

## 2008 ABSTRACTS

### **Keynote Presentation**

#### **The End of Study**

Dr. Scott Huelin

Assistant Professor of Humanities, Christ College

Professor Huelin received a B.A. in Interdisciplinary Studies and an M.A. in Comparative Literature from the University of North Carolina at Chapel Hill and a Ph.D. in Religion and Literature from the University of Chicago. His research interests include literary theory; biblical hermeneutics; the history of Christian theology, ethics, and spirituality; and classical, medieval, and Renaissance literature. His published essays and book reviews have appeared in *Literature and Theology*, *Religion & Literature*, *Christian Scholar's Review*, *Christianity & Literature*, *Christian Reflection*, *Journal of Religion*, the *Cresset*, and the *Journal of the National Council of Honors Colleges*. He has recently completed a book on the ethics of reading entitled *The Reader's Odyssey: A Hermeneutics of Hospitality*.

Valpo CORE Reader

Joseph Goss, Editor

Valpo CORE Reader features some of the best writing done from the previous year, highlights models of the kinds of writing students will be doing in the current year, and perhaps most importantly, invites additional ways of thinking about our texts.

The idea of research is closely related to one of the best aspects of a portfolio writing course – its emphasis on revision. Revision, like research, implies work over time, and most of time, "seeing again" and "searching again" takes place through dialogues with others. One of the larger papers which involves both re-searching and re-visioning is the "worker profile," an ambitious paper in the second semester involving interviews and contextual framing.

You might notice that many of these essays address the idea of vocation or calling in the lives of the authors or their subjects. It is intentional. We have been given permission to devote some serious thinking about the spiritual world of vocation and how first-year students think about their place in that world. We are grateful to participate in the Celebration of Undergraduate Scholarship.

Contributing Authors:

Emily Adams, Evan Akers, Benjamin Barnard, Ashley Berg, Cristina Camacho, Anne Ferringer, Alysse Foster, Kara Griffiths, Eric Gutierrez, Bailey Holloway, Ben Holse, Jackie Kondratko, Tim Krieg, Mike Lanzerotti, Tony Martinelli, Jacob Roshanmanesh, Laura Stange, Aaron Stevens, Kirsten Swanson, Sarah Tesch, Laura Wagoner, Rachel Williams, Ethan Zillinger, Emily Zitnik

"Safe Kids Buckle Up" National Bateman Competition

Sarah Adams, Kendal Ahlmann, Peter Berg,

Katie Davis, Katie Lindahl

College of Arts and Sciences

As the leading cause of death for children three to fourteen years old, motor vehicle crashes have a 56% fatality rate for those not wearing seat belts. It is an obvious issue with alarming statistics that need to be heard by all publics.

Public relations campaigns have a significant role in the information that is distributed to the variety of publics in our country. This research stressed the importance of safety belts for everyone, with an emphasis on the eleven to fourteen year old age group, at all times while riding in a motor vehicle. The ability to reduce these fatality rates is extremely plausible. However, there remains much struggle in persuading many of the huge impact seat belts will, and do, have on their lives.

The results discovered that seat belts save over 11,000 lives a year, and yet there are numerous people who still do not take the two seconds to put them on. As the campaign team discovered in our trips to the Boys & Girls Club and YMCA's in the region, there are children who are never required to put on their safety belts when in moving vehicles. These young people have the mentality that seat belts are just an uncomfortable waste of their time. Though it is unrealistic to believe deaths will no longer be a result of motor vehicle accidents if everyone were to wear seat belts, the current death rate would decrease by a significant amount. The research established that the message "seat belts save lives" needs to continue to be told. There is no harm in continuing to stress the life saving importance of safety belts.

Information about the Authors:

"Safe Kids Buckle Up" is a campaign intended to educate 'tweens' about the importance of buckle up safety. Kendal Ahlmann, Peter Berg, Sarah Adams, Katie Davis, and Katie Lindahl are members of the Public Relations Student Society of America (PRSSA) team that are participating in the Bateman competition, a national competition that PRSSA sponsors every year to give public relations students the opportunity to research and implement a campaign to implement in their communities.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [kendal.ahlmann@valpo.edu](mailto:kendal.ahlmann@valpo.edu)

A Longitudinal Study of a Campus Global Activity: The Impact of the VISA Dinner on Publics

Sarah Adams, Amanda Bate, Simone Cooper,

Jesse Gerhardt, Micha Mary

Departmental Affiliation: Communication

College of Arts and Sciences

This longitudinal research focuses on the public related to a university special event sponsored by an organization global in nature. The shift of objectives created special needs. The organization desired to move from a community based special event to more of a student based event. The intention of serving the student body was a focus on integrating the global approaches on campus.

Research indicates that public are difficult to identify, to reach, and often more difficult to persuade. Other research indicates that one's language is critical in framing messages that ultimately are critical to a public desired.

Office of Sponsored and Undergraduate Research - Valparaiso University  
This research relied on pre- and post-evaluations of students attending the annual banquet featuring food and entertainment from around the world. A second evaluation was conducted by those attending the two night special event.

The results indicate that the change from international to world banquet attracted more students from the United States. The improvement of the meal to more choices was an enhancement supported by those attending. However, the community groups (senior citizens and high school language classes) noted the prices were high. However, it is important for this event to attract students, especially those from the United States.

Information about the Authors:

Amanda Bate and Jesse Gerhardt are senior public relations majors. This is their second year of working with the World Banquet. This project was a PRSSA Spark PR client project.

Sarah Adams, Simone Cooper, and Micha Mary were first-year team members.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [jesse.gerhardt@valpo.edu](mailto:jesse.gerhardt@valpo.edu)

Public Relations and the Implementation of the International Code of Ethics: A Comparative Study of the Standards in China, Mexico, and the United States

Sarah Adams, Alison Ramsdell

Departmental Affiliation: Communication

College of Arts and Sciences

Ethics encompass judgments based on what a culture views is right and wrong, acceptable and unacceptable. So, in considering a concept that seeks to eliminate gray areas, it is crucial to develop an international code of ethics – a means for agreeing on standards. However, as nations throughout the world become increasingly interdependent, the alignment of ethics in culturally diverse nations is proving difficult yet essential. The profession of public relations is intricately involved in daily negotiations and provides insight into the process. This study examined the ethical standards of three nations: China, Mexico, and the United States. The primary source for our research was the code of ethics for the Public Relations Society of America (PRSA), an international organization. Public relations professionals working in the global arena stressed the importance of respecting cultural values and differing concepts of flexibility in terms of time and procedural measures. By engaging in a comparative study between these three nations, we assessed whether or not the code of ethics that guides public relations within the United States was applicable to China and Mexico. The PRSA Code of Ethics promotes advocacy, honesty, expertise, independence, loyalty, and fairness. These concepts are tested in the cultural exchange of ideas and indicate that advancement has been made while some areas remain to be fully tested. Our research of these values as well as areas such as disclosure of information, conflicts of interest, and the role of media, established the plausibility of creating an international code of ethics.

Information about the Authors:

Office of Sponsored and Undergraduate Research - Valparaiso University  
Sarah Adams is a sophomore public and creative writing double major, with a business minor. Mostly she tries to concentrate on her Chinese studies with hopes of one day joining a public relations firm in China.

Alison Ramsdell, a senior from Flandreau, South Dakota, is majoring in international economics and cultural affairs, Spanish, and public relations with a minor in business administration.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [ali.ramsdell@valpo.edu](mailto:ali.ramsdell@valpo.edu)

Assessing Journalists and Public Relations Mutual Interests: An Application of Co-Orientation and Speech-Act Theory

Kendal Ahlmann, Michaelle Mary

Departmental Affiliation: Communication

College of Arts and Sciences

In the communication media world, the connection between public relations and journalism is primarily a professional relationship. Journalism needs news and public relations professionals are highly trained to find and present news to the media in the form of news releases, fact sheets, pitch letters, or public service announcements. This research defined the roles and functions of journalists and PR practitioners. The opportunities for mutual contact between these two professions has grown over the years with the expansion brought upon by technology and by the need for more exchange globally. However, there remain a number of tensions between these groups and complaints are often heard from both sides of this working relationship. The results discovered journalists' attitude towards PR practitioners, and vice versa, have become more complex, but theories point to the resolution of these problems. A co-orientation theoretical perspective suggests the perceptions and realities of these two groups are not that far apart. Speech Act Theory suggests the kind of interaction that needs to be fulfilled for a stronger professional bond. Although a close relationship will never be desired, there are various boundary spanning opportunities that point to a strong professional relationship. The research also suggests the need for more studies of this type to confirm the need for addressing communication concerns as articulated by professionals. These results also indicate the profession matured to a level where meaningful dialogue can be conducted.

Information about the Authors:

Kendal Ahlmann is a sophomore public relations and creative writing double major. She is a member of PRSSA, Alpha Lambda Delta, the PRSSA Bateman competition team for the "Safe Kids Buckle Up" campaign, and on the literary selection committee for The Lighter.

Michaelle Mary is a senior public relations major with a double major in Chinese & Japanese Studies. She is a member of PRSSA and has participated in World Banquet PRSSA SPARK team as well as Festival of Voices, an annual benefit concert. Her career goals are to work in international relations with an emphasis on East Asia.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [kendal.ahlmann@valpo.edu](mailto:kendal.ahlmann@valpo.edu)

Office of Sponsored and Undergraduate Research - Valparaiso University  
The Role of Public Relations Fundraising for a Nonprofit School Located in a  
Depressed Midwest Urban Area

Jordan Allodi, Kalyn Unger

Departmental Affiliation: Communication

College of Arts and Sciences

The role of funding in public relations within nonprofit organizations is imperative to the survival and success of the organization. San Miguel, a non-profit school system founded in 1995 in Chicago, provides a group of institutions focused on innovative and accessible education for children of inner city families. Two of the larger San Miguel Schools are the focus of this study. The financial support for these schools comes from corporations, foundations, and individuals, and these funds basically cover the operational costs of the schools. The founding of SanMiguel Schools, the five schools at different locations, is a model of hope and the strength of a community where 94% of the students come from low income families and where crime frequently undermines the dreams and goals of its residential youth. This study interviewed the board of directors (many represent the ranks of public relations professionals) and surveyed key constituents/publics of two of the schools in the San Miguel system for information, attitudes, and behavior toward the schools' fundraising efforts. Special interest was given to the notion of stewardship, and thus the relationships identified as existing and those that are yet to be established were an important part of the study. The results indicate these two schools are beneficiaries of long-standing commitments that translate into a long-term fundraising effort. The messages matched the intent of the leadership and a model of this effective approach will be applied to other nonprofits like San Miguel.

Information about the Authors:

Jordan Allodi is a junior sports management major, liberal arts business and public relations minor. He played football his freshman year and is currently the associate head manager and video exchange coordinator for Valparaiso University men's basketball team. Kalyn Unger is a sophomore biology and public relations double major. She is a member of the Chi Omega sorority. Kalyn is involved with her campus community by working at the ARC and the Valparaiso community by working at Hilltop Daycare Center.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [kalyn.unger@valpo.edu](mailto:kalyn.unger@valpo.edu)

Another Inconvenient Truth: Freshman Core Global Warming Unit Changes Attitudes, but Not Recycling Behavior

Casey Arterburn, Trevor Kenyon, Kathryn Patrick, Graham Witt

Departmental Affiliation: Psychology

College of Arts and Sciences

Freshman Seminar students watched An Inconvenient Truth (IT) and read the National Academy of Sciences report on global warming in the context of a weeklong unit on citizenship. Global Warming Concern (GWC) was assessed before and after this unit. Self-identified liberals and moderates reported greater GWC than did conservatives. However, conservatives exhibited a significant

Office of Sponsored and Undergraduate Research - Valparaiso University  
increase in GWC after the global warming unit, while there was no change in GWC among liberals/moderates. Core students also watched two different movies: Garden State (a film unrelated to global warming) and IT. Bottles of water were made available to students as they entered the auditorium, and the number of bottles taken was recorded. After the movies, the number of bottles that were placed in recycling bins, in trash bins, or littered was recorded. Recycling rate was low overall, and was not greater after IT than after Garden State. For Garden State, 162 bottles were taken; only 11% were recycled, 25% were littered/discarded, and 64% were unaccounted for. For IT, 194 bottles were taken; only 5% were recycled, 30% were littered/discarded, and 65% were unaccounted for. Thus, the seminar unit increased GWC, especially among conservatives, but viewing An Inconvenient Truth did not lead to greater recycling behavior relative to a control film.

