical developing children with siblings from the South East Texas area. The children with an ASD and their siblings will be self-selected from the local autism community. The database at the Behavior/ Developmental Pediatric Clinic at Driscoll Children's Hospital was used to send recruitment letters to all parents that have a child with a diagnosis on the autism spectrum. The Jewish Community Center from Corpus Christi, Texas database from their preschool program was used to send recruitment mailings out to parents of children that are not on the autism spectrum and do not have any other type of developmental delay for the control group. Parents with at least two children whose ages are from birth to 18 years and only three years older or younger have been interviewed. There were twenty-four families that were interviewed. Sixteen from the autism spectrum group and eight from the normal-typical families were interviewed. The interviews were conducted in English and all of the participants are English speaking so there was not a need to translate into any other language. A researcher interviewed the participants, so they were not required to read and answer the questioners on their own.

PROCEDURE

The participants contacted the researcher and appointments were set up to meet at one of three locations, Texas A & M University-Corpus Christi, Behavior/Developmental Pediatric Clinic at Driscoll Children's Hospital, or at the participant's home. Participants were presented with the consent form and any questions they may have were answered. Once the consent form had been signed, the interview process would begin. The participants were interviewed and a VABS-II-IF was completed for each child in the family. The interviewer recorded answers from the interviewee for each domain and sub domain. It took approximately

FIGURE 1: Externalizing Behaviors

DISCUSSION

We showed that the younger siblings showed more externalizing behaviors compared to their control counterparts. The younger siblings may be using modeling or have a lack of attention because of the child with the ASD and that is why there is an increase in their externalizing behaviors when compared to normal-typically developing siblings. The older siblings are showing that they have less externalizing behaviors then the control counterpart. This may be caused by them becoming the "perfect child" not to cause any more parental and family stress. The older children may also be trying to distance themselves from the sibling with the ASD so that they can stand out on their own merits to obtain the parents attention that they feel they are lacking because of the attention that the younger sibling demands from the parents.

The participants in this study were self-selected from the local autism community for future research it would be advisable to have a range of different demographics to include so that the results can be more generalized to the population. The VABS-II-IF is not the best measure of externalizing behavior so a future study on siblings externalizing behaviors by using the Achenback Child Behavior Checklist to show an in depth analysis of behaviors that was not able to be obtained using the VABS-II-IF.

45 minutes to complete the VABS-II-IF for each child. The pediatric questionnaire form was presented for the interviewee to complete. This questionnaire took approximately 15 minutes to complete. Once the data has been analyzed the parent has being provided with feedback on their children. If a child is found to have developmental delays they will be given a referral for further testing.

Once the interviews were completed the data collected on the Vineland-II was entered into the database provided by Vineland-II to be analyzed. The pediatric questionnaire form was coded and entered into an excel spreadsheet by one of the investigators.

RESULTS

In all domains except for the maladaptive behavior index do not appear to show a statistical significant difference between siblings of children with an ASD when compared to our control siblings. The maladaptive behavior index is approaching statistical significant at a $p=.073$. The sub-domains of the maladaptive behavior index are internalizing and externalizing behaviors.

Figure 1 shows that the only sub-domain approaching a statistically significant difference is externalizing behaviors. The younger siblings of the clinical group have a mean of 17.2 while their counterpart in the control group had a mean of 13.8. The older siblings of the clinical group have a mean of 14.2 while their counterpart in the control group had a mean of 16.8. These means are approaching statistically significant differences is externalizing behaviors with a $p= .060$.

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A PETROGRAPHIC ANALYSIS OF TOYAH PHASE POTTERY RECOVEREDFROM STATE HISTORIC SITE FORT LIPANTITLÁN

by SABRINA MOORE

ABSTRACT

This study focuses on petrographic analysis of a prehistoric ceramic collection from the Corpus Christi Museum of Science and History. The pottery is from two neighboring Late Prehistoric , Toyah phase (AD 1430-1780) ceramic manufacturing Sites, 41-NU-54 and 41-SP-220, located in the Lower Nueces River Valley, South Texas. The research was designed to compare vessel manufacture, clay composition, and temper attributes associated with these contemporary settlements. Another goal was to identify and document any technological changes in the Toyah ceramic wares before and during historic contact. The paper describes the methodology used in selecting the sherd sample, preparing the thin sections, and recording the mineralogical and biogenic attributes. The comprehensive evaluation using a petrographic microscope allowed for a quantitative determination of the modal mineralogy of each thin section. Commentary regarding similarities and differences relating to the pottery industries at the two settlements is included as well as perspectives about how this study opens up further research opportunities using petrography to correlate historical and archeological data in hopes of better understanding local and regional interactions during this period.

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INTRODUCTION

Texas State Historic Site, Fort Lipantitlán (41-NU-54, herein referred to as NU-54), is located in the Lower Nueces River Valley of South Texas. Three years of excavations by the Archaeology Field School, South Texas (AFSST) have unearthed Toyah phase ceramics dating back to Late Archaic times. Excavations in the summer of 2010 by the AFSST came across an upper stratified layer within Site NU-54 that contained a mixture of Spanish/Mexican wares and Late Prehistoric Toyah earthenware (Inez, 2010). The upper stratified

MAP 1. Lower Nueces River Valley showing the survey area where Sites NU-54 and SP-220 are located. (Drolet, 2007).
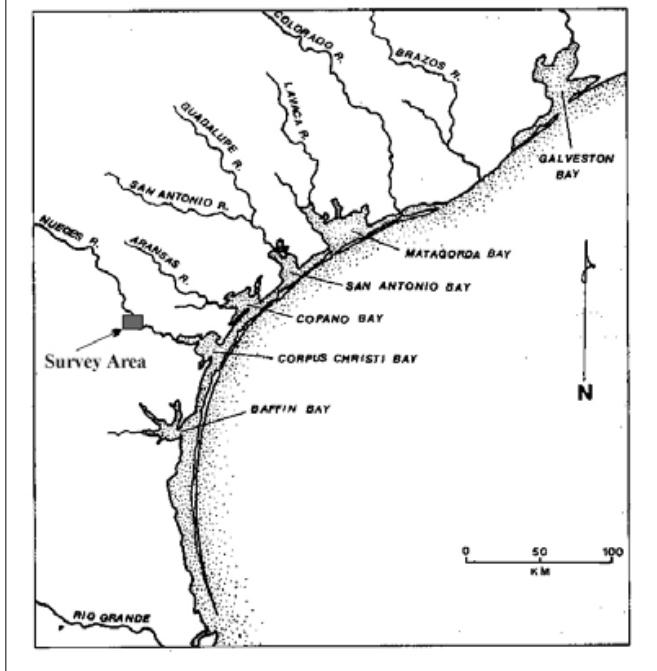
layers, in which the ceramics were recovered, suggest an interval of Spanish/Mexican contact with Late Prehistoric Native Americans prior to the establishment of Fort Lipantitlán in the 1830's (Drolet, 2010). Soil analysis, conducted by Inez in 2010 to confirm the validity of the character in which the artifacts were found revealed that the soil was devoid of any disturbances due to land use or erosion (Inez, 2010). Petrographic analysis presents further details on the manufacture and temper attributes of the ceramics by providing a quantitative technique of examining each component separately. Any technological changes in the manufacture of pottery can also be determined and will provide more distinct familiarity with the evolution of ceramic wares as a result of possible Spanish/Mexican contact. A concise scan of each sherd was conducted in order to establish a list of components to be classified. Subsequently, a point counting technique was devised moderately based on an article about the compositional analysis of Little Colorado White Ware, (Douglass and Schaller, 1993). Each sherd's modal mineral composition, along with constituent materials that were important for diagnostics but not largely incorporated, were used to parallel manufacturing attributes and potential variations of each site.

METHODOLOGY

Pottery sherds were made available by the Corpus Christi Museum of Science and History. Sites NU-54 and SP-220 offered a collection of sherds that had been unearthed during block excavations performed by students and faculty of the AFSST. The selection of sherds to be used in the study, were based specifically on stratigraphic level in which they were recovered as well as the area within the site. Size was a secondary factor as sherds were assorted between one and three centimeters, but when an option, the largest sherd with the most area for thin sectioning was selected. Ten sherds from each camp, NU-54 and SP-220, were sent to Wagner Petrographics for thin sectioning. Each piece was bound in clear epoxy for handling purposes as well as to keep the fragile sherds intact. Subsequently, each sherd was cut to thirty microns thickness; horizontal to the largest face which provided for a large surface area in which to perform analysis. Point counting was executed on a Nikon Eclipse E600 polarizing microscope. A polarizing microscope has a lower polarizer that maintains a path in which the light travels through a specimen. Using an upper polarizer (referred to as XP light), allows for an interference of light rays which results in an array of bright colors within the specimen that does not portray the true value, but rather a characteristic one based on the mineral's crystal structure (Perkins & Henke, 2004). The use of XP light was used extensively to identify minerals based on their pleochroism and extinction angles. The method established for point counting was such that three hundred points be tallied per thin section. Magnification of 100X was selected and movement along the thin section was restricted to horizontal and vertical increments of one millimeter using a mechanical stage set to 0 degrees by 0 degrees. A list of the most common minerals was arranged during an initial scan of the thin sections and thus used to categorize the components to be counted. Matrix material, quartz, plagioclase feldspar, orthoclase feldspar, chalcedony, and bone were the main constituents that composed the list. There was a specific type of orthoclase termed microcline that was further differentiated when identified in a thin section. Further criteria used for the point count analysis was that grains be larger than sixty three microns. Any grain smaller was thus concluded to be matrix material as suggested by the breakdown

between sand and silt on the Udden-Wentworth scale. Any unidentifiable grain was not counted, but was logged and photographed. After completion of the point count analysis, components that were determined to be important for compositional analysis yet were too scarce to turn up in the point counts were logged and counted using 40X magnification. Such elements were shell fragments and grog which is any previously crushed and fired ceramic that is intentionally ground up and added to clay as a temper material. In thin section it was identified as any angular shape of a discrete color that was surrounded by voids. Shell material was identified by its characteristic shape like that of a crescent moon as well as the lamellar growth rings. Resulting from the point count, percentages of each component were compiled by dividing the individual amount by 300.

RESULTS

Composition of Pottery between Sites

FIGURE 1. Average modal mineral compositions of pottery sherds recovered from Site NU-54.
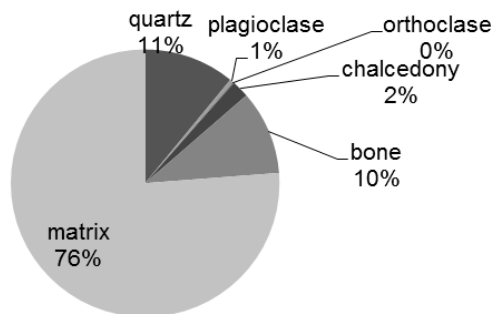
Preliminary results show that there is a difference in the average modal mineral composition of the Toyah pottery between Sites NU-54 and SP-220 (Fig. 1 & 2). Variance is not seen in large scale based on the usage of different materials but rather the amount of each material used. A shared incorporation of bone as a temper material is observed within both sites. Not included in point count analysis but nevertheless taken into account was the use of grog, shell and plant debris as additional temper material. Site NU-54 exhibited more pottery sherds where grog was used as well as a few instances of plant debris and shell being additionally incorporated. Additional temper materials in Site SP-220 included solely grog and was located in only two of the ten sherds viewed.