Information about the Authors:

Casey Arterburn is a psychology major at VU with minors in business and urban studies. Casey currently works as an intern for the Congress for the New Urbanism in Chicago. Trevor Kenyon is currently a senior psychology and sociology major at Valparaiso University. His future plans are to work as a youth case manager and to then go on to graduate school in pursuit of a master's in counseling. Kathryn Patrick attended Valparaiso University in 2004. She graduated in December of 2007. Graham Witt was born in Hoffman Estates, IL and currently lives in Barrington, IL. After attending Harper College, he transferred to VU. Graham is currently studying philosophy and has completed his minor in psychology.

Faculty Sponsor: Dr. Daniel Arkkelin, Dr. Jennifer Winquist

Student Contact: [graham.witt@valpo.edu](mailto:graham.witt@valpo.edu)

Location, Location, Location: Effects of a Floor-level Recycling Intervention on Residence Hall Recycling

Casey Arterburn, Trevor Kenyon, Kathryn Patrick, Graham Witt

Departmental Affiliation: Psychology

College of Arts and Sciences

We used a Community-Based Social Marketing Approach to promote repetitive environmentally-responsible behaviors: 1. Select an activity to promote (residence hall recycling); 2. Identify barriers to the activity (only one recycling center on the first floor); 3. Design a strategy to overcome the barriers (introduce recycling bins on each floor); 4. Pilot the strategy on a small segment of the community (Experimental Hall: Lankenau; Control Hall: Alumni). Thus, the goal was to demonstrate the effects of a floor-level recycling plan using an ABA Reversal Design for the target residence hall (Lankenau) relative to a no-treatment control (Alumni). The results demonstrated the following:

1. The two residence halls were equivalent in the average recycling weight during baseline;
2. Recycling weight in the experimental hall increased dramatically during the intervention phase;
3. Recycling weight for the control hall remained relatively constant;
4. During the reversal phase, the recycling weight in the experimental hall returned to baseline. With floor-level recycling, residents recycled an average of 10 more pounds per day than during the baseline or reversal phases. If implemented

Office of Sponsored and Undergraduate Research - Valparaiso University  
in all campus residence halls, an increase of approximately 19,000 pounds of recycling could be expected each academic year – almost ten tons of material kept out of the waste stream!

Information about the Authors:

Casey Arterburn is a psychology major at VU with minors in business and urban studies. Casey currently works as an intern for the Congress for the New Urbanism in Chicago. Trevor Kenyon is currently a senior psychology and sociology major at Valparaiso University. His future plans are to work as a youth case manager and to then go on to graduate school in pursuit of a master's in counseling. Kathryn Patrick attended Valparaiso University in 2004. She graduated in December of 2007. Graham Witt was born in Hoffman Estates, IL and currently lives in Barrington, IL. After attending Harper College, he transferred to VU. Graham is currently studying philosophy and has completed his minor in psychology.

Faculty Sponsor: Dr. Daniel Arkkelin, Dr. Jennifer Winquist

Student Contact: [trevor.kenyon@valpo.edu](mailto:trevor.kenyon@valpo.edu)

Projected Capacitance/Area of Multi-Level Interleaved Finger Capacitors for Integrated Circuits

Nikke Ault

Departmental Affiliation: Electrical and Computer Engineering

College of Engineering

Traditional integrated circuit capacitors are based upon a parallel plate structure with different electrode materials. The capacitance of the parallel plate devices is given by the equation  $C = Ae/d$ , where  $A$  is the area of each parallel plate,  $d$  is the thickness of the dielectric, and  $e$  is the dielectric permittivity.

The International Technology Roadmap for Semiconductors forecasts the capacitance per unit area of integrated circuit parallel plate capacitors will increase from approximately 4fF/um<sup>2</sup> in 2008 to more than 10fF/um<sup>2</sup> in 2018.

Because of their structure, integrated circuit parallel plate capacitors face numerous challenges in the near future. With existing scaling factors, decreasing parallel plate area will result in reduced capacitance. Decreasing  $d$  can partially offset the decrease in  $A$ , but can lead to higher leakage currents and more power consumption. Also, while new dielectric materials with higher permittivity are being explored, their manufacturability has yet to be determined. Therefore, capacitor paradigms must be explored.

In our work, we show that by using a new, three-dimensional, multi-level, interleaved finger structure, capacitances per unit area of 15fF/um<sup>2</sup> are achievable.

Information about the Author:

Nikke Ault is a sophomore electrical engineering major in VU's College of Engineering. Taking a digital electronics course at Valparaiso High School inspired her to major in electrical engineering. Researching this new design for a common circuit element enabled her to apply what she's learned in her classes to problems and calculations that have never been tackled before.

Faculty Sponsor: Dr. Mark Budnik

Student Contact: [nikke.ault@valpo.edu](mailto:nikke.ault@valpo.edu)

Office of Sponsored and Undergraduate Research - Valparaiso University  
What Role Should Public Relations Take in Major League Baseball after the  
Release of the Mitchell Report

Peter Berg, Dannielle Radoe

Departmental Affiliation: Communication

College of Arts and Sciences

December 13, 2007 marked a sad day in major league baseball. United States Senator George Mitchell released his 409 page report on the use of steroids and performance enhancing drugs in major league baseball. This report not only tarnished the names of the 89 players named as users, but created a crisis for the game of baseball in America. In the media world, it is amazing to see how one aspect of baseball has helped to tarnish the view of the players' and the game itself. Fans now look at steroid users in a pessimistic way, certain merchandise sales have fallen, and the records and accomplishments of certain players are now put into question. The research of finding factual information from public relations journals, articles, and encyclopedias helped to provide insight to better understand how steroids have affected baseball in a negative way. Our purpose is to gain insight from the fans on what role public relations should take using the image restoration theory, so that baseball can once again be America's favorite pastime. Students age 17 to 25 were surveyed on their understanding of the subject matter and their personal opinions prior to and following the release of the Mitchell Report. The results proved that a few people had no clue about the steroid clout in baseball, while others were very passionate in their answers. Through this, we were able to gain greater insight into what the future of baseball might entail, while this steroid controversy continues to ravage the game's most well respected players.

Information about the Authors: Peter Berg is a sophomore public relations major from Chicago, IL. Peter is a member of Phi Kappa Psi Fraternity and is the current philanthropy chair. He is on the executive board for PRSSA working as web-master. He also is part of the WVUR sports and news staff.

Dannielle Radoe is a senior history major with a minor in public relations from Hebron, IN. At Valpo, she has completed research trips to both China and Japan, and she was also active in last semester's Festival of Voices production in broadcasting and fundraising. She also works with children at Hilltop Daycare in Valparaiso.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [peter.berg@valpo.edu](mailto:peter.berg@valpo.edu)

Supporting Underserved Pregnant Women through a Smoking Cessation Program  
Teri Borys, Evelyn Gomez, Katherine Gordon, Jenel Yoder

Departmental Affiliation: Nursing

College of Nursing

The purpose of this research project is to assess smoking behaviors and support smoking cessation in underserved pregnant women. A target sample of 100 subjects is being recruited for this longitudinal study. A sample of 81 subjects has thus far been obtained. Questionnaires are distributed to determine smoking history and preference to stop smoking during prenatal visits at a community health

Office of Sponsored and Undergraduate Research - Valparaiso University  
center in Northwest Indiana. Using the Transtheoretical Model, interventions for smoking cessation are designed to support subjects' movement along stages of change. Of those subjects currently participating, 11 reported current smoking behaviors. Seven of the subjects were not ready to begin smoking cessation and received information to encourage movement towards quitting smoking. Four subjects identified a willingness to quit smoking and were given a smoking "quit kit" and "quit" booklet, which are designed to help the subjects begin the process of smoking cessation. Those who stop smoking will be followed to support the behavioral change and to prevent a smoking relapse. Subjects are monitored during and following their pregnancy to evaluate the effectiveness of the interventions. Both qualitative and quantitative data are analyzed to determine the most effective means of supporting smoking cessation in this population.

Information about the Authors:

Teri Borys is a junior nursing major. Evelyn Gomez is a sophomore nursing major. Katherine Gordon is a senior nursing major who hopes to pursue emergency medicine. Jenel Yoder is a junior nursing major.

Faculty Sponsor: Dr. Theresa Kessler, Prof. Elise Alverson

Student Contact: [katie.gordon@valpo.edu](mailto:katie.gordon@valpo.edu)

The Role of Public Relations from a Co-Orientation Perspective: Case Study of the Gary Railcats Community Impact

Patrick Bracco, Katie Emig

Departmental Affiliation: Communication

College of Arts and Sciences

Public relations is a daily part of the Gary Railcats' front office. As a minor league team, they must constantly utilize the role of public relations to attract fans and get the message out to the community that they are a family-oriented venue where you can find good baseball at affordable prices.

The location of the Railcats is often perceived to be a negative. However, there are indications this perception may not be hindering the growth of the Railcats' publics.

The assessment of this unique situation is examined through the co-orientation theory of communication. The reality vs. the perception is examined through two sets of data: the subscriber/participant and the nonsubscriber/nonparticipant. The results indicate the perceptions were overcome by direct experience and by a trusted word-of-mouth incident. The data indicates that a nonmedia approach to perception problems is not only helpful to low budget organizations but also supportive of issues that require communication approaches from public relations perspectives requiring more direct contact with publics and their perceptions.

Information about the Authors:

Patrick Bracco is a senior sports management major, business administration and public relations double minor from Oak Park, IL. He is a left-handed pitcher for the Valparaiso University baseball team. He plans to attend graduate school for sports administration at VU and stay on as a coach helping the baseball team. Patrick plans to pursue a career in baseball either as a coach or working in the front office of a professional baseball organization.

Office of Sponsored and Undergraduate Research - Valparaiso University  
Katie Emig is a sophomore business marketing major with a public relations minor from Farmington Hills, MI. She is a member of the Valparaiso University women's basketball team and a member of the Pi Beta Phi sorority. She is very interested in the field of public relations event planning and plans to pursue a career after graduation.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [pat.bracco@valpo.edu](mailto:pat.bracco@valpo.edu)

Seeing Women, Defining Woman: The Use of the Gaze in George Eliot's Middlemarch and Elizabeth Stuart Phelps's The Story of Avis

Johanna Brinkley

Departmental Affiliation: English

College of Arts and Sciences

Putting George Eliot's Middlemarch (1871) in conversation with Elizabeth Stuart Phelps's The Story of Avis (1877) may not initially appear to be an obvious object of literary study. Indeed, Eliot, a British woman writer of the nineteenth century, achieved high respect in intellectual circles and her works remain firmly in the literary canon. As an American woman writer of the same period, Phelps, too, was highly successful, but as a popular author, and consequently, her texts remain on the fringes of those works that are considered canonical. Yet, these two authors shared a common concern in their writing—the Woman Question—and formed a correspondence lasting several years relating to this issue.

This project examines Phelps's text as a response to Eliot's novel, particularly regarding each author's use of the gaze. Eliot constructs an androgynous narrator whose voice is that of the artist. This narrator shapes readers' vision that they might perceive the problems with gender as it is socially constructed and then push past this to bring readers to consider problems inherent in the human condition. Responding to Eliot's text, Phelps focuses specifically on the position of women, moving the voice of the artist from the narrator to her protagonist, Avis, and in so doing, politicizes the text.

Information about the Author:

As a senior English and humanities major, Johanna Brinkley took on this project because she is deeply interested in visual culture and the role of the gaze, particularly regarding gender.

Faculty Sponsor: Dr. Sara Danger

Student Contact: [johanna.brinkley@valpo.edu](mailto:johanna.brinkley@valpo.edu)

Public Relations Research Establishes Regional Communities Needs, Interests, and Opportunities Through an Organizational Infrastructure Approach

Valerie Brown, Katie Deater, Karissa Fraaza, Lindsey Gargas, Robert Gorincen, Brynn Horne, Jana Larson, Kathleen Lindahl, Jill Lyons, Michaelle Mary, Elise Miller, Patrick Millian, Karen Morrill, Tonya Romin, Leigh Vanarsdall, Shun Yamanoi

Departmental Affiliation: Communication

College of Arts and Sciences

The communication infrastructure is the life source of a regional community. However, the literature on community public relations is often more likely to be

Office of Sponsored and Undergraduate Research - Valparaiso University  
focused on corporate. Unfortunately, public relations is often viewed as supporting the product of a commercial organization. Yet the intricate relationships of organizations often times is tied or connected in relationships with the media.

This team of researchers interviewed representatives from various sectors of the community. The organizational categories covered education, government, parks and recreation, the arts, children's organizations, public relations agency heads, foundations, as well as health related areas. These 30 to 40 minute interviews were outlined by the team members and posted electronically. If a particular participant was very informative, a second or third interview was conducted.

The results indicated the themes, the relationships, and the perspectives these community organizational structures focused on in terms of needs, interests, and opportunities. The results indicate the communication needs are guided by public relations professionals when facilitating these identified relationships.

Information about the Authors:

No information provided.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [val.brown@valpo.edu](mailto:val.brown@valpo.edu)

A Point Vibration Therapy Device for Individuals on the Autism Spectrum

Nathan Bruce, Mallory Gill, Heidi Golz, Kayla Grutz, Caitlin Kaiser, Megan Mallette, Megan McGinty, Eric Nielsen, Jeremiah Ray

Departmental Affiliation: Electrical and Computer Engineering, Mechanical Engineering, Psychology

College of Engineering, College of Arts and Sciences

Approximately six out of every 1000 children in the United States are expected to suffer from some type of Autism Spectrum Disorders (ASDs). Autism is often characterized by impaired social interaction and communication. Individuals suffering from ASDs also often show symptoms of Sensory Integration Dysfunction (SIDs). Children who suffer from SIDs are either hypersensitive or hyposensitive to stimuli. Those who are hyposensitive to touch are constantly seeking additional physical stimuli. Some symptomatic behavior includes flailing arms and stomping feet. Preliminary research indicates that vibrational stimuli may replace the need to engage in more disruptive and potentially harmful actions. The goal of this project is to design a discreet device that uses the concept of vibrational therapy to help children suffering from SIDs better function in society. The device will produce a controlled vibrational pulse at regular intervals. It will be possible to modify the pulse duration and intensity in order to best meet each individual's needs and to facilitate future testing.

Information about the Authors:

The Autism Support Device team is composed of nine VU students majoring in electrical engineering, mechanical engineering, and psychology. The psychology students were heavily involved in the preliminary research and plan to test the device after completion. The engineering students are currently designing and manufacturing the device to meet the desired specifications for testing. Electrical engineers include Nathaniel Bruce of Terra Haute, IN, Megan Mallette of Maryville, TN, and Megan McGinty of Olney, MD. Mechanical engineers include Caitlin

Office of Sponsored and Undergraduate Research - Valparaiso University  
Kaiser of Columbus, OH, Eric Nielsen of Kalamazoo, MI, and Jeremiah Ray of Chicago, IL. Students majoring in psychology include Mallory Gill (also majoring in secondary education) of Beloit, WI, Heidi Golz of Villa Park, IL, and Kayla Grutz of Bellavue, IA.

Faculty Sponsor: Dr. Mark Budnik, Dr. Scott Duncan, Dr. Angela Vernon

Student Contact: [megan.mallete@valpo.edu](mailto:megan.mallete@valpo.edu)

Preliminary Analysis of an Ozonesonde Data from Panama as Part of TC-4

Alex M. Bryan, John Gerlach, Nathan Gears, Paul Kucera, David Lutz, Gary A. Morris, Greg Osterman, Brett Taubman, Anne M. Thompson, John Yorks

Departmental Affiliation: Meteorology

College of Arts and Sciences

During the period 13 July to 9 August 2007, 25 ozone sounding systems were launched from Las Tablas, Panama as part of the Tropical Composition, Cloud and Climate Coupling (TC-4) mission, sponsored by NASA's Earth Science Project Office. In this presentation, we provide an overview of the ozone sounding data, including comparisons with measurements from the Southern Hemisphere Additional Ozonesondes (SHADOZ) network. Of particular interest and the focus of this presentation is the flight on 5 August during a convective event over the Panama Bight. Due primarily to strong vertical winds, the ozonesonde launched this day spent 2.5 hours oscillating between 2 and 5 km altitude before continuing upward with a more typical vertical velocity. The re-sampling of air in this layer, however, allows us the chance to examine local production and transport of ozone within a convective cell. During this period, ozone increased from ~30 ppb to ~40 ppb within the convective cell. Using our profile data and vertical motion profiles estimated from radar profiles, we determine a possible production of tropospheric ozone within regions of convective activity.

Information about the Authors:

VU students Alex Bryan and David Lutz were selected applicants for an undergraduate research opportunity under Dr. Gary Morris, professor of physics and astronomy, in the summer of 2007. Ozone data was collected over the summer in conjunction with representatives from NASA's TRMM Radar Group, John Gerlach and Nathan Gears, and the assistance from members of the Meteorology Dept. at Penn State, Anne Thompson and John Yorks. Alex continued to pursue an analysis of the collected data through the fall semester in Dr. Morris' individual research seminar, leading to a presentation of his findings in December at the American Geophysical Union fall meeting in San Francisco.

Alex and Dr. Morris have maintained their partnership to further investigate the conditions for tropospheric ozone flux and their causes, including the preparation of an article to be submitted to the journal Geophysical Research Letters.

Faculty Sponsor: Dr. Gary Morris

Student Contact: [alex.bryan@valpo.edu](mailto:alex.bryan@valpo.edu)

Snapshots of Nancy Trevisan: Stories and Letters from My Grandmother's Life

Rachael Button

Departmental Affiliation: English

College of Arts and Sciences

Office of Sponsored and Undergraduate Research - Valparaiso University  
Over the past year, I have explored the story of my grandmother's life through the letters, photos, and people she left behind in an extended work of creative nonfiction. My grandmother, Nancy Trevisan, passed away shortly after my mother's sixteenth birthday, ten years before my birth. She worked in Washington, D.C. as a young woman before moving to Detroit and mothering ten children. She struggled with alcoholism and depression but wrote prolifically and was known among her friends and family for her dancing, singing, upbeat persona, and beaming red lipstick grin.

Nancy and I share the same birthday, January 31, and a passion for the written word. Throughout her life, she kept her notes, journals, stories, and letters with the intention of writing a book. When she died at age 49, she left behind the material she saved for writing her story. My project "Snapshots of Nancy Trevisan: Stories and Letters from My Grandmother's Life" explores Nancy Trevisan as a mother, a wife, and a woman by presenting pieces of the persona she left behind and constructing them into the narrative of her life.

Information about the Author:

Rachael Button is a senior English major. Through-out the past couple years, she has developed a passion for creative nonfiction. Joan Didion wrote, "We tell ourselves stories in order to live." Creative nonfiction in general and this project in particular has provided her an opportunity to delve deeper into her own narrative – analyzing the person she is by exploring her family and personal stories.

Faculty Sponsor: Prof. Allison Schuette-Hoffman

Student Contact: [rachael.button@valpo.edu](mailto:rachael.button@valpo.edu)

From Ashes to Ashes: A Defense of the Character of Dionysus in Euripides' Bacchae

Kiersten Camp

Departmental Affiliation: Foreign Languages and Literature

College of Arts and Sciences

In Euripides' Bacchae, Dionysus is portrayed as a cruel god who punishes non-believers. Most notably, he drives Agave mad, who then murders her son Pentheus. This portrayal, however, does not characterize fully the complex divinity. By comparing Dionysus and Jesus, along with his cult and early Christianity, a more sympathetic god emerges.

First, Dionysus and Jesus have similar experiences. Both are self-proclaimed sons of god, who struggled to convince others of their divinity. Second, their disciples had similar practices; Dionysus' thought he was present in the wine and raw animal flesh they ritualistically drank and ate, which united them with the deity (Dodds, 1960), just as many Christians thought Jesus was present in the wine and bread of communion. Third, the personal relationships fostered through such practices transcended social boundaries and offered hope of a blissful afterlife. Finally, both gods demand their disciples abandon reason. Because the overly rational Pentheus denied the god of irrationality, he was violently punished through his mother. Jesus, likewise, demanded followers take a leap of faith. Although many believe punishment awaits non-believers, he is nonetheless considered a loving god. Thus, Dionysus may be seen in this light: sympathetic while justifying his authority to punish non-believers.

Kiersten Camp is a senior hoping to graduate with majors in theology and humanities and with minors in classics and psychology. This essay found its inspiration in Dr. Mark Farmer's Greek drama course and was presented at this year's National Conference for Undergraduate Research.

Faculty Sponsor: Dr. Mark Farmer

Student Contact: [kiersten.camp@valpo.edu](mailto:kiersten.camp@valpo.edu)

Applying Speech Act Theory to the Presidential Election: Potential Public Relations Challenges for VU Campus Organizations

Nicole Christison, Dan Jason

Departmental Affiliation: Communication

College of Arts and Sciences

The year 2008 finds America in the midst of one of the most followed election years in recent memory. Candidates represent a number of historic election firsts: the first Hispanic, the first woman, the first African American, the first ordained minister, and the first Mormon. College campuses are traditionally noted for being politically involved and paying conscientious attention to the issues. Campaign pundits have affirmed the importance of attracting young voters in order to ensure the future of democracy.

This study analyzed the attitudes and beliefs of Valparaiso students towards the current presidential election. The project surveyed VU students in an effort to assist campus organizations such as College Democrats and College Republicans in determining their organizational communication goals related to the presidential campaign. According to Speech Act Theory, in order for proper communication to occur, there must first be a request, followed by acceptance or denial of the request. This theory helps prove that campus political organizations must clearly communicate their declarations in order to connect with the campus community.

Findings indicate the majority of students have great interest in politics, but for many there is a distinction between such interest and actual political action.

Information about the Authors:

Nicole Christison is a sophomore public relations major. She is a member of PRSSA, the Delta Delta Delta sorority, and College Democrats. She is interested in working for a non-profit organization or a political campaign after graduating from college.

Dan Jason is a sophomore public relations major.