FIGURE 2. Average modal mineral compositions of pottery sherds recovered from Site SP-220.
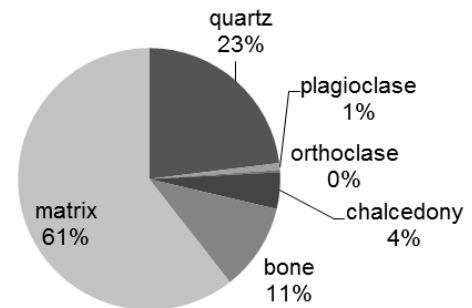
Composition of sherds from Site NU-54

Pottery sherds recovered from Site NU-54 consistently contained a high percentage of matrix material. Sherds recovered from greater depths within the vertical column display a drop in the percent of matrix coupled with an increase in the amount of bone added as temper material, artifact 383 being the only exception. Chalcedony and quartz both have variable percentages throughout the vertical sequence and therefore do not show a discernable pattern regarding manufacturing characteristics. For the feldspar group of minerals found in Site NU-54, there are minute traces scattered throughout the sherds and in the case of artifact 227, the orthoclase counted was altering to perthite (Table 1).

Half of the sherds at this site contained additional materials to aid in the sustainability of the pottery as it was being fired. Three of which contained pieces of grog, one contained shell fragments and an additional sherd contained both grog fragments and shell material (Table 2).

Composition of sherd 150 from Site NU-54

Sherd 150 is the only piece that has not yet had a complete point count analysis performed. However, it nonetheless provides very intriguing data as it is the only sherd of the twenty selected that was composed of completely different materials. A brief overview shows granitic rock fragments incorporated into a very dark matrix material. Likewise, there are significant amounts of pyroxene grains that are rounded around the edges as well as plagioclase crystals altering to sericite that are silver and metallic in texture. There are a few

TABLE 1. Composition (%) of pottery sherds (Toyah Phase) recovered from Site NU-54.

| | surface | 0-10 cm | | | 10-20 cm | | | 20-30 cm | | |
	* A16	223	* 102	383	* 294	**150	* 227	749	733	* 728
quartz	9.96%	15.90%	10.00%	6.77%	14.86%		17.88%	5.58%	9.26%	8.23%
plagioclase	2.14%	0.00%	0.67%	0.00%	0.36%		0.00%	0.51%	0.00%	0.00%
orthoclase	0.00%	0.00%	0.33%	0.00%	0.00%		0.99%	0.00%	0.00%	0.00%
chalcedony	3.56%	3.08%	4.33%	1.20%	3.62%		1.32%	0.51%	0.46%	0.82%
bone	0.00%	0.00%	0.67%	26.29%	0.72%		0.99%	18.27%	23.61%	20.99%
matrix	84.34%	81.03%	84.00%	65.74%	80.43%		78.81%	75.13%	66.67%	69.96%

Rows indicate percent composition of each constituent material.
Columns display the artifact # and are further subdivided by vertical depth in which each sherd was recovered.
 * Sherds in which alternate types of temper were incorporated (Table 2).
 ** Sherd 150 is discussed separately below.

TABLE 2. Slide #'s indicating which artifacts contained additional temper materials.

Slide #	Grog	Shell
728	4	-
227	15	-
A16	17	-
102	5	3
294	-	1

occurrences of the mineral hornblende which is altering into a mineral known as chlorite. The scan showed neither bone fragments nor grog, however; there were significant amounts of well-rounded quartz grains as well as a few indications of plant debris that had been burned away during the firing process (Pape, 2011).

Composition of sherds from Site SP-220

Pottery sherds recovered from Site SP-220 contained about half to a little lower than half of a percentage with regard to matrix material. The highest percentages, those above 76% were recovered at shallower depths within the vertical stratigraphic column. The addition of bone as a temper material remained sporadic throughout the column, as did chalcedony. Quartz was the solitary constituent that showed a large decline in the upper layers with which the sherds were recovered. Similar to Site NU-54, the feldspar minerals remain in miniscule amounts that are scattered throughout the sherds. Three sherds in particular had a form of orthoclase termed microcline, those being artifacts 520, 286 and 816.

TABLE 3. Composition (%) of pottery sherds (Toyah Phase) recovered from Site SP-220.

| | surface | 0-10 cm | | | 10-20 cm | | | 20-30 cm | | |
	* A16	223	* 102	383	* 294	**150	* 227	749	733	* 728
quartz	9.96%	15.90%	10.00%	6.77%	14.86%		17.88%	5.58%	9.26%	8.23%
plagioclase	2.14%	0.00%	0.67%	0.00%	0.36%		0.00%	0.51%	0.00%	0.00%
orthoclase	0.00%	0.00%	0.33%	0.00%	0.00%		0.99%	0.00%	0.00%	0.00%
chalcedony	3.56%	3.08%	4.33%	1.20%	3.62%		1.32%	0.51%	0.46%	0.82%
bone	0.00%	0.00%	0.67%	26.29%	0.72%		0.99%	18.27%	23.61%	20.99%
matrix	84.34%	81.03%	84.00%	65.74%	80.43%		78.81%	75.13%	66.67%	69.96%

Rows indicate percent composition of each constituent material. Columns display the artifact # and are further subdivided by vertical depth in which each sherd was recovered.
 * Sherds in which alternate types of temper were incorporated (Table 4).

Only two pottery sherds at Site SP-220 contained additional materials as temper, both of which are grog material (Table 4).

DISCUSSION

Patterns of Manufacture, Modal Mineralogy, and Differences between Sites SP-220 and NU-54

Evidence of manufacturing techniques between Sites SP-220 and NU-54 suggest that siliciclastic rich sands and muds were used to make the bulk composition of Toyah Phase pottery. The distinction between both sites and the average percent of quartz recorded from the point count analysis does not automatically suggest a deliberate manufacturing technique as it could also be attributed to a difference in the mineralogy of the sediment from which the material was extracted. Both sites are located within a fluvial landscape which means that there are naturally occurring areas associated with different energy conditions, lending to a different

TABLE 4. Slide #'s indicating which artifacts contained additional temper materials.

Slide #	Grog	Shell
540	20	-
788	17	-

mineralogy of the soils. The verity of the seasonal changes of this type of landscape therefore lead to a conclusion that unless sherds are made of completely different elements, it is hard to ascertain whether any variances in modal composition are due to deliberate manufacturing adjustments rather than simple sediment alteration.

Patterns of Manufacture, Modal Mineralogy and Differences of Site NU-54

Further analysis of pottery between the different stratigraphic columns of this site is crucial in order to build a reasonable discussion. Aside from more sampling, current unpublished beta analytic data has suggested age ranges for the stratigraphic column in which the selected artifacts were recovered. Within 10-20 cm of the surface, analysis shows the soils are associated with a time period ranging from the late

1700's to the early 1800's. A deeper profile, 40-50 cm from the surface, has been analyzed to be early Archaic in time period, ranging from 3800 to 4000 years before present (Drolet, 2011). As more sherds are studied at deeper depths, there can be a clearer picture showing any possible manufacturing changes by means of materials and temper used as well as styles created.

Patterns of Manufacture, Modal Mineralogy and Differences of Site SP-220

In addition to Site NU-54, further analysis has to be performed in order to further assimilate characteristics of the pottery being manufactured at this site. Beta analytic data has not been utilized which creates a hindrance in trying to determine manufacturing changes as a result of times pre and post European/Spanish contact.

Discussion of Pottery Sherd NU-54: 150

The mineralogical make-up of sherd 150 is irregular in total composition. Further research is needed to not only explain why this particular composition was used for this particular pottery piece, but also how the materials were originally transported and deposited in the valley. The rounded pyroxene grains suggest rapid moving water as a transport mechanism. However, the relative availability of the pyroxene and hornblende materials suggests that the material was also transported quickly, as each has a low resistivity to weathering. Relative to slower moving river conditions a flooding event would release enough energy to not only pick up the granitic sediments but also quickly transport them to the area for deposition.

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ASSERTION AND DECISION MAKING OF WORLD WAR II REALITY: VARIOUS ART FORMS USED IN YOUNG ADULT NOVELS

by YADIRA YVETTE MOYA

ABSTRACT

The representation of World War II has held the attention of many throughout the years, and this includes modern young adult readers. By analyzing four specific novels, we find that the young adult characters in these novels do not use art forms to escape their realities, instead they use their art forms to assert their realities—to understand and take action. The books represent young adults using a variety of art forms and show that young adults are not removed from what goes on in the world around them. These novels and the representation of these characters also provide an opportunity for young adult readers today to understand the importance of art in difficult times.

"Power to foster historical insight, knowledge, and understanding"

MENTOR
Dr. Catherine Quick
Associate Professor
Department of English
College of Liberal Arts

WORLD WAR II AND YOUNG ADULTS

When young adults think about World War II, many typical images come to mind, including, D-Day, Pearl Harbor, Nazis, concentration camps, *The Diary of Anne Frank*, and a plethora of others. Many young adults today have difficulty relating to these images—while they understand that this history happened, it is devoid of a sense of reality. For example, though *The Diary of Anne Frank* is a book based on the diary of a real person, many young readers tend to see the entire war experience through the limited lens of one child hiding out in annexes, only having to keep quiet. I was one of those people—as a young girl I believed that all children who were affected by World War II were affected in this way; they needed only hide out in annexes and attics, and it was not until I saw a documentary about World War II and the Holocaust about a year later that I realized that truth was much more devastating. Fear is presented in Anne Frank's story, but the reality of people who did not have the opportunity to hide is absent. War is an event, an action that begins and ends with humans and all strategic aspects of war are formulated and put into place by human beings, and war affects all human beings in its midst. This means that we must consider the place of children and young adults in the face of war, whether directly or indirectly affected by the war. Reading more broadly in young adult literature about the war is one way to understand how young adults in

many situations handled the realities of war. We find that art in many forms plays a key role in how these young adult characters address their fate.

I began the research process with the initial assumption that art is usually thought of as an escape from reality. Even though my own reality was not difficult in comparison to that of young adults in war, I used art forms to creat my own world to escape teasing and social awkwardness, or I escaped into the world of books. My initial assumption changed when reading some young adult novels set in the era of World War II. As it turns out, the characters in these novels were using various art forms not as an escape, but as a way to assert their reality, to take hold of the events going on around them. They used art to take an active role in determining their fate in difficult circumstances. Four novels were analyzed, including: *The Book Thief, Between Shades of Gray, Dear Great American Writers School*, and *A Song for Summer*. Each of these novels is set in a different part of the world, ranging from labor camps to Nazi Germany, from an Austrian fine arts school to a traditional American home. When I looked more closely at the characters and the art forms they were engaging in, I looked to see if their final product was void of images or connections to the events taking place around them, which would indicate using art to escape difficult circumstances. Or were the final products of the art forms connected, addressing, or portraying the events taking place, the world they lived in. Basically I looked to see if these characters' art was being used as a way for them to escape the reality around them or were they looking at all that was going on and through their art they were trying to make sense of it. Common among these various novels is the fact the each character, instead of using art forms as a way to escape reality, use their art forms as a way to assert power over the reality around them in three main way: 1) some used these arts to help them remember what has happened; 2) others used to art for practical purposes, such as to help someone escape from a labor camp; and 3) yet others used to interpret what is going on around them. Scholarship in young adult literature will benefit from this conclusion in that many young readers of these books also face difficult situations, including war. By understanding that art is empowering, not escapist, young adults may connect with the literature and perhaps find their own outlets for asserting their reality.