He is a member of PRSSA, Valparaiso University Ultimate Frisbee, and Campus Crusade for Christ. After graduation, he plans to pursue a law degree, and a career in Washington, D.C.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [dan.jason@valpo.edu](mailto:dan.jason@valpo.edu)

Prevention of Postoperative Nausea and Vomiting

Stephanie Clark, Liza Hoffman, Julie Marsh, Beth Moore, JoBeth Schmiesing, Eva Venegas

Departmental Affiliation: Nursing

Postoperative nausea and vomiting is a common postoperative complication. Not only is this uncomfortable for patients, it can affect them physically and slow their healing process. The purpose of this evidence based project was to determine best practice for reducing post-operative nausea and vomiting. CINAHL and Cochrane databases were searched using the key words post-operative, nausea and vomiting, prevention, and interventions. Research articles (n=?) were critiqued to identify methods that were most effective at reducing postoperative nausea and vomiting. Studies, involving a variety of designs, included samples involving laparoscopic, gynaecological, and functional endoscopic sinus surgery patients and patients undergoing general anaesthesia. Interventions identified included using Ondansetron, applying acupuncture, and administering a combination of Meclizine and Ondansetron.

By integrating non-pharmacological with pharmacological interventions, health care providers can prevent unnecessary medicating and eliminate excess side-effects while reducing cost. A protocol for treating postoperative nausea and vomiting involving medications and acupuncture is described. A plan for implementing the protocol is outlined.

Information about the Authors:

Six senior nursing students enrolled in a nursing research course collaborated on this evidence based practice project. All six students are working hard to complete their final year as nursing students. Their focus lies in passing the ATI exit exam and the NCLEX. They are so excited to be nurses!

Faculty Sponsor: Dr. Nola Schmidt

Student Contact: [beth.moore@valpo.edu](mailto:beth.moore@valpo.edu)

Green PR Campaigns: Are These Campaigns Changing Behavior Among College Students at Valparaiso University?

Kyle Clauss, Meg English

Departmental Affiliation: Communication

College of Arts and Sciences

Our sense of social responsibility and awareness for the well-being of the environment is being challenged by pollution, the overindulgence in natural resources, and growing negative statistical information about the damages human activity has on the planet. This growing awareness has led to strong "green" campaigns by companies looking to improve their image by reducing amounts of waste and pollution. Research indicates that environmental activism has influenced these campaigns. Social responsibility pressures on corporate entities have moved these organizations towards green campaigns. Crises and crisis management issues are similarly driving nonprofits and governmental organizations to seriously rethink their social responsibility positions.

This study examines the campaign outreach from consumer organizations of natural resource products. These organizations promoting their "green" alternatives are particularly impactful. This is especially true for college students, 18 to 22 years old, whose perceptions may be affected by these campaigns. Many of these top consumers of natural resource products have been trying to change their perception and have been promoting their "green" alternatives. To obtain a level

Office of Sponsored and Undergraduate Research - Valparaiso University  
of student awareness of these products, 150 Valparaiso University students were given a questionnaire about green campaigns. The results of the survey indicate that students have an average awareness of green campaigns. However, their purchasing and activism in this area of concern does not support their level of awareness. Students make purchases on items they need regardless of the items' "green" elements. These results illustrate that this age demographic has been targeted but has not yet been impacted in terms of behavioral change.

Information about the Authors:

Kyle Clauss is a junior marketing major and public relations minor. He is also the vice president of marketing for the Student Alumni Association.

Meg English is a junior public relations and sociology major. She is the vice president of finance for PRSSA and a member of the campus environmental group Earthtones.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [meg.english@valpo.edu](mailto:meg.english@valpo.edu)

Public Relations Roles in Health Campaigns: A Study Analyzing the Visual Impact of Logos

Simone Cooper, Brittany Malicoat

Departmental Affiliation: Communication

College of Arts and Sciences

In America, millions of women lose their lives after being diagnosed with heart disease and breast cancer. Everyone knows someone who has suffered from these diseases, and this fact alone makes everyone want to contribute to cancer and heart disease research to find a cure. Public relations campaigns utilize the "pink ribbon" to represent breast cancer and the "red dress" to symbolize heart disease among women.

These two campaigns have developed several global and diverse strategic and tactical approaches to inform women of these risks. Although both of these campaigns are active presently, it is evident through surveying young women that heart disease is publicized the least. The nonprofit organizations such as the Breast Cancer Campaign and the American Heart Association do their best to reach the target audiences. However, the Breast Cancer Campaign has used certain tactics to go above and beyond the American Heart Association. Fundraising has to be a huge contributor to the amount of success.

The results of this study found that the public relations media publicity had a large influence on the awareness of Breast Cancer (obviously needing a large media budget) while the Heart Disease, the number one killer of women, with The Red Dress Campaign was not as recognized as a logo for the health association. This conclusion supports the research on perceptions (Heath, 2005) and illustrates the role of media (Heath, 2005) in framing and defining an issue. The particular emphasis in this study focuses on the associations developed with logos for each disease.

Information about the Authors:

Simone Cooper is a sophomore public relations major and dance minor. She is a member of the Valparaiso University Dance Ensemble, PRSSA SparkPR student

Office of Sponsored and Undergraduate Research - Valparaiso University  
agency, and an active member of Delta Delta Delta sorority. She plans on pursuing a career in event planning in Chicago, IL, after graduation.

Brittany Malicoat is a junior public relations and art history major with a minor in social work. She is a varsity volleyball athlete who plans to pursue a career in museum work.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [brittany.malicoat@valpo.edu](mailto:brittany.malicoat@valpo.edu)

Water Quality Research

Rachel Dannemeyer, Jason Feder

Departmental Affiliation: Chemistry

College of Arts and Sciences

Water samples were collected and analyzed to help determine the health of two local bodies of water; Lake Louise in the Shorewood Forest housing development and Dunes Creek which flows through the Indiana Dunes National Lake Shore and empties into Lake Michigan. Field tests completed onsite were water & air temperatures, dissolved oxygen, pH, conductivity, turbidity, phosphate concentration, nitrate/nitrite concentrations, and chloride concentration. Water samples were also collected and analyzed in the lab for heavy metals including: lead, zinc, cadmium, and copper. These tests show that there are minimal concentrations of metal ions. Samples were also analyzed by ultraviolet-visible (UV-Vis) spectrophotometry to determine the concentrations of various forms of phosphorous. Results indicate that the P levels are elevated in both Lake Louise and Dunes Creek. In general, the water in both Dunes Creek and Lake Louise is in fair condition; however, simple steps could be taken to further enhance the water quality of each.

Information about the Authors:

This type of research was something Jason and Rachel are interested in because it relates to the world around us. As chemistry majors, they find it important to know the quality of our environment and how impacts made by people disrupt or help the water in the region. This research helps to give real answers to what is actually in the water around us and how safe it is for us to be around.

Faculty Sponsor: Dr. Jonathan Schoer

Student Contact: [jason.feder@valpo.edu](mailto:jason.feder@valpo.edu)

The Conflict between Moral Lessons and Adventure Narratives in Robinson Crusoe and Children's Robinsonades

Emerald Davis

Departmental Affiliation: English

College of Arts and Sciences

Daniel Defoe's Robinson Crusoe has captured the attention of readers of all ages and has been rewritten countless times as children's robinsonades. Children generally read such narratives as adventure tales; however, these deserted island stories usually present more than just action-packed plots. In fact, if one gives a close reading to children's robinsonades, moral lessons will become readily

Office of Sponsored and Undergraduate Research - Valparaiso University  
apparent, and one will see that such stories offer children more moral didacticism than the typical escapist adventure tale.

Although both child readers and adult authors have found lasting appeal in the story of Robinson Crusoe, the text and its derivatives betray a tension between the moral message and the overreaching adventure narrative. This conflict between didactic worth and aesthetic pleasure speaks to a larger issue of a tension inherent in the fabric of stories that both try to express a moral message and offer entertainment value. My paper analyzes the original text alongside four popular children's robinsonades, revealing a conflict in robinsonades between the instructive principles that adults want children to absorb and the entertainment in which children delight. The tension in Robinson Crusoe and these children robinsonades raises the question: can moral meaning and aesthetic pleasure coexist successfully in literature?

Information about the Author:

Emerald Davis has loved to read for pleasure from a very young age. She remembers the countless pages turned while reading in the car on family vacations or late at night after her bedtime. She was home-schooled through the eighth grade, and her mom took her and her brother to the library three or four times a week. Although she knew reading was supposed to be "good for you," she enjoyed it for pure enjoyment's sake.

Faculty Sponsor: Dr. Joanne Myers

Student Contact: [emme.davis@valpo.edu](mailto:emme.davis@valpo.edu)

The Influence of Public Relations on Health Campaigns: How the Red Dress Inspires Women to Become Heart Healthy

Katie Davis, Erin Haberman

Departmental Affiliation: Communication

College of Arts and Sciences

Heart disease has become the number one killer for Americans for more than twenty years. Up until now, the public had a minimum amount of information on preventative measures and the effects of having the disease. In fact, women still perceive breast cancer as a bigger threat than heart disease. One of the most well known campaigns on heart disease, "The Red Dress Campaign," targets women of various ages. The campaign features personal testimonies, fashion related events, and fun ways to become heart healthy.

To determine women's awareness of heart disease and how effective the campaign was in empowering women to take charge of their own health, a questionnaire was developed to survey 75 women of various ages. Results of the survey demonstrated that 80% of women are aware of "The Go Red Campaign." Yet 25% of women still view breast cancer as a deadlier disease. Also, results showed women 30 and younger are less educated on the "Go Red Campaign." Participants in the survey stated that a campaign that provides women with exercise plans and heart-healthy recipes would most inspire them to improve their health habits.

Information about the Authors:

Katie Davis is a freshman public relations major from Omaha, Nebraska. As a student at Valparaiso University, she is involved in PRSSA and Kappa Kappa

Office of Sponsored and Undergraduate Research - Valparaiso University  
Gamma sorority. Upon arrival at Valparaiso, Katie became interested in public relations through one of her introductory classes. Currently, Katie is a member of the PRSSA Bateman Team implementing a "Buckle-Up for Safety" program for the community.

Erin Haberman is a junior public relations major at Valparaiso University. She is originally from Canton, Ohio. At Valparaiso, she is involved with PRSSA as the coordinator of the SparkPR student agency and Habitat for Humanity. Erin plans to acquire a minor in biology and is hoping to pursue health public relations as a career.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [katie.davis@valpo.edu](mailto:katie.davis@valpo.edu)

A Study of Depression and Social Connectedness

Colette Doerschuk, Kelly Erikson, Amanda Littell, Rebecca Lohrmann

Departmental Affiliation: Social Work

College of Arts and Sciences

The aim of our research is to explore the relationship between self-reported levels of social connectedness and depression. The research hypothesis is: individuals with a higher level of self-reported social connectedness will report lower levels of depression. This research study is based on a theory published by Williams and Galliher (2006) which suggests that social supports, social competence, and social connectedness predict self-reported levels of depression and self-esteem for college students. The sample for our study will be comprised of approximately 150 participants, both male and female students between the ages of eighteen and twenty-three at Valparaiso University. Once all the data has been collected, we will compile and analyze it using a Pearson or Spearman correlation effect. Several important implications could result from this research and could influence how campus communities address issues of depression. If the data gathered supports the research hypothesis, college campuses could be more intentional about educating students on the importance of making meaningful connections. Students who are experiencing depression could be linked with potential social connections to help alleviate their symptoms.

Information about the Authors:

The group's interest in this study arose from the observation of the frequency of depression amongst college students. With the intention of reducing the amount and severity of depression on college campuses, the group began looking at the factors which lead to this state of mind. From their prior knowledge of depression, they were capable of defining multiple factors that lead to its manifestation. Upon further research, they discovered that recent studies have begun to look at the relationship between depression and social connectedness on college campuses.

Realizing that every college campus differs, they were curious to explore the relationship between depression and social connectedness on the Valparaiso University campus. Their own personal experiences with depression provided insight into the importance of addressing this issue. This research project is for partial fulfillment of a bachelor's degree in social work.

Faculty Sponsor: Dr. Matthew Ringenberg

Student Contact: [kelly.erikson@valpo.edu](mailto:kelly.erikson@valpo.edu)

Office of Sponsored and Undergraduate Research - Valparaiso University  
The Impact of Persona and Issues in the Presidential Campaign: An Experiment  
on Messaging – A Public Relations Domain

Wayne Douma, Jaclyn Fuller

Departmental Affiliation: Communication

College of Arts and Sciences

With the political primary season in full swing, it is beneficial to focus on the world of politics to assess the basis for decision making. Whenever campaigning is concerned, it seems as if public relations and politics are mutually integrated. The current primary coverage and campaign tactics indicate an ongoing struggle between personas versus the prevalence of issues in viewing the candidates' messaging.

This research focuses attention on the 2008 presidential primary-caucus races and contenders. Throughout these primary-caucus races is a strong rivalry between two close candidates. This rivalry fuels the prominence of persona rather than a reflection on the issues. This research concentrated on the primary-caucus media coverage, interviews, and an experiment conducted with individuals of various political affiliations, demographics, and also ages, specifically years 18-24.

The arena of public relations assists in a candidate's efforts. However, when a candidate is more about persona than issues and the images of candidates outweighs the issues – that is a concern. Such a discrepancy does not allow issues to be examined outside of the persona; instead the persona is shaping the issues' message.

Information about the Authors:

Wayne Douma is a sophomore public relations major who is also working on a minor in political science. He is originally from Lansing, Illinois. At Valparaiso, Wayne is involved in College Republicans. This is his first entry into the Celebration of Undergraduate Scholarship showcase.

Jaclyn Fuller is a senior public relations major and political science minor. She is originally from Canton, Ohio. At Valparaiso, Jaclyn is involved in PRSSA, SPARKPR, and the sorority Kappa Kappa Gamma. She has spent two semesters abroad, one in Reutlingen, Germany, and the other with LCWS in Washington, D.C. This is her second entry into the Celebration of Undergraduate Scholarship showcase.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [jackie.fuller@valpo.edu](mailto:jackie.fuller@valpo.edu)

Perioperative Handoff Communication

Leslie Duane, LaShelle Finke, Katherine Gordon, Amber Matocha, Borlonkor Mellen, Jared Swift, Judy Watson

Departmental Affiliation: Nursing

College of Nursing

Vital information can be overlooked when passing on information during patient transfers. The purpose of this evidence-based practice project was to determine best practice for handoff communication between the pre-operative area and the operating room. A search of the literature was conducted in CINAHL and

Office of Sponsored and Undergraduate Research - Valparaiso University  
Medline using the key words patient handoff, shift report, pre-op and post-op communications, and surgical nursing communication. A final sample of 10 nursing research articles and two professional guidelines were critiqued. A variety of research designs using non-probability sampling methods showed no consistent tool for patient handoff existed. Forms of handoff involved written, e-mailed, tape recorded, computerized, face to face, and telephone communication. Specific key concepts must be included in handoff communications, but each institution should develop and implement its own instrument. Key concept requirements include nurse identification, patient identification, pertinent background information and history, current assessment data, current patient knowledge, pre-operative preparation data and medication administration, safety concerns, and patient plan of care. Improving patient handoff would involve developing a tool and educating nurses about the new policy. Measures of successful change include decreased perioperative complications due to missed communication, increased efficiency of patient transfers, increased patient satisfaction, and increased hospital staff satisfaction.

#### Information about the Authors:

The authors are a group of senior and accelerated nursing students. Their interests are varied and include pediatrics, obstetrics, emergency room nursing, and perioperative nursing. They are interested in the holistic care of their patients and look to improve the quality of their lives.

Faculty Sponsor: Dr. Nola Schmidt

Student Contact: [katie.gordon@valpo.edu](mailto:katie.gordon@valpo.edu)

#### The Journey of a Woman Experiencing Terminal Cervical Cancer

Leslie Duane, Abby Stucky

Departmental Affiliation: Nursing

College of Nursing

The purpose of this qualitative case study was to describe the journey of a thirty-five year old woman living with terminal cervical cancer. The study involved an analysis of a verbatim, transcribed, in-depth, open-ended interview. The researchers analyzed and interpreted the interview to gain an understanding of the subject's perspective of living with a terminal illness. The following main themes emerged: (a) desire for a legacy, (b) mission of hope for each day, (c) "badges of honor", and (d) acceptance of mixed blessings. Results highlight the experiences of this woman through the stages of anticipatory grief. Implications for the future include using this data to assist other women with terminal cancer and developing information to share with other survivors and family members.

#### Information about the Authors:

Leslie Duane is a senior student in the College of Nursing. She has a strong interest in being involved in research and learning how to carry out the entire research process. In particular, qualitative research regarding the quality of life and the process of living with a terminal illness is of interest to Leslie because she has a desire to provide holistic and empathetic care to clients during all stages of life.

Abby Stucky is a senior nursing major, who is interested in pursuing a career involved in the nursing research process. Abby has several family members and close friends whose lives have been afflicted by cancer. This research project

Office of Sponsored and Undergraduate Research - Valparaiso University  
has allowed her to gain an understanding of their emotional experience with the diagnosis of terminal cancer.

Faculty Sponsor: Dr. Theresa Kessler

Student Contact: [abby.stucky@valpo.edu](mailto:abby.stucky@valpo.edu)

The Effect of Strength and Power Training Phases on Competitive Swimming

Scott Dueball, Prof. Bryan Morrison

Departmental Affiliation: Physical Education

College of Arts and Sciences

Periodization is widely accepted in the world of strength and conditioning as the best way to design training programs for athletes. Periodization uses training phases organized in a schedule that optimizes athletic performance during championship events. These schedules can be as long as four years for Olympic athletes but are usually only one year in length.

The purpose of this study is to look closely at how two of these phases (strength and power) affect the performance of trained swimmers. This will allow us to draw conclusions about the importance of strength and power training phases in competitive swimming. More specifically, this study will relate improvements in strength and power to changes in various characteristics of swimming: stroke length (SL), stroke rate (SR), and speed. The participants are 24 Division IAA competitive swimmers (15 females, 9 males).

Prior to the start of each phase, the subjects' strength and power will be tested. We will use the vertical jump to evaluate changes in strength and power.

A Just Jump electronic vertical tester will be used to test the vertical jump. The swimmers will be videotaped to evaluate the performance characteristics of swimming (SR, SL, and Speed) using Dartfish ProSuite software. At the conclusion of both lifting phases, the same tests will be repeated. We expect to see an improvement in speed as a result of either increased Stroke Rate, Stroke Length, or both Stroke Rate and Stroke Length as a function of power.

Information about the Author:

Scott Dueball is a senior exercise science student with minors in math and engineering. While at Valparaiso University, he has served as an intern with the football team working with the athletes in the weight room. Scott is a student member of the National Strength and Conditioning Association and Phi Epsilon Kappa Professional Fraternity. Scott's expertise has been sought by the New York Jets, Real Chicago Futbol Club, Maine West High School, and the Des Plaines Ducks swim team. Scott plans to attend graduate school in the fall to pursue a master's degree in biomechanics.

Faculty Sponsor: Dr. Jerome Stieger

Student Contact: [scott.dueball@valpo.edu](mailto:scott.dueball@valpo.edu)

Problems in the European Union

Stephanie Dutton

Departmental Affiliation: Political Science

College of Arts and Sciences

I have studied the European Union (EU) intensively and discovered that the true problem is the lack of one executive board. Every branch overlaps and steps on every other branch's toes leading to confusion among the leaders and also the citizens. The paper has gone into detail about the ways in which the lack of an executive makes the EU a weaker and less efficient institution. My conclusion after research is that, in order for the EU to gain any more significant power, a single leader or executive branch needs to be elected.

Information about the Author:

Stephanie Dutton is a senior political science and public relations double major graduating in May of this year. This is her second year in the under-graduate scholarship program.

Faculty Sponsor: Dr. Jennifer Hora

Student Contact: [stephanie.dutton@valpo.edu](mailto:stephanie.dutton@valpo.edu)

Receptive Agnosticism and the Scientific Method: Reconciling Faith and Science within Biblical Archaeology

Jonathan Eaton

Departmental Affiliation: Humanities

Christ College

Biblical archaeology, in contrast to other branches of archaeology, necessarily embodies both scientific and theological systems of thought. That is to say, biblical archaeology has traditionally used the scientific (or pseudo-scientific) techniques of archaeology to examine, often in an attempt to validate, various aspects of Judeo-Christian belief. Historically, as the larger discipline of archaeology reformed and modernized its practices in line with the scientific method, the contradictions between the faith-based methodologies of biblical archaeology and the science-based methodologies of the larger discipline became increasingly evident. These developments relegated biblical archaeology to the fringe of scientific credibility. How then must researchers within biblical archaeology today resolve the dichotomy in their field between faith and science? I submit that the salvation of biblical archaeology lies in the ability of its researchers to adopt selectively the frame of mind that I call "receptive agnosticism." This modus operandi necessitates the application of some of the concepts found within "methodological agnosticism," a common concept that attempts to bridge contradictions in faith-science dialogue to the field of biblical archaeology. The adoption of more scientifically sound methods will signify the end of traditional unreformed biblical archaeology but not necessarily of the theological-scientific discussion surrounding the field. In order to survive as a credible archaeological specialty while retaining its unique discourse on biblical history and beliefs, the discipline of biblical archaeology must revive itself through a greater focus on scientific methodology, guided by its pursuit of the tenets of receptive agnosticism.

Information about the Author:

Jonathan Eaton was born in Edmonton, Alberta, Canada, but has lived most of his life in Sequim, Washington. Growing up in Washington state instilled in him a love of the mountains and outdoor activities. He is currently a junior at Valparaiso University, majoring in history with minors in Spanish and Greek. After

Office of Sponsored and Undergraduate Research - Valparaiso University  
graduation, he plans to attend graduate school in the fields of museum work and/or archaeology.

Faculty Sponsor: Dr. Scott Huelin

Student Contact: [jon.eaton@valpo.edu](mailto:jon.eaton@valpo.edu)

Public Relations and Marketing Education from an IMC Approach: Enhancing the Success of a Public Relations Career

Cori Ellis

Departmental Affiliation: Communication

College of Arts and Sciences

Surveyed professionals in the public relations field have consistently expressed the need to succeed in the professional world. It seems, however, the different emphases between the educational knowledge base taught in public relations and marketing majors remains quite different. The fact that the majors are taught in completely different schools here at Valparaiso University (Arts & Sciences and College of Business Administration) suggests somewhat of a difference in approach. However, it would appear that many other universities are beginning to understand the close relationship between marketing and public relations disciplines.

The literature in public relations carefully describes the functions and roles of public relations and marketing. The results clearly indicate public relations is grounded in communication while marketing is less likely to have an interactive communicative model. The data from students studying these two areas highlighted these majors at Valparaiso University. The results indicate there are a number of ways for the two majors to combine the academic work (liberal arts minor in business, minors in public relations, and double majors) as well as the student professional organizations. However, the number of students involved in such crossovers is still quite small and this need should be addressed further.