World War II, a broadly and rigourously studied time period, is a subject that also appears frequently as a backdrop for young adult novels. Young adult literature is a relatively new area of scholarly study. Stephens defines young adult literature as "a story that tackles the difficult, and oftentimes adult issues that arise during an adolescent's journey toward identity, a journey told through a distinctly teen voice that holds the same potential for literary value as its 'Grownup' peers." Young adult literature is literature that is written from a perspective of the young adult facing issues that adults may themselves face; adolescents reading these books will find the issues more easily accessible than in comparable adult-centered books. The young adult market has not been clearly defined, although most put it somewhere between the ages of 10-16. While some adults feel that literature for this age group should be sanitized and not discuss difficult topics, young adults themselves seem to want to read works that tackle real issues from around the world, and war is one such issue. The topic of war has great influence in the young adult market for the reason that war is still a prevalent part of young adult lives even today. In the wars taking place in today's time, we find that like young adults of the World War II, the young adults of today's time are affected by the wars that are going on around the world. It's not so much that the readers of young adult literature today are directly involved by living in war-torn countries, but they may have friends, relatives or relatives of their peers overseas. By reading quality contemporary literature about experiences of young adults in World War II, today's young adults connect with the past and learn something meaningful about their present.

The young adult books actually written during the years of World War II, unlike today's young adult literature, did not reflect, or even attempt to reflect, an accurate picture of the world. Caroline Hunt states that, "books for children and young adults in this period may be divided into two groups: those that turn to fantasy in their resolute exclusion of wartime reality and those that retain an uneasy normalcy but still exclude mention of the war" ("U.S. Children's," 191). Thus the literature written for young adults during World War II was escapist in nature. Though the young adult and children's market may have not approached the subject of war or the Holocaust, that was not so as the world

moved out of that time in the world's history. The further the world moved away from the time when these events were taking place, the more the events comes to the surface, and makes its way into literature around the world, including young adult literature. Geoffrey Short writes that, "fiction and autobiography, if chosen judiciously, have the power to foster historical insight, knowledge, and understanding. By showing how the events of a previous age touched the lives of ordinary people, these forms of literature inject vitality into otherwise arid facts and thus help to excite and sustain historical interest" (179-180). Literature, in all forms, can make a way for conversation among young people, conversations that might otherwise not occur were it not for these young adult novels that bring about greater insight.

The World War II event dealt with in the most depth in young adult literature is the Holocaust. There have been many books published, fiction and non-fiction that deal with this aspect of World War II, but there are many levels to the types of books written for young adults pertaining to the Holocaust itself. David Russell points out that the types of novels written in this category can be divided into four different types: resistance novels, refugee novels, occupation novels, and, finally, the harrowing stories of the death camps (268). Not as much is written about the war itself or other aspects of the war for young adults. How was life for teenagers back in the U.S., for example, and how did they cope with what was happening in the world around them?

One such area that is has only recently been addressed in young adult literature is that of the life of people who were held in internment camps here in the United States of America. Internees are trying to change that and to bring more literature about this part in World War II history to people's attention. Matthew Teorey states in "Untangled Barbed Wire Attitudes" that: "blinded by the fear and paranoia that followed Japan's 1941 attack on Pearl Harbor, the U.S. government suspended the constitutional rights of loyal, patriotic Japanese-Americans and imprisoned whole families in internment camps throughout the war. Few Anglo-Americans even considered questioning the illegal and immoral walls of barbed wire because they had built walls of ignorance and hatred years before" (Teorey 227). People in these camps went on with life, and many remained loyal American patriots throughout the time, but the ignorance and the hatred are what kept many people's eyes closed to the injustices and were experienced even in the U.S. itself. Art was a part of life in the internment camps. Many of the people in internment camps in the United States, for example, took the time for "musical activities [which] were promoted in the camps because music was recognized as a social and cultural necessity […] music was an important means for creating hope, cohesion, resistance, and a sense of identity" (Waseda 172). The sense of comfort and escape that art forms can bring to a person in need is evident on a grand scale. These art forms are accessible by young adults and would then give way to the same escape and comfort.

ANALYSIS OF THE TEXTS

As the basis for this research project, the following four Young Adult novels were analyzed to determine if the engagement in art forms were used as escapism or as a way to assert the main characters' reality during World War II: *The Book Thief, Dear Great American Writers School, Between Shades of Gray,* and *A Song for Summer*. These particular novels were chosen because they each tap into a different art form, but I also wanted to include the portrayal of young adults from different parts of the world. The analysis looked at the the protagonists of the novels, examining how World War II was affecting them, how they dealt with the effects of war, and how they used art in this context. When I looked more closely at the characters and the art forms they were engaging in, I looked to see if their final product was void of images or connections to the events taking place around them, or were the final products of the art forms connected, addressing, or portraying the events taking place in the world they lived in.

DISCUSSION

The idea for this research project came when my professor, who happens to be my mentor, mentioned in my Young Adult Literature (YAL) class that the use of literature, whether reading or writing it, seems to be a common theme in YAL set during World War II. At first I jumped on the idea, I thought that for sure I could find novels that portrayed this idea of using literature in significant ways. However, I looked at it with a distinct lens, believing that literature was used

by these characters as a form of escapism, the characters would use literature to avoid thinking about what was happening around them. The idea expanded to include not only the reading and writing of literature, but also other art forms, including culinary arts, music, writing, painting or drawing, and reading. These art forms came to my attention through four specific novels, published between 1995-2011, but set in World War II: *The Book Thief, Dear Great American Writers School, Between Shades of Gray*, and *A Song for Summer*. The main characters of these novels used various art forms in the location they found themselves during the period of World War II, but the use of art forms as a way to escape reality, as I initially believed, turned out to be incorrect. Instead, through reading the different novels, these characters' stories revealed their engagement in various art forms as a way to assert their reality, to take control in an uncontrollable situation.

When we think of war, it is important to note that many times children and young adults are forgotten unless they are perceived to be directly affected by the war itself, as is the case with accounts of children during World War II. Early on in our educational careers we learn about Anne Frank or we hear about the stories of children in concentration or labour camps. Important as they are to learn about, these categories of young people make up a small percentage of the world's population that was affected by World War II. Young people all around the world were feeling the effects of this war, though they may not have been laboring away in a camp or hiding in an attic or up in the mountains, such as is the case with the children who were hidden up in the mountains of Le Chambon in South Central France (Berenbaum 161-162). Young people, just like adults were feeling the effects of the war, even though many times adults tried to shield children from the realities of the world war. However, the books being analyzed demonstrate that young adults often fared better by confronting those realities.

It is true art when a writer is able to bring to life such characters who themselves use art. Markus Zusak is one such author/artist who brings to life characters who use their arts in order to assert the reality they are experiencing. In the case of *The Book Thief* there are two particular characters who use two different art forms to show us their reality and to understand it for

themselves. One character is that of Liesel Meminger. Liesel is a young girl, who wrote out her story of life in a small town in Nazi Germany. Her story was discovered by Death after the town was brutally bombed. Fascinated by the girl's story, Death narrates it to the reader. When we are first introduced to Liesel, she is illiterate, and throughout the book she works hard to master the written word, becoming so enamored it that she eventually takes to stealing books to fill her need for words. Each of these books is loved and read with her real world becoming a part of how she reads; the application of the books she is given and those she chooses to steal show us how she asserts her reality. One such example is the very first book she steals, a book that has been dropped in the snow. However, she still does not know how to read at this point. It turns out to be a book titled *The Grave Digger's Handbook*; ironically she found it at her brother's burial. By slowing and painstakingly learning to read this book, Liesel is transformed. The book title is prophetic, as she, by the end of the book, has lost almost everyone important to her to death. At one point, she begins writing rather than just reading. Writing is far from an escape from her, because she writes about all that has happened. She tells her story, embracing the sad truth of death, destruction, war, yet also love around her, and through her chosen art form of writing, preserves the memories of those who were lost.

Another character in *The Book Thief* also uses writing to assert his reality. Max Vandenburg, the Jewish man being hidden in the basement of Leisel and her adoptive parents, draws and writes a book called "The Standover Man" for Leisel in honor of her 12th birthday. Having no paper, except for the copy of *Mein Kampf* that he used to aid his escape into hiding, Max paints over the words of Hitler to write and draw his own story, including the moment he met Leisel. Though it may seem a crude gift to give a girl who loves the written word, this particular book helps Max not only come to terms with the life he is now having to live, but also to assert power over it, as he covers Hitler's story with his own. It also helps solidify the relationship between Liesel and Max in that they are both able to see it and embrace the reality of their lives, and make the decision to love each other. These two characters use their art forms to create a reality that can be seen, heard, and

felt with the mind and the heart; it is a tangible reality because it is something they can hold and see with their own eyes. They are not looking to escape but instead embrace the world and its realities, and make a decision as to the action they would like to take in this situation. That decision is to replace Hitler's story with their own.

Ruta Sepetys, like Markus Zusak, brings us a remarkable novel in *Between Shades of Gray*, which looks at the life a family from Lithuania as seen through the eyes of a young girl named Lina, and also provides us a glimpse into how this girl copes with a journey to a Siberian labor camp, as well as with life the camps. When the novel opens up, we see Lina and her mother and brother removed from their home, and during this removal Lina thinks of her sketchbook with longing because she cannot find it. Lina is a young girl who likes to draw and write letters. But when once she did these things for fun and because it was her passion, her intentions for engaging in these art forms changes as she is forced from her home into the difficult life in a labor camp.

Lina's intentions in using art go beyond simply making sense of her own reality in that she uses the art as a means of survival or rebellion. Her family separated, and one way Lina keeps the hope alive of being reunited with her father is by taking a handkerchief she has and drawing on a handkerchief a map of the journey she, her mother, and brother are taking. Eventually, she finds a way to pass on the coded map so that it may reach her father in the hope that he will be able to follow it back to where they are. The map was created carefully and intentionally, with the eye of an artist, but to say that Lina was using her art to escape the situation she was in riding the train to a place no one knew about would be wrong. When creating the map, Lina was putting all her hopes and love into the work at hand, slowing etching pictures that chronicled the journey they were taking, making the reality of their situation something that could be read and followed.

No person looking at the map would find themselves escaping to a fictional or different world. Instead the person would be transported to the literal places Lina and her family had been to, places they had experienced. Lina's art figures in another situation. Some of the soldiers guarding the labor camp discover that Lina can draw. Lina is able to use her art form to provide for her

family by drawing the commander of the labor camp. However, her drawing in this situation is not of beauty or hope; she is having to recreate artistically the world's true ugliness. Even on this occasion, though, Lina's art is not a means of escaping her situation. Her art becomes a lifeline for her and her family. Her art does not deny the reality of the man she is painting, but gives her an opportunity to use art to manipulate her own situation to advantage. She gets a measure of control through this process, while still facing the reality that in that she is now a part of it. She is like children who hear the news of fallen soldiers or police officers, or any other victim and to them it is only another person. But when the person the newscaster is speaking of is someone they know or it is they themselves who are a part of the news, the news of tragedy is no longer distant, but becomes horrifically real and tangible. Lina and her family's reality could be touched and seen, no longer hidden away in the mind's eye; it was their reality. It does not mean that when you embrace reality you like it, it only means one is not blind to the situation any longer; one is now able to deal with the reality of the situation. Lina's art not only allows her to see, but to some extent, to take a small amount of power for herself.

Writing, reading, and drawing have made their place in the young adult literature set during World War II, and we have seen how these art forms were used by many characters in the novels as a way to assert their reality. Eva Ibbotson's *A Song of Summer* extends the assertion of reality to the art forms of music and culinary arts. In this novel, we follow the life of Ellen, who lives in England, but soon moves to Austria to make a life of her own as a cook for a school. It turns out that Ellen is a wonderful homemaker, but her favorite thing to do is to cook, which is something she takes great pride in doing for the kids of Hallendorf School. Before Ellen goes to Austria, her love of culinary arts has been cultured by Henny, the housekeeper, and for much of her life, Ellen was untouched by the greater world outside the house—the culinary arts were, for a time, Ellen's escape. The narrator states that "they made their own world. Herr Hitler was eliminated, as was Mussolini, strutting and braying in Rome. Even the clamor of King George's Silver Jubilee scarcely reached them" (Ibbotson 15). Ellen comes to this school in the middle of Austria right before the big push Hitler made to take the country

over in 1937. This particular novel takes place during the year 1937, and soon we see that as much as culinary arts originally kept the wider world out of Ellen's life, it would soon come to assert itself, and she would find herself embracing the changes going on in the world.

Ellen soon teams up with Marek, a young man who works at the school who is also talented in a different area—music, though he hides it from the people at the school. Marek uses music as a way to rescue a fellow Jewish musician, Isaac Meierwitz, out of a labor camp. Marek joins with another colleague as they drive around the countryside pretending to be collecting folksongs as a cover for their real mission of trying to locate Isaac. Ellen also plays a part in this rescue by hiding him temporarily in the school kitchen as a staff member helping her with her culinary masterpieces. Ultimately both Ellen and Marek work together to get Isaac completely out of the country, but it was their art that helped this man escape. These two characters loved the art they engaged in, but when the time came to use it to do something real and helpful for someone else, they wrapped themselves in their art to embrace the situations they are involved in. Culinary arts, ironically, are no longer a source of escape for Ellen, but a way to actively help another person escape, literally, from a horrific existence in the labor camps. She and Marek both make the decision to no longer hide their talents or use them to hide from the world, but to make a difference in that world.

War and its effects on young adults in the United States is the subject of Sherry Bunin's *Dear Great American Writers School*. Bobby Lee Pomeroy finds an advertisement in a magazine for this particular writing school, and she begins writing letters to the school explaining her interest in the school, but also speaks of her lack of money to make the payments. Little does Bobby Lee know that she is going to engage in a written relationship with someone who does not write back. In her letters, Bobby Lee writes about all the happenings of the town and people in her town, including her next door neighbor who loses a son to the war. World War II seems far removed from her small Kentucky home, but the war finds her even there, and she has to come to grips with the effects of war, even though she is not directly involved. She writes about this experience to her "pen pal," and it is through her writing readers are able to see the effects war has on people halfway around the world, but also how these events bring about a change in young adults. Bobby Lee chooses an act of kindness by making something to eat for the lady who has lost her son. By speaking with her, the effects of war become tangible, and Bobby Lee does not scurry away from them. Instead she stands and faces them, writes about them, making them meaningful for herself.

CONCLUSION

Young Adult literature has brought us many great books, and the authors do not shy away from reality that war affects young adults. Instead these authors allow their characters to assert their reality through the use of art forms and make decisions as to how they will follow through. In each instance, art is a medium that helps the character to take action, make decisions. They show modern young adult readers that young adults can make decisions and follow through in ways that may positively affect understanding of their own reality. Liesel looks at the world through books, and Max uses that to help her realize their situation, but also to help her decide what she thinks of it and the role she would like to play. Lina presents us with a young adult character who even under great pressure to help her family survive uses her art form to make sense of the reality she is living in, but also to make a decision as to the course of action she will take: give in to the situation or make it her own. Ellen and Marek use culinary arts and music to open their eyes to the world war going on around them, but also to decide to use their arts to help another human being. Finally, Bobby Lee is a character who comes to terms with the changes going on in the world around her, and she decides to take it head on as opposed to running and hiding in the arms of her parents; she embraces it and finds a way to give voice to it through the written word. They are very different characters experiencing different situations, but all asserting and acting through art in the face of seemingly insurmountable odds. The art forms take many shapes, yet the outcome is the same: assertion and action, empowerment rather than escapism.

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UNDERSTANDING COLLEGE STUDENTS' FACEBOOK USE: COMMUNICATION PRIVACY MANAGEMENT AND RELATIONAL SATISFACTION

by IRENE PERALES

ABSTRACT

Recently, social media websites such as Facebook have seen a rise in popularity among college students. As these websites rise in prominence, so does the amount of private information shared by individuals on these websites. Much research has been conducted on the professional consequences of disclosing private information on Facebook, but little research has focused on the relational consequences of these disclosures. The present research was conducted to determine the types of private information that college students disclose on these websites, the ways that their friends/loved ones respond to these disclosures, and how these disclosures and the friend/loved one's responses impact college students' perceptions of relational satisfaction. Communication Privacy Management was used to understand the data collected in this study. Three types of disclosures emerged: Relationship Conflict, Judgment/ Opinion, and Comfort-Seeking. Four types of responses from relational partners also emerged: Tension, Support, Dissolution, and Resolution. Ultimately, this study reveals that college students view the private information they disclose on Facebook as being owned by them and expect for their friends/loved ones to support their posts or refrain from commenting. When loved ones support their posts, they feel higher relational satisfaction than those who end the relationship based on the information that was posted. An extension of CPM's concept of boundary turbulence is thus provided and is termed relational turbulence.

It is apparent that America's fascination with computer-mediated communication (CMC) is a national pandemic. With the recent rise in popularity of social media websites, such as Twitter, blogs, YouTube, and Facebook, many Americans willingly divulge the once private or mundane into the public sphere. The social media forerunner, with over 500 million users, is Facebook and according to comments made in an article by Mui and Whoriskey (2010), "Facebook pushed past Google to become the most popular site on the Internet" (n.p.). The authors further describe this method of communication as an, "ongoing shift in the way Americans spend their time online" (n.p.).

With people increasingly spending their time with social media, it only seems fitting that negative coverage regarding this method of communication
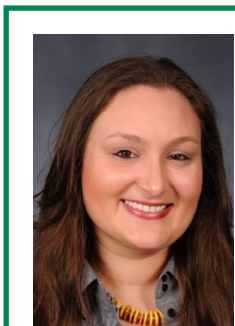
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would also surface. For example, one story tells of an election worker being fired for remarks that she posted on her Facebook page. When she was at work, she overheard a voter talking to someone else about the way he voted (Democratic or Republican); because of what she overheard, she assumed that she knew whom this individual voted for in this specific election. She then proceeded to divulge on her Facebook who this individual is and whom she "assumed" he voted for. According to Troy (2010), a county investigation was brought about because of this woman's Facebook posting, and resulted in a unanimous vote to dismiss the worker of her position on the grounds that she violated the board's ethics policy. The woman later commented, "I think it was a wrongful termination. I did not do anything wrong except for making stupid comments," (Troy, 2010).

Another example of someone being fired from their job because of a Facebook post is tied to an impulsive comment made in conversation through Facebook. The now unemployed individual feels she was wrongly let go by her company, and justifies her belief by stating, "it was a private conversation between me and another girl from work…it wasn't even intended for the person I was writing about to read it" (McWhirter and Cabrera, 2010). Interestingly, this article points out that the laws regarding communication on Facebook are not clear, especially where workplace matters, legislation, and responsibilities relating to this phenomenon are concerned. Further brought to light in the article is the notion held by some civil liberties experts, that there is a clear line between breaching conditions (e.g., posting company secretes) and expressing an opinion. Yet having said this, the article does not negate the fact that social networkers still need to be cognizant of the ramifications of their postings. While posters appear to feel comfortable posting private information on their Facebook pages, it is not without detrimental outcomes, such as those that occurred in the aforementioned cases. In the cases above, the nature of the posts and the fact that the individuals were surprised to be punished for these posts imply that Facebook users may perceive their Facebook as being a diary—a self-identifying extension that they own; it's "their" Facebook—and an outlet to comment, vent, or share their thoughts.

Nonetheless, while private disclosures on Facebook have been framed as negative by news media and other research, the researcher for the present study is interested in exposing college students' own reasons for this disclosure of information. Thus, the purpose of this study is to identify the types of private disclosures that college students share on Facebook, the impact these disclosures had on a particular relationship with a friend or loved one, and students' perceptions of relational satisfaction with this friend or loved one following the disclosure and response. Communication Privacy Management theory (CPM) will be used as a lens to make sense of the data (Petronio, 2002).

LITERATURE REVIEW

Disclosure on Facebook

College students' motives for using Facebook were examined by Sheldon (2008). The researcher applied Uses and Gratifications theory, as this theory states that motives, which differ among individuals, are guided by an individual's goals and then by the gratification received as a result of this action (Katz, 1959). Sheldon revealed the primary motive for Facebook use was to maintain existing relationships. This motive was achieved through Facebook behaviors such as posting on a wall, simple computer mediated communication (CMC) through Facebook, and/or staying connected through Facebook to someone who is otherwise difficult to contact. Demographics in this same study revealed that women sought Facebook for relationship maintenance more, while men were more apt to use their Facebook to scope prospects and establish new relationships. This study also addressed frequency in terms of how often participants logged into Facebook on a daily basis and exposed that 81 percent of total participants logged into Facebook on a daily basis (Sheldon, 2008).

Urista, Dong, and Day (2009) presented an exploratory study addressing motives for young adults' use of MySpace and Facebook. The researchers argued that young adults use MySpace and Facebook to satisfy needs; thus, they were interested in how they satisfy their needs using social networking. Results revealed a general consensus among participant responses that young adults rely on social networking for entertainment and to experience quick, convenient, and

specific communication connections with relationships for support and/or approval. One important point that the researchers make is that (on social networking sites) "an individual is able to produce content that fulfills his or her expectations as a consumer of media" (p. 2). In answering the "how" in how young adults use this media to fulfill their needs, the researchers posited that this is achieved through individuals exercising their freedom to respond or not; when and how to respond, and to satisfy their personal and interpersonal desires.

An interesting study by Ross et al., (2009), considers how the Five-Factor Model of personality relates to Facebook use. Yet, what is conveyed in the outcomes of this study revealed few significant findings in relation to the personality variables, so the researchers suggest that motivational factors and a desire for communication through seeking social support and entertainment are more useful in understanding Facebook. Furthermore, in a comparative study on Facebook and Instant Messaging, Quan-Haase and Young (2010) identified six key dimensions of satisfaction from Facebook: pastime, affection, fashion, share problems, sociability, and social information. In comparison, instant messaging is geared more toward relationship maintenance and development because of its ability to have more intimate involvement with contacts through sharing and discussing of problems. Incidentally, Facebook developed "Facebook Chat," in 2008, but Facebook also soon realized chat needed to be available everywhere. So, in 2010 Facebook integrated "Facebook Chat" with user's Web-based, desktop or mobile instant messaging products, making it easier for people to have more intimate conversations with their Facebook friends (Piantino, 2010).