Information about the Author:

Cori Ellis is a junior marketing and public relations double major from Chesterton, Indiana. She is a member of the Public Relations Student Society of America (PRSSA), Delta Epsilon Chi (DEX/DECA) business organization, and Intramural Advisory Council (IAC). She is active in the intramural and recreational sports department, as both a participant and employee. After graduation, she hopes to find a career that requires skills from both of her majors, such as brand management at a PR agency.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [cori.ellis@valpo.edu](mailto:cori.ellis@valpo.edu)

Ozone Data Analysis and Source Partitioning

Brittni Emery, Marc Taylor

Departmental Affiliation: Physics and Astronomy

College of Arts and Sciences

Five ozonesondes were launched at Pierce Cedar Creek Institute (PCCI) near Hastings, Michigan, during the summer of 2007. A launch was also conducted at Valparaiso University in Valparaiso, Indiana, before the PCCI launches, and

Office of Sponsored and Undergraduate Research - Valparaiso University  
another was conducted after. We combined these two Valparaiso profiles with profiles from Valparaiso acquired the year prior in a separate study. We wished to determine the difference between the Valparaiso average and the PCCI average. We wanted to prove that regional sources such as Gary, IN, and Chicago, IL, play at least a minor role in ozone levels at Valparaiso as it is much closer to these places than PCCI. We were expecting the remote location of PCCI to display a significantly lower level of ozone in at least the lower levels, if not throughout the entire vertical profile. However, what we found was that the overall profile displayed little variation, except for at a layer aloft where the PCCI mean profile was actually higher than the Valparaiso mean profile. This is most likely due to the fact that we sampled from the same air mass for most of the study, leading to an exaggeration of this higher level of ozone. It was determined that we cannot truly determine this to be a regional variation without further years of study to be compiled to the average.

Information about the Authors:

Brittni Emery is a sophomore meteorology major with a minor in Spanish. She was raised in Montevideo, MN, and is presently studying abroad in Mexico. She aspires to attend graduate school and study severe weather.

Marc Taylor is a senior meteorology major with minors in math and French. Marc was born in Freeport, IL, and has always had a great interest in the weather. He aspires to attend graduate school to get his masters in either planetary dynamics or air quality.

Faculty Sponsor: Dr. Gary Morris

Student Contact: [marc.taylor@valpo.edu](mailto:marc.taylor@valpo.edu)

Microporous Materials for a Sustainable Future

Laura Engerer

Departmental Affiliation: Chemistry

College of Arts and Sciences

Due to increased awareness about global warming, renewable fuels and sustainable processes have become important research topics. In the summer of 2007, I performed research, in conjunction with Argonne National Laboratory's SULI program, which focused on developing microporous materials able to absorb and filter hydrogen gas. Such a material would help ensure the purity and efficiency of hydrogen destined for fuel cells. The objective of this project was to synthesize microporous materials using zinc and copper ions and triazole ligands by a solvothermal process. Combinations of Zn and Cu were mixed with 3-amino-1,2,4-triazole (AmTAZ) and 3,5-diamino-1,2,4-triazole (DamTAZ) and various anions in a water/ethanol mix. They were heat treated with a range of reaction times. The materials were characterized by x-ray diffraction and gas adsorption techniques. The x-ray diffraction identified which samples were crystalline and used to grow single crystals. Zinc continued to produce promising structures. The DamTAZ ligand did not show as much promise as its AmTAZ counterpart as none of its products were crystalline except for the last one. A few different combinations produced single crystals, and of these two were appropriate for single crystal x-ray diffraction. The two single crystals led to the discovery of

Office of Sponsored and Undergraduate Research - Valparaiso University  
two new crystal structures, both of which have many of the parameters that are being looked for and will be a basis for future study.

Information about the Author:

Laura Engerer is a senior chemistry major with engineering and math minors. She intends to go to graduate school for her Ph.D. in chemistry next year. Last year she was inducted into the Chemistry Honor Society. She studied abroad last semester at the Valpo study program in Cambridge. Her various activities include volunteering at the Chapel of the Resurrection, the Crusader Pep Band, and living at the Fellowship House where she is also the Residential Minister.

Faculty Sponsor: Dr. Steven Engerer

Student Contact: [laura.engerer@valpo.edu](mailto:laura.engerer@valpo.edu)

Beyond the Volcanoes: A Community Partnership for Health in Nicaragua

Tricia Erdmann, Rebekah Schmerber, Katherine Thomas

Departmental Affiliation: Nursing

College of Nursing

Numerous health inequities, related to factors such as gender, socioeconomic status, and geography, exist in Nicaragua. This project's purpose is building a partnership for improved health equity in a rural Nicaraguan community using community based participatory action research (CBPAR). Complete community engagement through partnership formation increases the project's relevance and sustainability. CBPAR involves six phases: partnership, assessment, planning, implementation, evaluation, and dissemination. The partnership phase began in fall 2007, focusing on strengthening established partnerships and forming new partnerships between researchers and community members. Community partners, together with researchers, developed an assessment tool in March 2008: surveys conducted with community members to determine the community's health care goals, resources currently available to reach those goals, and ideas for further plans to reach health goals. Forty-seven community member surveys and seven key informant surveys were completed in March 2008. In fall 2008, a plan will be developed through discussion with community partners using results from the assessment tool. This plan will be implemented beginning in spring 2009, with evaluation of the plan following in fall of 2009. The anticipated result is that the community will be able to maintain a mutually decided upon plan to improve the wellbeing of their community.

Information about the Authors:

Tricia Erdmann is a sophomore nursing major with a minor in psychology.

Rebekah Schmerber is a junior nursing major with a minor in psychology.

Katherine Thomas is a sophomore nursing major. The authors are interested in the opportunity this project provides to better understand global health care and become involved in health care in an international setting.

Faculty Sponsor: Prof. Amy Cory

Student Contact: [rebekah.schmerber@valpo.edu](mailto:rebekah.schmerber@valpo.edu)

A New Approach in Estimating the Couple Removal Rate in Gender Structured Demographic Models

Jared Erickson

College of Arts and Sciences

We analyzed a gender structured model with a modified couple mortality that takes into account the probability that both partners die within the same amount of time when demographic data is collected. The traditional approach of adding the mortality rates of both females and males into the couple death rate overestimates the number of couples that are lost since some of the eliminated pairs may be counted twice. We found that the new model leads to important differences in the predicted population outcome. A comparison analysis, using real data, between our model and the traditional one is also provided.

Information about the Author:

Jared Erickson is a senior mathematics major from Eagan, MN. This is his third year doing research in mathematics. Jared plans to attend graduate school next year.

Faculty Sponsor: Dr. Daniel Maxin

Student Contact: [jared.erickson@valpo.edu](mailto:jared.erickson@valpo.edu)

Mosaics: A Prime-al Art

Jared Erickson

Departmental Affiliation: Mathematics and Computer Science

College of Arts and Sciences

The mosaic of the integer  $n$  is the array of prime numbers resulting from iterating the Fundamental Theorem of Arithmetic on  $n$  and on any resulting composite exponents. We define alternative generalizations of the concept of a divisor to apply to mosaics. Having done so, we generalize several classical number theoretic functions to the mosaic of  $n$  and determine which of these are  $i$ -multiplicative.

Information about the Author:

Jared Erickson is a senior mathematics major from Eagan, MN. This research was done last summer at the REU in mathematics at Valpo. Jared also worked with Kristen Bildhauser from Saint Mary's College and Cara Tacoma from Trinity Christian College on this project.

Faculty Sponsor: Dr. Rick Gillman

Student Contact: [jared.erickson@valpo.edu](mailto:jared.erickson@valpo.edu)

Contrasts and Similarities in Water Quality Issues Facing East Central China and Northwest Indiana: Issues, Perceptions, and Approaches for Resolution

Jeff Field, Sarah Mohlman, Shelly Schmeltz

Departmental Affiliation: Chemistry

College of Arts and Sciences

A collaborative water quality research project took place in Hangzhou, China between Zhejiang University and Valparaiso University. Twenty sites scattered throughout the city and surrounding regions were analyzed. The field and lab measurements of multiple parameters provided a snapshot of the quality of the waterways. High nutrient levels in many sites led to increased plant growth, higher

Office of Sponsored and Undergraduate Research - Valparaiso University  
dissolved oxygen levels, and algal blooms (i.e. Taihu Lake). Copper, mercury, and cadmium levels were also elevated. Along with the quantitative data, interviews with local academia, Chinese water quality experts, and government officials provided an evaluation of land use impacts and management practices currently in Zhejiang Province. Overall, nonpoint source pollution from domestic waste and agricultural runoff remain threats to water quality. Future work is recommended to gain more data on the region to make better predictions for the source(s) of pollution.

Information about the Authors:

Jeff Field is currently a senior, double majoring in environmental science and geography with a focus on water resources from Big Bear, California. He has participated in multiple activities on campus including the Social Action Leadership Team (SALT), Ambassador in Admissions, and Earthtones. He will be joining Teach for America upon graduation to teach middle school mathematics in New Mexico.

Sarah Mohlman is currently attending graduate school at Utah State University through their Ph.D. program in ecology. Shelly Schmeltz has graduated from Valparaiso University and is exploring different occupations in the environmental chemistry field.

Faculty Sponsor: Dr. Jonathan Schoer

Student Contact: [jeff.field@valpo.edu](mailto:jeff.field@valpo.edu)

Water Quality Changes in the Valparaiso Chain of Lakes Watershed

Lindsey Gilman

Departmental Affiliation: Chemistry

College of Arts and Sciences

The Valparaiso Chain of Lakes Watershed was monitored during the summer of 2007 by studying multiple parameters that affect water quality. Field data and samples for subsequent laboratory analysis were collected from more than 35 sites throughout the watershed. Some of the parameters monitored include dissolved oxygen, temperature, nutrient levels, conductivity, turbidity, pH, and heavy metals.

Results were combined with data collected in 2005, 2006, and at various times in the 1970's and 1980's to assess changes in the quality of water in the watershed.

In general, the lakes in the watershed remain in good condition, however, several key components, including nitrates, conductivity, and pH have steadily increased.

The installation of a buoy and sonde in Flint Lake during the summer of 2007 allowed around the clock monitoring of multiple parameters to give a view of the overall health of the watershed. Although the lakes share a common topography, use of the individual lakes and the surrounding land varies from commercial to natural, and the lakes were also studied to find the affects of local land uses.

Information about the Author:

Lindsey Gilman is a sophomore chemistry major and mathematics minor. She became interested in this project after hearing a presentation about the results students had found in the previous years in a chemistry seminar. This summer she will be traveling to China to conduct additional water quality research and then returning to work on the project in Valparaiso for a second summer. After graduation, she would like to attend graduate school for chemistry.

Office of Sponsored and Undergraduate Research - Valparaiso University  
Faculty Sponsor: Dr. Jonathan Schoer

Student Contact: [lindsey.gilman@valpo.edu](mailto:lindsey.gilman@valpo.edu)

Sports PR: Using Image Restoration Theory to Repair Professional Athletes' Images

Robert J. Gorincen, Katrina Wicks

Departmental Affiliation: Communication

College of Arts and Sciences

In light of recent controversies surrounding professional athletes, corporations are reevaluating the risks associated with sponsoring an athlete to promote products and the company's image. However, there is little evidence to suggest that an athlete's damaged reputation will directly impact a company that endorses him or her. Unfortunately, the lack of information in this area provides severe consequences for the athlete pursuing endorsements in the future. Several case studies illustrate how companies have limited tolerance for athletes involved in public controversy. However, there are an adequate number of examples where athletes restored their credibility to the consumer and the corporate sectors.

This research applies the Image Restoration Theory to see why some athletes are able to overcome their damaged image while others cannot. Our methodology will concentrate on review of literature focused on previous research, case studies related to crisis in sports, and surveys of public opinion. This information examines several factors surrounding an athlete's controversy such as talent, type of sport, reputation, alleged crime or ethical wrong doing, and action taken. This study will provide athletes and companies with more objective criteria to base their choice when deciding to terminate a relationship with the athlete involved in a controversy.