Communication Privacy Management

The theory of Communication Privacy Management (CPM) argues that individuals are faced with a decision to conceal or reveal personal information to a friend or loved one due to a simultaneous need for privacy and openness (Petronio, 2002). Private information can be understood as the revealing of something that matters deeply to the individual. For example, political views, issues related to ethnicity and sexual orientation, and relationship issues may all be considered private information. CPM addresses the fact that once an individual decides to disclose private information they have now moved from being sole-owners of their private disclosure to co-owners. This is referred to as a collective boundary. Privacy rule characteristics are made based on culture, gender, motivation, context, and risk-benefit. A bad day at work or a huge relational conflict may motivate an individual to post on Facebook private disclosures pertaining to being underappreciated in a relationship or at work. The risk-benefit to such a posting can be perceived as low since the poster holds to the notion that the Facebook belongs to the poster. Rule based management is the careful decisions made regarding the private information. Boundary turbulence takes place when the rules of privacy management boundary come in conflict with expectations; for example, when an individual tells a "secret" or shares someone's private information without their consent (Petronio, 2002).

Where Facebook is concerned, however, the term "friend" is redefined. An "acquaintance," or someone who would not otherwise have personal access to an individual's private information, has become synonymous with "friend." A Facebook "friend" can be a face-to-face friend, coworker, family member, acquaintance, stranger, or someone whose feelings you did not want to hurt by denying their friendship request. Herein lies the problem. When an individual self-discloses on Facebook, their "friends" become co-owners of the disclosed information and the "friend" may not understand the poster's rules regarding boundaries for their comment. Therefore, a boundary issue arises because of how the receiver of the information chooses to respond or not respond to it. In the present study, the researcher uses CPM to make sense of the types of disclosures that college students make on Facebook and how college students feel about their personal relationship with the friend or loved one following response to their disclosure.

To further explore the type of disclosure that individuals feel comfortable sharing on Facebook, and the relational impact of these disclosures, the following research question is posed:

RQ1: What type of private disclosures do college students share on Facebook?

RQ2: What type of responses do college students report receiving following a private disclosure on Facebook?

Relational Satisfaction

As mentioned above, Facebook users are gratifying several needs by posting on Facebook. One of those needs was relationship maintenance. Research on the topic of relational satisfaction on social networking sites reveals those individuals using sites such as Facebook to maintain relationships stay in touch with weaker social ties, thus developing relationships that they would not have otherwise continued (Ellison, 2007). Furthermore, social networking sites increased the opportunity to keep tabs on current relational partners in romantic relationships (Utz & Beukeboom, 2010). Ultimately, Utz and Beukeboom's research concluded that people experienced more happiness than jealousy in response to their romantic partner's activities on social networking sites. It is also important to note that this study focused on low-self esteem and high-self esteem as a predictor for relational satisfaction. Individuals with high-self esteem experienced higher relational satisfaction with a lower need of online relational display. Those with lower self-esteem revealed more online relational display of happiness (idealized) but also experienced more jealousy if a partner posted something that thwarted this idealized image.

While many researchers have focused on the negative implications of disclosure on Facebook, the researcher of the current study theorizes that private disclosure on Facebook may have positive implications for individuals—specially, strengthening perceptions of relational satisfaction for those who disclose. Thus, the following research questions are posed:

RQ3: How, if at all, does the type of disclosure impact participants' perceptions of relational satisfaction?

RQ4: How, if at all, does the type of response elicited by the disclosure impact participants' perceptions of relational satisfaction?

METHOD

Pilot Study

Prior to collecting data for this research, I conducted a pilot survey with three individuals that were representative of my target participants. This pilot was conducted to test the length of time it took for participants to complete the survey, and ease with which participants understood the survey, and for general feedback regarding the wording of questions, etc. With the pilot survey, the researcher was able to identify that the criteria for participating in the research study was not explicitly clear to participants and could cause issues with completion rate and validity of the study. As a result, a specific criteria page was created and placed at the beginning of the survey to highlight the criteria for participation in the study.

Participants

Upon receiving approval from the Texas A&M University-Corpus Christi Institutional Review Board (IRB) procedures for data collection began. Participants were recruited using a variety of strategies, such as posting research announcements on campus and on Facebook, visiting professors' classrooms, passing out flyers, and word of mouth. The study consisted of a total of 45 participants, 33 female (73.3%) and 12 male (26.7%). Twenty five participants were between the ages of 18 and 21 (55.6%), nine were between the ages of 22 and 25 (20%), ten were between the ages of 26 and 35 (22.2%), and one was 35 years or older (2.2%). Participants were mostly classified as juniors (40%) and seniors (44.4%), but were also inclusive of freshmen (4.4%), sophomores (6.7%) and graduate students (4.4%). The ethnicity demographics revealed that participants were Caucasian (48.9%), Latino/Hispanic (35.6%), Asian (6.7%), Native American, Pacific Islander, and Other (each 2.2%). Most participants appeared to be familiar with Facebook, as they reported owning a Facebook account for one to two years (22.2%), three to four years (48.9%), and over four years (24.4%).

Data Collection

A purposive sample was used, as participants self-identified and volunteered to take a survey (Miles & Huberman, 1994). Participation in the study required

that the participant must be at least 18 years of age and currently have a Facebook page where they disclose personal information. Participants were given a unique hyperlink that directed them to the location of the on-line survey on the QuestionPro.com website. This survey consisted of a series of demographic questions followed by open-ended and retrospective questions (see Appendix 1). Questions were designed to elicit participants' reflections about a specific time when they shared a private disclosure on Facebook that somehow impacted their relationship with a friend or loved one. The average time for participants to complete the survey was 12 minutes. Participants were confidential and no identifying information was collected or linked to their answers through the survey. Participants took the survey on computers at their own personal discretion. The survey had a completion rate of 69.7%.

Instruments

In addition to open-ended questions asking participants to reflect on and describe a specific private disclosure they have made on Facebook and a specific "friend's" response to the disclosure, the survey included an instrument designed to understand relational satisfaction.

Relational Satisfaction

A modified version of Hendrick, Dicke, and Hendrick's (1988) 7-item Relationship Assessment Scale (RAS) was used. This measure is a Likert-type scale used to identify whether participants are satisfied with their relationships. Examples of questions asked are, "How well did this friend meet your need?" and "How good is your relationship with this friend compared to most?" Participants answered questions about their relationship on a scale from one (least satisfied) to five (most satisfied). Questions were changed from inquiring about a partner to inquiring about a friend. Past research has shown reliabilities for this scale at .86, .89 and .88 (Dinkle & Balack, 2005; Fischer & Corcoran, 1994). The reliability for this study was .91.

Data Analysis

Prior to conducting statistical analysis for this study, open-ended survey questions were coded. I conducted a close reading of the responses for the first and second research questions making note of specific statements that provided understanding of the participants' experiences (Creswell, 2007). During this close reading I specifically searched for instances that related to each other and formed a set of categories for the types of private disclosures made on Facebook and the types of responses college students reported receiving (*RQ1, RQ2*).

RESULTS

Types of Private Disclosure

The first research question for this study asked, "What type of private disclosures do college students share on Facebook?" Open-ended survey responses were coded and three themes emerged: Relationship Conflict, Judgment/Opinion, and Comfort-Seeking.

Relationship Conflict consists of messages that focus on conflicts the participant had with relationships, such as conflicts with family members or romantic partners. For example, one participant wrote about relationship conflict with her father; she was hoping to receive support from her Facebook friends, but her post ultimately resulted in additional conflict with another family member. The participant wrote,

> I wrote a status about a fight I had with my father so that I could get some support from my friends because some of the thing that were yelled at me were very hurtful. Not soon after, one of my uncles (who is an ugly drunk, might I add) berated me, called me every name in the book, and threatened physical violence towards me and my friends.

This participant was categorized as relationship conflict because the initial post was about conflict between participant and father and later even more relationship conflict arose between participant and her uncle, identifying the underlying theme as relationship/conflict.

Judgment/Opinion is operationalized as messages that consist of the poster's opinions or personal judgments of other people, issues, etc. For example, one participant wrote:

> I placed a political view of how I greatly disliked Mr. Obama. And a friend of mine loved him. It turned into quite a political debate.

This post was deemed Judgment/Opinion by the coder because the underlying theme is one of personal disdain (opinion) for an individual, which is based on a conclusion the participant made about an individual (judgment).

Comfort-Seeking was the final theme for the types of private disclosures shared by college students on Facebook. This theme is operationalized as individuals who post on Facebook specifically to receive comfort from friends and loved ones. For instance, one participant disclosed private information regarding an illness faced by a loved one. She stated,

> Once I posted a status about my father's cancer diagnosis. I informed my Facebook friends it had been deemed terminal and that they estimated my father had 6 months to live.

The underlying theme identified here is one of informing her audience to gather comfort about her loved one's situation.

Responses to Private Disclosure

The second research question for this study asked, "What type of responses do college students report receiving following a private disclosure on Facebook?" Open-ended survey responses were coded and four themes emerged: Dissolution, Resolution, Support, and Tension. Messages of Dissolution were when the participant expressed that their Facebook disclosure resulted in the termination of a relationship with a friend of loved one. For example one participant commented,

> We are no longer friends because she uses people.

The second category that emerged was Resolution. This category defines responses where the private disclosure resulted in some turbulence in the relationship, but was ultimately resolved. For example, on participant wrote:

> We didn't talk for months and I had avoided her and all of her calls messages and everything. After awhile she caught me in person and cried and apologized and said how very sorry she was and that she didn't want to lose her best friend over facebook.

The write-up was deemed as resolution because, although there was turbulence within the relationship,

they were ultimately able to move past it and remain friends.

The final theme was Support. Responses of support occur when friends "like" a comment, affirm the poster's feelings, or generally indicate that they agree with, like, and/or care about the poster. One participant wrote that disclosure:

> [This] brought out such kindness from people I go to school with that I do not know well. Had I seen them in the UC, I would never have randomly given them details like that, but in doing so on Facebook, it felt like I knew them better and had an idea of how kind they were.

Thus, the participant expressed an overwhelming response of Support from her Facebook friends.

Impact of Type of Disclosure on Relational Satisfaction

The third research questions asked, "How, if at all, does the type of disclosure impact participants' relational satisfaction?" To answer this question, a one-way ANOVA was run and revealed that the type of disclosure did not impact participants perceptions of relational satisfaction, $F (2, 31) = 2.46$, $p < .10$.

Impact of Type of Response on Relational Satisfaction

The final research question for this study asked, "How, if at all, does the type of response elicited by the disclosure impact participants' perceptions of relational satisfaction?" A one-way ANOVA was run and determined that the type of response did impact the participants' perceptions of relational satisfaction, $F (3, 30) = 12.39$, $p < .000$. Tukey post-hoc test were run and revealed significant differences between those who received responses of support ($M = 44.45$, $SD = 5.68$) and those who encountered dissolution ($M = 20.00$, $SD = 8.76$) of their relationship. No significant differences were found for messages of resolution ($M = 32.00$, $SD = 9.62$) and tension ($M = 30.18$, $SD = 10.21$). The means plot in Figure 1 illustrates the levels of relational satisfaction for participants who received responses of Dissolution, Resolution, Tension, and Support from their friends and/or loved ones on Facebook. Clearly, participants who received messages of Support had the highest relational satisfaction, whereby those who received messages of Dissolution had the lowest relational satisfaction.

FIGURE 1.
Mean relational satisfaction for response types.
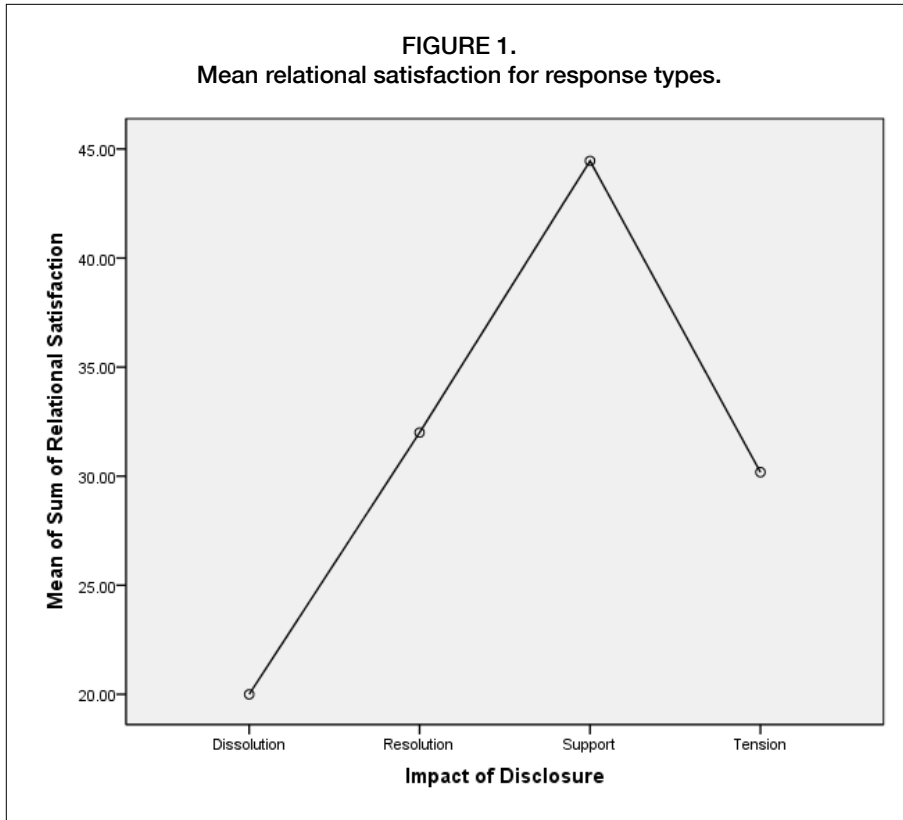
Furthermore, research questions two and three illustrate that although the type of disclosure does not necessarily predict the type of response that will be received (which makes sense, as some friends will support a comment and others will not); the type of response that a poster receives from a friend *will* impact their relational satisfaction with that friend. Those who receive supportive responses have the highest relationship satisfaction, whereas those whose relationships end because of the disclosure will have the least satisfaction with their relationship. Furthermore, those who receive messages of tension and resolution have only moderate satisfaction with their relationship, though not significantly different from the other types of responses.

DISCUSSION

Before this study, research regarding Facebook and college students' Facebook use seemed to focus more on the motives that guide an individual to use Facebook, and the negative consequences that disclosure on Facebook could have on the professional lives of those who post (McWhirter and Cabrera 2010; Troy, 2010). However, research also illustrated that one of the reasons that individuals use Facebook is to seek social support, which resulted in the basis for the present study.

In the present study, the researcher sought to look at the types of private disclosures made by college students, the responses college students received from a friend or loved one about this disclosure, and how these responses impacted their relational satisfaction with this friend or loved one. Research questions one and two resulted in three types of disclosures being identified: Relationship Conflict, Judgment/Opinion, and Comfort-Seeking, along with four types of responses: Dissolution, Resolution, Support, and Tension. These typologies indicate that some degree of relational turbulence occurs as individuals post information on their own Facebook page and receive responses from friends.

These findings align with Communication Privacy Management theory which concentrates on what happens to private information once it has been disclosed to another person and becomes co-owned. CPM typically focuses on boundary turbulence, which occurs when the co-owner discloses the information to another person without the original owner's consent (Petronio, 2002). However, the present study illustrates a new dimension to Communication Privacy Management theory. This concept may be termed *relational turbulence*. While the theory indicates that a person's private information may be compromised by boundary turbulence, the present study shows that a person's *relationship* may also be compromised by what they do with the information once they received it. However, in the case of the present study, the friend or loved one (co-owner) sharing the private information does not have as much impact on the relationship as the way the way they respond to the original owner about their private information. Thus, this new dimension state shows that the relational turbulence in CPM is primarily a result of the poster's preconceived expectations regarding the post on Facebook. Simply

said, "If you don't respond to my Facebook post the way I perceive you should then there will be turbulence."

In sum, the results of the research questions in this study imply that college students use Facebook as a diary. However, because of the nature of social media, this diary is essentially sitting out on the coffee table for anyone to see. While college students are comfortable with giving their friends access to viewing the content of this diary, they are not comfortable with anyone judging or disagreeing with their posts. They do not necessarily expect messages of support, but they expect dissenters to quietly continue with their lives, without posting their dissenting opinions on their personal Facebook page. Thus, individuals who received messages of support were more satisfied than those who had to explain themselves or argue with a friend over something private and personal that they posted on their own Facebook page. This may also illustrate that college students view the private disclosures they post as still being private and owned by them, even though it is posted in a public place. This is consistent with the points raised in various articles about individuals not understanding why they are being reprimanded for their Facebook behavior.

Limitations and Future Research

There were two main limitations to this research study. First, the number of participants served as a limitation. There were a total of 45 participants, so there were not many participants to distribute across disclosure and response types. Future research should be conducted with at least 350 participants to be able to protect the study from validity issues with Type I Errors.

Another limitation was revealed in the online survey, as participants were asked to choose *one* scenario when they privately disclosed information about one friend/loved one that this disclosure impacted their relationship with. Future research should use the typology developed by this study to serve as a basis for asking participants to select the various types of information they reveal on Facebook. This will give us a bigger picture concerning the types of information that college students disclose and how often they disclose this information.

APPENDIX 1.

The following survey questions will ask you about your motives for disclosing private information on Facebook as well as the type and amount of disclosures you participate in. You will also be asked a few questions about your friendships.

First please fill-out the demographic questions below.

Sex: Male or Female

Age:

Classifications: Freshman, sophomore, Junior, Senior, Graduate student, Doctoral student

Ethnicity: Caucasian, African American, Latino/Hispanic, Native American, Asian, Pacific Islander, Other

How long have you had an account on Facebook?

Now you're going to be asked a series of questions about your private disclosures. Private disclosures are defined as the sharing of personal information that you would normally only share with close friends and family. For the purpose of this study please focus on the private disclosures you have made on Facebook but would not normally share in a face to face conversation.

1. Reflect specifically on a time when you made a private disclosure on Facebook that somehow impacted your relationship with a friend or loved one. In the box below please describe the private disclosure you made.

Keep in mind your answer to question 1, now please select from the choices below the reason that best fits you and your reason for sharing this information on Facebook.
To get it off my chest
I felt comfortable sharing this information
To see what kind of feedback I would get

Briefly explain how your relationship with this friend or loved one was impacted by this disclosure.

2. On a scale of 1 to 7 how satisfied are you with the way that your friend or loved one responded to this disclosure with 1 meaning you are dissatisfied and 7 meaning you are more satisfied than in any other response.
Dissatisfied 1 2 3 4 5 6 7   Satisfied

How satisfied do you think you would have been if your friend or loved one had the ideal response?
Dissatisfied 1 2 3 4 5 6 7 Satisfied

3. Please indicate your reaction to the friend/and or loved one that you discussed in Questions 1. Choose the number that corresponds to your feelings. Note that in some cases the most positive score is "7" while in other cases it is "1"

How well did this friend/and or loved one meet your needs?
Poorly 1 2 3 4 5 6 7   Extremely Well

In general, how satisfied were you with your relationship with friend/and or loved one?
Unsatisfied 1 2 3 4 5 6 7 Extremely Satisfied

How good was your relationship with friend/and or loved one compared to most?
Poor   1 2 3 4 5 6 7   Excellent

How often do you wish you hadn't gotten in this relationship with this friend/and or loved one?
Never   1 2 3 4 5 6 7   Very Often

To what extent did your relationship with this friend/and or loved one meet your original expectations.
Hardly at all   1 2 3 4 5 6 7   Completely

How much do you respect this friend/and or loved one?
Not much   1 2 3 4 5 6 7   Very much

How many problems were there in your relationship with this friend/and or loved one?
Very few   1 2 3 4 5 6 7   Very many

4. In addition to the private disclosure you described above please select from the options below whether you regularly disclose the following types of information of Facebook.
Political views? Yes/No

If yes, how did this type of private disclosure affect your relationship with friends and/or loved ones on Facebook?
Negative   1   2   3   4   5   6   7   Positive

How frequently do you share this this type of information on Facebook?
Rarely 1   2   4   5   6   7   Frequently

Keep in mind your answer to question 4, now please select from the choices below the reason that best fits your and your reason for sharing this type of information on Facebook.
To defend my view
To attract others with the same view points
To gather support
To educate and/or clarify a particular stance
To sway others to my views
Other

5. Please select from the options below whether you regularly disclose your sexual orientation on Facebook?   Yes/No

If yes, how did this type of private disclosure affect your relationship with friends and/or loved ones on Facebook?
Negative   1   2   3   4   5   6   7   Positive

How frequently do you share this this type of information on Facebook?
Rarely 1   2   4   5   6   7   Frequently

Keep in mind your answer to question 5, now please select from the choices below the reason that best fits your and your reason for sharing this type of information on Facebook.
I felt the timing was good
It is easier to disclose this type of information on Facebook
To attract others with the same interest
I just wanted others to know
Other

6. Please select from the options below whether you regularly disclose your ethnicity and/or cultural background?   Yes/No

If yes, how did this type of private disclosure affect your relationship with friends and/or loved ones on Facebook?
Negative   1   2   3   4   5   6   7   Positive

How frequently do you share this this type of information on Facebook?
Rarely 1   2   4   5   6   7   Frequently

Keep in mind your answer to question 6, now please select from the choices below the reason that bestfits you and your reason for sharing this type of information on Facebook.
Because I am proud to share this information about myself
To start an activist and/or civil rights group
To get others reactions
To just let it be known
Other

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WORKING IT OUT: THE EFFECT OF EMPLOYMENT ON COLLEGE STUDENTS' ACADEMIC PERFORMANCES

by BRITTANY STOKER

ABSTRACT

The purpose of this study is to explain the effects that working has on full-time college students' academic performance. Mixed quantitative and qualitative methods including surveying and interviewing were used to examine this relationship. Results support the concept of a threshold: working may actually be beneficial to students' academic performances until that work surpasses a manageable number of hours. Once a manageable number of hours are surpassed, stress levels tend to increase. Additionally, intrinsic values such as motivation may explain more of the relationship than actual number of hours worked. Overall, the majority of respondents indicate that work negatively impacts their academic performances, increases stress levels, and takes away from studying time. The quantitative and qualitative results reaffirm one another in most cases. This research may prove useful for universities hoping to better understand and accommodate their student populations for enrollment and retention purposes.

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INTRODUCTION

> "I just can't keep doing this. If I work full time, my grades suffer. If I don't work full time, how can I support myself and go to school?" – Mark

Finding a balance between working and other aspects of life is something that most people face daily. But what happens when we are forced to choose between work and our education? Studies show that education and training are the most important investments in human capital (Becker 1992). Ultimately, how does attempting to work while pursuing higher education impact one's academic performance?