Information about the Authors:

Robert Gorincen is a senior public relations major and communication law minor. His participation within PRSSA promoted an internationally known mystery writer. He recently completed an internship with Sports Planning where he researched statistical information on college football players eligible for the 2008 NFL draft. Rob is a volunteer for the American Cancer Society. He plans on attending law school to prepare for a career as a sports agent.

Katrina Wicks is a junior public relations major with a minor in sociology. She is a member of PRSSA, VUSFL, and the Kappa Kappa Gamma Fraternity. After graduation, Katrina plans on entering a career in the entertainment or journalism industry.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [robert.gorincen@valpo.edu](mailto:robert.gorincen@valpo.edu)

The Process and Demands of Producing an Audio Presentation

William Graff

Departmental Affiliation: CORE

College of Arts and Sciences

The goal of my project is to teach people how to create audio presentations. In a world filled with satellite radio and podcasts, knowing how to edit sound is a powerful tool. Works can be broadcasted or posted online, potentially reaching

Office of Sponsored and Undergraduate Research - Valparaiso University  
millions. Businesses are able to explain in-depth new products and projects, doctors and researchers can release studies to larger audiences, and educational institutions are able to teach students across the world. By learning to edit audio, one can unlock countless opportunities. Through the observation of radio programs, such as those found on National Public Radio, I was able to learn the basic format for audio presentations. As my subject, I chose career profiles and interviewed Mike Hoffman, a meteorologist in South Bend, Indiana. To create the audio project, I used my Macbook Pro and Audacity editing software. The organization of the project required manipulating, mixing, and reducing the contents of my production, as well as learning to use the equipment. I discovered that editing audio can be a very stressful, but powerful process. It allowed me to create a product which cannot only reach countless people, but also taught me about the nature of sound and its potential applications.

Information about the Author:

William Graff is currently a freshman meteorology major. High school broadcasting originally piqued his interest in producing. Since then, he has edited multiple audio-visual productions from features lasting three to forty-nine minutes. However, he had never created a radio-style audio presentation. Because audio is more accessible than video in many cases, he wanted to learn to create radio shows. Eventually, he wants to work at a television studio as a meteorologist or producer.

Faculty Sponsor: Prof. Karen Olson

Student Contact: [william.graff@valpo.edu](mailto:william.graff@valpo.edu)

The Role of Public Relations in the International Basketball League: An Integrated Communication Case Approach

Courtney Gwinn, Aimee Litka

Departmental Affiliation: Communication

College of Arts and Sciences

Public relations is a key element for the Gary Steelheads. Due to the stigma of the location this organization faces (perceived as a high crime area), it must be creative in the promotion, publicity, and marketing strategies used to develop various events. These strategies include partnering with the Gary Railcats baseball team, located nearby, while working heavily with sponsors in the community.

Through various promotional activities, the public relations team works to reach new audiences to increase ticket sales and to gain awareness among the youth in the community by creating a positive atmosphere. This study examines the effectiveness of the communication tactics and strategies used to attain this goal.

This study examined the degree to which the promotional efforts reflected the ROPE process (Research, Objectives, Programming, Evaluation). The results indicated a need for more research and evaluation components. An interview with key members of the organization indicated that the tactics utilized by this organization are not reaching the publics identified effectively. The key tactics identified included the website information, direct mailings, and special events. The media, especially newspaper media, is critical for promotional efforts. Furthermore, an integrated communication approach is critical for a low budget organization like the Steelheads.

Courtney Gwinn is a sophomore from Evansville, IN. She is majoring in public relations and marketing. As a member of the Chi Omega sorority and campus activities chair, she encourages members of her sorority to become involved in other organizations and to participate in intramurals. She is also a member of the Valparaiso women's soccer team.

Aimee Litka is a junior from South Bend, IN. She is majoring in sports management with minors in business administration and public relations. She is a member of the Valparaiso women's basketball team along with the Phi Epsilon Kappa honors fraternity for physical education. Her career goal is to work in the sports industry in either marketing or public relations.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [courtney.gwinn@valpo.edu](mailto:courtney.gwinn@valpo.edu)

The Complexity of Public Relations Internships: How Employment Structures (Nonprofit, Agency, Corporate, and Government) View the Discipline

Jennifer Halbert, Emily Trimble

Departmental Affiliation: Communication

College of Arts and Sciences

When looking at public relations job applications, it is easy to see that experience is key. In order to get a job in the field, you need to have experience in the field. The first step for most is to find an internship. However, how does a student know exactly what those employers are looking for?

Research on what academics and practitioners view as the key outcome skills in the public relations discipline were identified and assessed by the Commission on Undergraduate Public Relations in 1999 and again in 2006. These "outcome variables" identified what the agreed-upon tactics and strategic qualities were needed to be effective in public relations.

This study examined these outcome variables through student responses to these variables in public relations classes. The clustering of these variables (personal characteristics, skills, general education) provided a sense of the dominance of these characteristics, especially for class level. Furthermore, a scale of 1 to 5 (1 = not likely to have this outcome variable to 5 = most definitely has this variables) established the valance of these clusters for those studying public relations. Interviews further established the outcomes of former graduates who have been through the internship and entry level positions. This data provided more background to the experience.

Information about the Authors:

Jennifer Halbert is a sophomore public relations major. She is the Traditional Events Chair at Union Board, a member of Chi Omega Fraternity, the PR Chair for Chi Omega, and a WVUR disc jockey.

Emily Trimble is a junior public relations major from Carlisle, Indiana. She currently interns with the VU Guild office and serves as the President of Chi Omega. She works with the PRSSA SPARK PR Student Agency on campus and is a member of the Communications Honor Society, Lambda Pi Eta. After graduation, Emily would like to work in Indianapolis or Chicago in sports public relations.

Office of Sponsored and Undergraduate Research - Valparaiso University  
Faculty Sponsor: Dr. Bonita Neff

Student Contact: [emily.trimble@valpo.edu](mailto:emily.trimble@valpo.edu)

Monitoring the Gains of the Endcap Electromagnetic Calorimeters at STAR  
Ansel Hillmer

Departmental Affiliation: Physics and Astronomy  
College of Arts and Sciences

This research conducted a calibration study of one of the detectors housed at STAR, the EEMC. We determined the cross-sectional uniformity of the 720 tower gains composing the detector, and then looked for long term gain drifting. We found the gains to be drifting somewhat over time, suggesting the need to monitor these detectors more closely. Furthermore, we calculated a new set of high voltages to try and keep the gains as uniform as possible for future runs.

Information about the Author:

Ansel Hillmer is a physics and mathematics double major who conducted this research over the summer of 2007 at Valparaiso University.

Faculty Sponsor: Dr. Donald Koetke

Student Contact: [ansel.hillmer@valpo.edu](mailto:ansel.hillmer@valpo.edu)

The Impact of Public Relations: A Regional Study of Fundraising for Humane Societies

Charli Hoffman, Michelle Niehaus

Departmental Affiliation: Communication  
College of Arts and Sciences

It is important for animal shelters to fundraise in order to find homes for the overwhelming population of stray animals. Large animal shelters, such as those located in Indianapolis and Chicago, can have up to 9,000-10,000 incoming animals and only find homes for about 50-60%. In order to take in more animals and reach out to families wanting to adopt, the facilities must have sufficient funds through donors and programs that appeal to the community. Because animal shelters receive no government funding, the shelters rely solely on donations from local supporters. Nonprofit development through fundraising is an ongoing challenge (Kelly, 2000). The assumption is that nonprofits have public relations professionals providing this expertise. Therefore, the purpose of our study is to identify the degree to which public relations expertise is available to the system of animal shelters in the United States. This study focused on case studies to assess the public relations expertise available and the activity of communication outreach in the areas of publicity and promotions for fundraising. Taking Seitel's model (Seitel, 2004) for this study, all five key areas were covered: The first area focused on the plans and objectives for the events. Secondly, the objective is to identify the trends in the community that might affect the fundraising. Third, it was important to identify the leader(s) providing positive results for the program. Fourth, the allocation of resources to have a promotions staff for community relations was determined through interviews. Finally, it was important to establish the evidence of a review process as a means to assure the program's excellence and to provide options for change. The results indicated shelters do establish goals and works

Office of Sponsored and Undergraduate Research - Valparaiso University  
with publics. However, the negative publicity around animal treatment or practices can severely limit the success of public relations campaigns.

Information about the Authors:

Charli Hoffman, from Sioux Falls, SD, is a business management major with a minor in public relations who hopes to be employed at a nonprofit organization.

Michelle Niehaus, from Indianapolis, is a public relations major with a business minor. She aspires to be a public relations consultant for animal institutions.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [michelle.niehaus@valpo.edu](mailto:michelle.niehaus@valpo.edu)

Preserving Time in Virginia Woolf's *To the Lighthouse*

Kathryn Kattalia

Departmental Affiliation: English

College of Arts and Sciences

This paper investigates Virginia Woolf's mission to preserve time for both herself and her characters in her novel, *To the Lighthouse*. Looking specifically at "Time Passes," the middle section of *To the Lighthouse* in which Woolf presents the passage of a ten year period as a single fluid moment in time, the paper argues that time's role in the novel is non-linear. While the present comes and goes, certain moments seem to outlast the confines of time entirely. Having worked hard to eternalize, or at least prolong, defining moments of the past, Woolf's characters then use such moments of the past to reconcile their relationships in the present. By exploring the actions taken by Mrs. Ramsay to ensure her legacy, the memories Mrs. McNab uses to restore the summer house in Skye, and the house's role in unifying past and present, the paper seeks to question Woolf's justification in preserving time. It looks to analyze how the passage of an entire decade might itself be a timeless moment, and the significance this has in finally arriving at truth.

Information about the Author:

Kathryn Kattalia chose to research the different ways Virginia Woolf manipulates time in her novels, specifically in *To the Lighthouse*. Last spring, Kathryn took a seven-week seminar on Woolf as a part of the Christ College freshmen program, and as a final project she was required to write a research paper on any novel. She was intrigued by the various forms time took in *To the Lighthouse*, and decided to analyze it further.

Faculty Sponsor: Dr. Stephanie Johnson

Student Contact: [kathryn.kattalia@valpo.edu](mailto:kathryn.kattalia@valpo.edu)

Heparin: IV vs SubQ and the Battle for the New Standard of Care

Nina Kiselinova

Departmental Affiliation: Biology

College of Arts and Sciences

A method of Deep Vein Thrombosis (DVT) prophylaxis is necessary for surgical patients in the Intensive Care Unit (ICU). The standard of care requires administration of a low dose subcutaneous injection. This method is thought to be less efficient than testing the patient's blood for the necessary dose and administering that dose via intravenous drip.

Office of Sponsored and Undergraduate Research - Valparaiso University  
The novel method is suspected to have added benefits, and researchers are looking at retrospective case matched studies to see which method is better.

Information about the Author:

Nina Kiselinova is a senior biology major following a premedical curriculum. She became interested in this project because she wanted to experience clinical research, as she is uncertain if she wants to pursue the clinical or academic side of medicine. Although the preliminary results are inconclusive, this project has potential for benefiting more patients than a clinician could help in a lifetime, providing interesting contrast between clinical and academic medicine.