Scholars have examined multiple aspects of academic performance at different stages in the education system. Here, I will discuss literature focusing on the relationship between employment and academic performance. While I am examining this relationship at the college level, much of the research discussed below examines this relationship at the high school level. It is necessary to examine such research because the majority of college students enroll as first time freshmen out of high school. Therefore, the transitional time period is usually brief, and should be taken into consideration when examining the outcomes of this

research: do the results yielded from college students support or contradict prior findings for high school students? Any observed deviations from past results can then be examined.

LITERATURE REVIEW

Several factors can affect a student's academic performance in various educational settings. Research involving high school students shows that working often improves academic performance—in terms of grade point average—as these teens outpace their non-working peers (Johnson and Mortimer 1998). This experienced benefit may be because working helps students learn time management strategies and responsibility. According to Ackerman and Gross (2003), time pressure (e.g. feeling pressured due to perceived scarcity of time) is least present for tasks that individuals "need" to do (like work).This supports the idea of work (a "need" to do task for most) fostering beneficial time-management skills versus creating time pressure consequences due to a perceived lack of available time. Other research on working teens, however, shows the potential negative outcomes for working: some teens who work show an increase in "money-related deviance." For example, working teens may drink more than their nonworking peers due to having extra spending money (Marsh, 1991).

However, not all working teens experience increased deviance. Studies have shown that work itself may not be the cause of deviance or poor academic performance; rather, endogenous factors such as perceived control over time-management tend to have the most predictive ability in terms of academic performance. Students who perceived control of their time reported significantly greater evaluations of their performance, greater work satisfaction, less role overload, and fewer job-induced tensions (Macan et al. 1990).

Other studies have also found that individual student perceptions can shape how work experiences will affect academic performance. In one qualitative study, three distinct trends were observed regarding how high school students perceived work. First, working may enhance students' commitment to school if they believe school and work both prepare them for the future in similar ways. Experiencing the demands of work therefore validated the demands of school

in students' minds. Secondly, some students found their jobs to be so unpleasant that they served as warnings tostay in school. Even if school was bad, the type of work available without an education was worse. This experience reinforced students' determination to stay in school.Thirdly, other students affirmed that work and school aresometimes interesting and enjoyable (Briggs and Stern 2001).

In the realm of higher education, working while completing college coursework inevitably impacts academic performance, but the extent of such an impact has not been thoroughly examined. Little research has been done qualitatively (Curtis and Lucus 2003) to determine how working college students manage work and school and how it affects their academic performances. More importantly, such issues have not been addressed through use of multiple work brackets to assess differences not only between "part-time" and "full-time" work, but also among smaller hourly subgroups within each of the former categories.

In our currently volatile economic situation, it is likely that the percentage of students working at least part time while taking courses will increase. Therefore, it becomes increasingly important for institutions of higher education to understand the needs of the working population of students. Potential methods for addressing the needs of working students include offering high-demand courses at multiple times to accommodate the schedules of working students, increasing the number of night classes offered, and determining an effective homework load. Specifically, the state of Texas has recently imposed budget cuts for institutions of higher education. In order for colleges such as Texas A&M University—Corpus Christi to seek increased budget allotments, retention and enrollment rates must increase. To reach these goals, it is invaluable for such institutions to understand the populations they seek to recruit.

For these reasons, this research makes both theoretical and practical contributions. By focusing on this largely unexamined population, we can determine if trends occurring at the high school level continue or are altered at the college level. This serves not only to increase our scholarly understanding of this relationship and fill a gap in the literature, but also to provide a practical

knowledge of working students for universities that seek to serve them. A better understanding of working students may allow universities to be more actively involved in ensuring student success and achieving a balance in terms of funding options, course availability, and distance learning (online course) offerings.

METHODOLOGY

Research Design

This research project seeks to explain the effects that working has on full-time college students' academic performance. To examine this relationship, survey, and interview methods were used.

Sample

A voluntary sample of eight students was selected to participate in in-depth interviews. Supplementary quantitative data was collected through surveys: a separate sample (129 volunteers) was determined from undergraduate students 18 years or older who were enrolled full-time during the Spring 2011 semester at Texas A&M University—Corpus Christi and who also worked during that semester. No participants were excluded on the basis of age, race, religion, etc. However, because this sample was taken from one institution, it has a smaller degree of variation. For instance, the vast majority of respondents were either White or Hispanic, either Protestant or Catholic and were enrolled as juniors or seniors. Although the sample leans toward homogeneity, it does reflect the overall demographics of the university's student population: though white students form the majority, as a Hispanic Serving Institution, we have a high percentage of Hispanic students. Because race and religion are often connected through culture, it is also expected that the majority of the population identifies as either Protestant or Catholic, which is reflected in the sample.

Procedure

I divided the sample into brackets based on the number of hours worked per week (e.g. less than 10 hours, 10-19 hours, 20-29 hours, 30-39 hours, 40 or more hours) during the Spring 2011 semester. Data was collected through multiple choice, Likert-scale, and semantic differential question formats. Questions involved anonymous self-report of the number of hours worked and perceived effects of work on academic performance. I assessed the data for trends regarding perceived academic performance and number of hours worked as well as type of work performed.

Measures

Qualitative data collected from the interviews was assessed through Atlas.ti to identify trends regarding the work-education relationship through coding methods (e.g. marking each time work was referred to negatively or as a burden). Survey data was analyzed through SPSS to determine if certain work brackets have stronger relationships with academic performance and stress than others. I also examined possible connections between work and stress levels in terms of religion, sex, age, and whether the respondent's income was the primary source of income for that household. Because these variables are nominal and ordinal, Chi Square tests, T- tests, and ANOVAs were used.

For Chi Square tests, a minimum of five cases must be present for each category/ variable. For example, there must be at least five females to examine differences in male and female responses. Because of this requirement, some categories have been collapsed together or removed during the analysis. Such changes are discussed in the findings section.

DATA ANALYSIS

I expected to see an inverse-U relationship: moderate levels of work should have a positive relationship to academic performance whereas low and high levels of work should have a negative relationship to academic performance. Specifically, I expected the 30-39 and 40+ hours worked brackets to have the strongest negative relationships. Lower work brackets may actually have a positive relationship with academic performance because moderate levels of work are connected to development of time-management strategies, which allows students to budget time between work and academic efforts. Past research shows that time spent working and time spent studying have no direct relationship to academic performance (Hudson and Nonis 2007).

One explanation is that regardless of the amount of job-related work, academic performance is more influenced

by endogenous factors regarding academic work (Stinebrickner and Stinebrickner 2003). I attempted to control for these endogenous effects by including interview questions concerning personal motivation, time spent studying, and frequency of procrastination. Examining these factors allowed me to see if the relationship between work and academic performance occurs spuriously. I also expected data collected from the interviews would provide specific examples that affirmed findings from the surveys. I did not expect conflicting findings.

FINDINGS

First, I will discuss some of the general frequencies for the quantitative data (surveys) on the Likert scale responses. My research question was: does employment affect the academic performance of full-time college students? In this case, I examined perceived effects (i.e. if the student "felt" that work impacted their academic performance). From 129 responses, 41% agree or strongly agree that working negatively impacts their academic performances, 23.3% remain neutral, and 35.7% either disagree or strongly disagree. In terms of stress, the majority of responses indicated a stress level of either 7 or 8 (each category represented 28.1% of total responses for a combined 56.2%) on a scale from 1 to 10 with 1 representing "no stress at all" and 10 representing "highest possible level of stress." When asked if work took away from studying or homework time, 46.5% of respondents either agreed or strongly agreed while 23.3% disagreed or strongly disagreed.

In each of these cases, the majority of responses affirm the hypothesis that work negatively impacts academic performance (by directly indicating the perception of a negative impact, through increased stress levels, and due to the loss of study/homework time). However, the same 129 respondents were also asked if they agreed with the statement "Working taught me time management skills that benefit my academic performance." Despite the fact that the majority of responses indicated a negative relationship between work and academic performance, 42.6% still either agreed or strongly agreed that working did teach them valuable time management skills.

Overall, these results contradict findings in past literature. This could be for several reasons. First, there was little available research involving college students

and working, and much of the available research was not recently (in the past decade) published. Also, most research efforts examined were at the high school level; therefore, it is reasonable to expect some changes from one level of education to the other: priorities and opinions may change with age.

Surprisingly, few significant relationships existed among the demographic characteristics (age, sex, religion, race, student status). Because the other racial groups did not have a statistically significant number of respondents, only comparisons between whites and Hispanics were made. Similarly for religion, only comparisons between Protestants and Catholics were made. For example, there were no significant relationships between race or religion and the number of hours worked. Only one freshman response was obtained regarding student status and is excluded because of the lack of other responses in this category (specifically, not meeting the five case minimum required for Chi Square tests. Student status and the number of hours worked do not have a significant relationship. Age and gender also yielded no significant relationships.

While there may not have been significant relationships amongst different demographics, there were significant relationships overall in terms of the average number of hours worked per week and reported stress levels. This data is presented in Table 1 below.

TABLE 1. LSD multiple comparisons for hours worked and stress scale

(I) hours	(J) hours	Mean Difference (I-J)
less than 10 hours	10-19 hours	-1.616[*]
	20-29 hours	-1.321[*]
	30-39 hours	-1.593[*]
	40+ hours	-1.875[*]

*Significant at the .05 level (p<.05)

Table 1 shows a comparison of the mean difference for responses based on the number of hours worked when comparing reported stress levels. In each case, a significant relationship exists; those who worked less than ten hours per week on average reported having a lower stress level on the stress scale than all other categories. As the number of hours worked per week increased, so did the corresponding stress level.

Qualitative findings seem support most of the quantitative findings. This absence of high stress levels for low working hours is reflected in themes from the interviews. Jane summarizes this point nicely:

> "You know, I've worked up to thirty hours a week before. And for me, that's when I realized, look, I just can't do it. I mean, this is too much. But now, I don't work more than ten or twelve hours a week, and I feel like I've found a balance between school work and my job. They don't really stress me out as much anymore."

This quote represents a theme prevalent throughout most of the interviews. Many students discussed the perceived need to adjust their hours in order to make school and work manageable without negatively impacting each other. This supports the idea of a threshold for work before it yields negative consequences for academic performance. For these students, working was not a dichotomous, employed or unemployed issue. The determining factor may actually be the number of hours worked.Although working more hours per week may be a detriment to academic performance, available research does not seem to support this finding. Strauss and Volkwein (2002), reported that working more hours per week positively related to a student's GPA. However, this quantitative research did not include information about the type and complexity of work, if the work related to the academic field/ major, or if the work served as a primary source of income. These factors, as well as individual sentiments towards work, may change the impact that the number of hours worked has on academic performance.

While some students like Jane are able to adjust their hours to fit school schedules, some individuals can't afford the luxury of only working part time. Caleb lives independently; he moved out from his parent's house after graduating from high school and supports himself financially:

> "For me, you know, I gotta work unless I wanna live with my mom again. So since I moved out, I've been working forty hours a week or more. Like, I get some financial aid, but I gotta cover the rest myself. Plus rent and bills…it adds up. And yeah, I just don't feel like doing school stuff when I get out sometimes. I'm too tired. "

Today's standard of living combined with the effects of a suffering economy may make living independently for college students more difficult. Students are faced with either living with their parents rent-free or living independently and having to work to make ends meet. This choice may already be made for students who choose to attend a college out-of-state or too far away from a family residence. In this case, students are in a double bind between choosing the college of their choice and determining how to make it financially while in school.

CONCLUSIONS

Overall, my quantitative (survey) and qualitative (interview) results are mixed with a tendency toward viewing work as having a negative impact on academic performance. Despite the findings that work hurts academic performance, increases stress, and limits study time, results also show that many students value the time management skills attributed to working while going to college. The interviews provided trends focusing on the difficulties of working while being enrolled full-time, but also reflected on the necessity of and benefits from working. While the general consensus is that work is stressful, most seem to view it as a necessity.

While it may initially seem that these findings contradict available literature, it may be more an issue of teasing out the details of a relationship through the use of qualitative methods. The majority of the research that reports findings contradictory to mine used quantitative methods only. By using a mixed-methods approach including interviews, researchers are able to create a more vivid picture of the relationship being studied. In my case, the interviews provided personal, thorough accounts of how working impacts not only their academic performances, but their lives daily. If more

researchers made use of mixed-methods approaches to research, we may find that previous assumptions are altered or perhaps reversed. It is possible for the dynamics of such a complex relationship to be lost when only analyzing reported numbers; interviews allow us to glimpse how this relationship exists in a much more tangible way.

LIMITATIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This research was to be completed in less than four months. The brevity of this timeline was compounded by complications with the Institutional Review Board that delayed the commencement of research activities for several weeks. Also, delays in shipping of required audio equipment limited the time available for conducting, transcribing, and analyzing interviews. Because of these complications, estimated sample sizes for both surveys and interviews were reduced. In the future, I would like to expand upon this research by increasing the sample sizes. A wider range of survey questions should also be used to strengthen the analysis. Additionally, expanding future timelines will allow adequate time to fully code and analyze interviews.

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ASSESSING BP OIL SPILL IN DEEP SEA SEDIMENTS

by TRAVIS WILSON

INTRODUCTION

It is important to understand how data is collected and studied to provide insight into the health of the environment we live in. According to BP's website on April 20, 2010, the oil rig Deepwater Horizon was damaged by an explosion and eventually sank, leaking hydrocarbons into the Gulf of Mexico for 87 days (Deepwater). Accidents like this massive oil spill at the site of the Deepwater Horizon drilling platform are going to happen, so it is necessary to establish a means of evaluating the impact of large scale environmental disasters. One such means of evaluation is to analyze density and diversity of bottom-dwelling organisms (called benthos), and compare results from different areas that vary in distance from the site in question. The amount of organisms in an area from the ocean floor to the surface would be nearly impossible to calculate due to their natural movement and finite resources.

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This can be overcome by narrowing the focus to the relatively stationary benthic organisms, such as worms, crustaceans or clams. Through this type of research, it is possible to determine the impact of this oil spill.

Benthos is defined as "organisms that live on or in the bottom of a body of water" (Benthos). This is a broad classification, so for this discussion focus will be given to benthos that fall under the categories Polychaeta, Crustacea, and Mollusca. Tom Garrison, a professor of Marine Science at Orange Coast College and author of the text book *Oceanography: an Invitation to Marine Science*, describes polychaetes as "the largest and most diverse class of annelids" (Garrison 410). These worms are segmented with setae, or bristly projections, on each body segment aft of the head. They may live in a wide variety of tubes or roam freely to find food. Diet for these worms ranges from sediment to live prey (Garrison 410). Crustacea are more familiar than polychaetes outside of the scientific community possibly because of their common availability as a food source. This is a large class with roughly 30,000 species including shrimps, crabs, and lobsters (Garrison 415; Montagna). Like other arthropods crustaceans possess an exoskeleton, a strong light form of muscles, and jointed appendages that "may be specialized for sensing, food handling, walking, fighting, defense, and so forth" (Garrison 414-415). The phylum Mollusca contains a

diverse range of species including clams, snails, squid, and octopuses. Mollusks characteristically have well developed nervous systems, flow-through digestive tracks, and are bilaterally symmetrical (Garrison 411).

Benthic organisms are not as well-known by the general public as larger charismatic species such as marine mammals, so it is important to understand why Benthos are used as bio-indicators. If a report was released on the evening news declaring that dolphins were being affected by oil the public outcry would be much louder than the same report based on tiny polychaetes. One must remember that analysis of this environmental disaster is not geared towards swaying public opinion, but aimed at informing decision-makers and the academic community. Dr. Paul Montagna, the Endowed Chair for Ecosystems and Modeling at Texas A&M University – Corpus Christi, stated that "The bottom is the memory of the ecosystem" (Montagna). The majority of non-living matter in the ocean will eventually settle on the ocean floor, so this statement points out the important concept that the sediment and organisms making the ocean bottom can provide information on present and past ecosystem health. Any toxins present will accumulate on the sediment surface that these benthos use for food and habitat, so they are especially important in understanding the impact of man-made disasters. Other research shows that the extinction of some benthic organisms can affect sediment bioturbation and aquatic communities in whole (Martin). These points all illustrate how these tiny animals are of fundamental importance for their ecosystems.

Collecting benthic organisms can be done in a variety of ways. In the shallow bays of Texas' coast organisms can be collected in core samples from a small boat. A long pole with a tube attached can be manually pushed into the sediment. The water pushed in with the sediment easily escapes through a one-way valve located at the point the handle and the core tube makes contact. In this process only the first 10 cm of sediment are retained for analysis. In deeper water the process and equipment are different. Garrison says that early scientists used wax and weights to collect sediment samples, but he says little about them collecting benthos at extreme depths (Garrison 147). Today, sediment and organisms can be taken from great depths using clam-shell samplers

or piston corers. Clam-shell samplers act like giant jaws taking a big bite out of the ocean floor (Garrison 147). Garrison describes the piston corer as "a device capable of punching through as much as 25 meters of sediment and returning an intact plug of material" (Garrison 148). This is far more material than is needed for benthic analysis, but the remaining core can be used in other types of research and the remarkable depths the piston corer samples make it an important tool for studying geology.

When collecting samples for environmental impact research, sampling site location becomes important to the research. When a specific site is in question a bulls-eye sampling design can be used. In this sampling scheme cores are taken from multiple locations at a set distance from the point of origin and this is repeated outwards at several distances resulting in what looks like a bulls-eye (Montagna). Then, the cores are analyzed in a laboratory setting. This is a time consuming process that would be nearly impossible without the Taxonomic Guide to the Polychaetes of the Northern Gulf of Mexico. This report was published in 1984 and is still used to identify the majority of polychaetes all over the Northern Gulf of Mexico. Once they are sorted and identified they can be counted to establish diversity and density or weighed for biomass data.

METHODS AND MATERIALS

For this research project core samples taken during September and October of 2010 from varying distances from the Deepwater Horizon oil spill site, were analyzed and compared to establish an estimate of the oil spill's impact. The core samples were taken at set distances from the oil rig's previous position in a bull's eye pattern. They have been properly preserved and labeled with information pertaining to location, date, and core sediment depth. For this project only the sediment depths 0-5 cm and 5-10 cm were analyzed.

The first step in this analysis was to "wash" the samples, which is a process to remove mud and leave behind only calcareous sediment and the preserved organisms. As mentioned above, Dr. Montagna has an extensive set of benthic collections from the Texas coast. All of these bay and estuary samples have been washed through a 0.5 mm mesh sieve. However, it is thought that deep

sea benthos are smaller than coastal benthos. So, there is a concern that using this sieve size would miss many organisms. The main goal of the current study was to compare the standard 0.5 mm (500 μm) sieve to a smaller 0.3 mm (300 μm) sieve to determine which sieve size is the most appropriate to use for deep sea assessments.

The organisms were sorted using a dissecting microscope and identified down to the family level. The identifications often required using a compound microscope. Once they were sorted and identified they were counted to establish density and calculate diversity. The Shannon-Weiner Biodiversity Index (H') was calculated to establish a consistent picture of diversity. The equation used to calculate this measurement was $Diversity = -[\sum(pi)\,(\ln pi)]$. $Diversity = -[\sum(pi)\,(\ln pi)]$.

RESULTS

In Table 1, the data measured is presented for each station sampled. The data is presented for each of the sieves used, and then the total number found on each sieve is added to get the total number. The station FF005 has the highest number on the Shannon-Weiner Biodiversity Index. On average 46 organisms were found on the 300 μm sieve and 52 organisms were found on the 500 μm sieve. Thus, adding the 300 μm sieve increased the total density by 47% over the 500 μm sieve. The average total for both sieves was 98.2 organisms per sample, and the average diversity was 2.58 Shannon-Weiner diversity units.

DISCUSSION

It shows in Table 1 that using a small sieve is very important to understand the full impact of the oil spill. If we use the standard 500 μm sieve then we will miss 47% of the organisms. This line of evidence shows that deep sea animals are much smaller in size that coastal animals. Why is this so? It is likely that the reason deep sea animals are smaller is that there is less food in the deep sea. Perhaps these animals are food limited?

The extent of the impact of the massive oil spill is still unknown. This study is only a subset of a much larger study of 68 stations, compared to only the 5 analyzed here. But, the current study shows that it is highly likely that the benthic assessments used here will be successful at determining the impacts of the oil spill. There are other important questions. Did a large amount of oil settle in low spots on the ocean floor causing stress to the organisms there? Was the sample area too large or small to establish a line where organisms were obviously affected? Was sampling several months after the spill too short of a time period to establish the temporal extent of impact? A research vessel went to sea in the summer of 2011 and returned with core samples that held data describing what has happened on the Gulf of Mexico's floor over the past year. Analyzing these core samples with the new questions in mind, along with the original one could bring everyone affected by this disaster an answer of how widespread the oil spill truly is.

TABLE 1. Number of Individuals Present and Diversity

Station Number	300 μm Sieve	500 μm Sieve	Total	Diversity (Shannon-Weiner H')
FF005	59	48	107	2.86
FF004	33	93	126	2.75
FF003	96	79	175	2.60
D004S	23	16	39	2.14
D015S	19	25	44	2.57

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TEXAS A&M UNIVERSITY-CORPUS CHRISTI
A BRIEF HISTORY

Texas A&M University – Corpus Christi began in 1947 as the University of Corpus Christi (UCC) which was affiliated with the Baptist General Convention of Texas. In 1970, Hurricane Celia causes more than $1,000,000 dollars in damage to the campus. In 1971, the Baptist General Convention of Texas sold UCC to the state of Texas and the Texas Legislature authorizes the Texas A&I University System to establish a state-supported upper-level institution of higher education in Corpus Christi. In 1973, Texas A&I University at Corpus Christi opens its doors on 4 September 1973 to 969 students as an upper-level institution of higher education. In 1977, the Texas Legislature changes the name of the University to Corpus Christi State University. In 1989, Corpus Christi State University joins the Texas A&M University System. In 1993, the Texas A&M University System Board of Regents renames the institution Texas A&M University – Corpus Christi and a year later it becomes a four-year comprehensive university and enrollment increases to 5,000 students. In 2004, the Board of Regents approves the College of Nursing and Health Sciences which opened in 2005. In 2005, Dr. Flavius Killebrew becomes President/CEO and initiates Momentum 2015, a ten year plan to establish Texas A&M University – Corpus Christi as the flagship university of South Texas. Today the University has over 10,000 students.

Today Texas A&M University – Corpus Christi is not only a proud member of the Texas A&M University System but it is also the premier public university in the region and is currently the only university in the United States to be situated on an island. Texas A&M University – Corpus Christi is currently a member of the Southland Conference under the NCAA division I.

All information on this page can be found at http://www.tamucc.edu.

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