Faculty Sponsor: Dr. Thomas Goyne

Student Contact: [nina.kiselinova@valpo.edu](mailto:nina.kiselinova@valpo.edu)

Graph Labeling with Distance Constraints

Hannah Kwon, Joshua Zuellig,

Dr. Zsuzsanna Szaniszlo

Departmental Affiliation: Mathematics and Computer Science

College of Arts and Sciences

The broadcasting frequencies of radio towers are limited by the broadcasting frequencies of nearby radio towers. However, with the increase need for radio transmissions, e.g., cell phones and other mobile devices, it is advantageous to use frequencies that are close to each other. This presents a puzzle in which the goal is to assign all towers frequencies that conform to the proximity restrictions and occupy the smallest range. Graph labeling is an abstraction of the problem of assigning radio tower frequencies in a way so they do not conflict with each other. All nodes in a graph connected by an edge are said to be 1 unit apart. In an  $L(p,q,1)$  labeling, we use non-negative integers and require that nodes 3, 2, and 1 units apart in distance must be at least  $p$ ,  $q$ , and 1 units apart in label value, respectively. The goal of this project is to describe the  $L(p,q,1)$  labeling of graphs using the smallest possible range.

Information about the Authors:

Hannah Kwon is a junior math major, chemistry minor from Neenah, WI. Joshua Zuellig is a sophomore math major, computer science minor from Ypsilanti, MI.

Faculty Sponsor: Dr. Zsuzsanna Szaniszlo

Student Contact: [hannah.kwon@valpo.edu](mailto:hannah.kwon@valpo.edu)

An Examination of Public Relations Tactics and Strategies: The Impact of Publics on Art Museums

Abby Lange, Jill Meyer

Departmental Affiliation: Communication

College of Arts and Sciences

Public relations is a key part of any non-profit organization. It affects image, brand recognition, and audience perceptions and behavior. The interaction between public relations and the world of nonprofits focused on museum work reflects a close interactive relationship. To explore the tactics and strategies used by public relations professionals affiliated with museum sites, five art museums (Art Institute

Office of Sponsored and Undergraduate Research - Valparaiso University  
in Chicago, Metropolitan Museum of Art in New York, Louvre, Museo Reina Sofia, and Brauer Museum of Art at VU) were involved in an assessment of the public relations functions and role. Tactics such as websites and publications were analyzed in terms of the strategies used to impact publics. The organizations were analyzed for budget, personnel size, and resources, such as facilities, to provide a perspective on the infrastructure – another approach utilized in the comparison. The results identified the public relations tactics were widely utilized and heavily dependent upon the size and constraints on the budget (funds tagged by donors for special purposes, for example). While internationally renowned museums are forced to cater to a wide variety of visitors, regional museums often have a more consistent audience. Public relations employees must not only take this into account while planning, but also realize that their efforts in turn affect which people are attracted to the museums. The analysis of these efforts focuses on attendance, members, and local, regional, and national media coverage. How well different sized museums utilize public relations and the knowledge of their target audience is key to the success and growth of these institutions.

Information about the Authors:

Jill Meyer is a junior and is double majoring in art history and public relations. She is an active member of PRSSA, plays volleyball for VU, and is greatly involved in curating art exhibits around campus. She is completing two internships: one at the Brauer Museum and one at Porter Hospital. Abby Lange is a sophomore public relations and art history double major. She is involved in the VU Chorale and SALT. This summer she will be interning at the Krannert Art Museum in Champaign, IL, helping curate an exhibition and doing work for the PR department.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [abby.lange@valpo.edu](mailto:abby.lange@valpo.edu)

Valparaiso FOCUS Orientation: The Impact of a Public Relations Multi-day Event on Student Perceptions

Stephani Lawrence, Joe Miller, Ashley Wolter

Departmental Affiliation: Communication

College of Arts and Sciences

Valparaiso University's FOCUS sessions are a new student orientation program. This is an area of great interest to the university as a significant amount of planning and funding are dedicated to this event every year. Universities are increasingly competitive to attract and retain students on a high level, often even attracting post-graduate students. The quality of a student's experience translates not only into retention, but also into alumni support. This study has identified FOCUS sessions to contribute to this. The study identified gaps in the secondary research including the opinions of the orientation assistants (OA) and the post assessments of FOCUS from students. Surveys were distributed to 200 freshman students and the orientation assistants to better understand their perceptions about the program and the role FOCUS has in assuring student retention. The research indicated that OA's had an overall consensus that their job was worthwhile, positively impacting the experience of the students as a whole. The OA's agreed for the most part that FOCUS did a great job of preparing attendees for the transition to college life and specifically to that at Valparaiso University. OA's did mention that they think faculty could be more involved with the process but didn't have many negative opinions

Office of Sponsored and Undergraduate Research - Valparaiso University  
about the program itself. In regards to the results from the surveys from current students, a more mixed response was evident. Most said that FOCUS did a good job at orienting them to what college academics was going to be like here at Valpo and gave them a decent glimpse into what college life is all about. It seems as though the biggest role FOCUS had for most of these students was the people they met here and the reduction of anxiety. Overall, through the collection of detailed qualitative and quantitative data based upon student perceptions regarding the program and its impact, FOCUS seems to have had a positive effect on both the OA's and the current students that participated in FOCUS.

Information about the Authors:

Stephani Lawrence is a senior marketing major and public relations minor. Joe Miller is a sophomore public relations and theatre double major. Ashley Wolter is a junior public relations major and art minor.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [joseph.miller@valpo.edu](mailto:joseph.miller@valpo.edu)

Editorial Calendars: An Agenda Setting Challenge Needing Public Relations Strategy

Dan Lieske, Anne Trapasso

Departmental Affiliation: Communication

College of Arts and Sciences

Public Relations is a key factor in coordinating publics with the publication industry. Magazines, in particular, are known to have a calendar agenda with themes identified six months to more than one year in advance. As a more controlled medium, magazine editorial boards develop the agenda for each publication (often multi ownership) and establish their editorial calendars with themes coordinating ideas and content material for each issue. Public relations professionals must seek out the contacts for the editorial calendars and bring that information back to their organization. This means public relations professionals must adjust their outreach efforts or boundary spanning efforts to integrate these editorial calendars into their organizational needs. Consequently, much research and pre-planning to meet for upcoming magazines' agendas requires many cycles of communication. A PR agency, for example, must find out what the public wants and needs first. Then match these identified needs with the themed issues listed in editorial calendars. The editors of these calendars tend to be the gatekeepers in this process. This fact must be acknowledged by public relations professionals and, consequently, an effort must be made to establish a long-term relationship to assure ongoing communication. This research interviewed public relations practitioners and magazine editors to determine strategies involved in these boundary spanning efforts. The results indicate there is a close relationship between public relations professionals and editors of magazines in regards to 1. feature ideas, 2. connection of magazine with publics, and 3. an established infrastructure support system conducive to the public relations pitch opportunities.

Information about the Authors:

Dan Lieske is a senior marketing major with a PR minor from Valparaiso, IN. He is an active member of Sigma Chi International Fraternity, having held positions of recruitment chair, risk manager, and scholarship chair. Anne Trapasso is a

Office of Sponsored and Undergraduate Research - Valparaiso University  
sophomore public relations major with a professional writing minor. She is a member of Kappa Kappa Gamma National Fraternity and PRSSA.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [anne.trapasso@valpo.edu](mailto:anne.trapasso@valpo.edu)

Identifying Growth-Rate Dependent Mutants in *Neurospora crassa*

Erik Lindamood

Departmental Affiliation: Biology

College of Arts and Sciences

In previous studies, wild-type *Neurospora crassa* showed a tendency to maintain branching frequency under different growth rate conditions. Later experiments with morphological mutants began to show this hypothesis might not hold true to certain morphological mutants. This study tried to identify a subset of morphological mutants that obviously responded to growth rate. To make sure the results were growth rate specific, two different methods of growth suppression were used: reduced temperature and low nutrient media. The results from this study give a new way of classifying morphological mutants, while also revealing the possibility of a homeostatic branching system, which regulates the distances between each branch point.

Information about the Author:

Erik Lindamood is a biology major in his junior year. He is from Warrenton, Virginia. He plans to attend graduate school and eventually work in research genetics.

Faculty Sponsor: Dr. Michael Watters

Student Contact: [erik.lindmood@valpo.edu](mailto:erik.lindmood@valpo.edu)

Organic Synthesis of 3-Substituted, 5-Membered Ring Via Trimethyl (2-oxiranyl-2-propenyl)silane

Patrick Long, Petra Malova, Dr. Kevin Jantzi

Departmental Affiliation: Chemistry

College of Arts and Sciences

A new three step synthesis, following the current methodologies, resulting in making a new epoxide, trimethyl(2-oxiranyl-2-propenyl)silane, was developed. This new epoxide was used in a method of cycloadditions which will theoretically result in one additional functional group on a five membered ring when compared to the current methods. This epoxide was proven to be reactive under reflux conditions under a nitrogen atmosphere with trans-4-phenyl-3-buten-2-one, palladium catalyst, 1,2-Bis(diphenylphosphino)ethane to form a yet to be identified product.

Information about the Authors:

Patrick Long is a senior chemistry major from St. Louis, Missouri. He has been working with this research for the past year and a half and will be graduating this spring and beginning a career in industry.

Petra Malova is a senior chemistry major planning on attending graduate school in chemistry. She is originally from Slovakia.

Dr. Kevin Jantzi is an assistant professor of chemistry.

Office of Sponsored and Undergraduate Research - Valparaiso University  
Faculty Sponsor: Dr. Kevin Jantzi

Student Contact: [patrick.long@valpo.edu](mailto:patrick.long@valpo.edu)

Modeling the Line Strength of the Optical Jet Lines in SS 433

Erin Lueck

Departmental Affiliation: Physics and Astronomy

College of Arts and Sciences

I present a study of the H-alpha jet emission lines in the spectrum of SS 433. SS 433 is a microquasar which uniquely shows optical emission from the relativistic jets in the system. We use time-series optical spectroscopy to study the line strength of individual "bullets" in the jets and model the rate at which the equivalent width decreases. A good understanding of this behavior can lead to more direct comparison of observations to the jet kinematic model, as well as other important system characteristics.

Information about the Author:

Erin Lueck is a junior physics and music major.

Faculty Sponsor: Dr. Todd Hillwig

Student Contact: [erin.lueck@valpo.edu](mailto:erin.lueck@valpo.edu)

A Study of Central Stars of Planetary Nebulae Using the SARA Telescope

Joseph Malan

Departmental Affiliation: Physics and Astronomy

College of Arts and Sciences

The research presented here examines the light variations of nine central stars of planetary nebulae (CSPNe) to determine whether any of the nine is in a close binary star system. A long-term goal of the project is to determine how many CSPNe have binary companions, what we call the binary fraction.

In order to do this the target selection was performed using as few selection criteria as possible. If there is cyclic activity present in the light variation of a CSPN, it is possible that there is a binary companion present. Because of the small quantity of data, it cannot be determined conclusively whether any of the nine CSPNe has a binary companion, but preliminary results and light curves for the nine studied objects are presented.

Information about the Author:

Joseph Malan is a senior at Valparaiso University and will graduate in May with a B.A. in new media/journalism with minors in physics and business. He has participated in astronomy research at the university for the previous two summers.

Faculty Sponsor: Dr. Todd Hillwig

Student Contact: [joe.malan@valpo.edu](mailto:joe.malan@valpo.edu)

Development of Experiments in Forensic Chemistry

Petra Malova, Dr. Jonathan Schoer

Departmental Affiliation: Chemistry

College of Arts and Sciences

Office of Sponsored and Undergraduate Research - Valparaiso University  
Forensic chemistry has been gaining significance in solving crimes during the past three centuries, but in the past 30 years there has been an explosion of new instruments, methods, and techniques developed and introduced. Public and student interest in forensic science has also increased dramatically since the developed of CSI-type TV shows. With this heightened interest has come greater interest in courses on forensic science and chemistry. Unfortunately, most available lab manuals for such a course provide a limited number of experiments that are easily accessible for undergraduate students. In this project, experiments using techniques and instruments commonly found in forensic laboratories were developed for potential use in an advanced forensic chemistry class for undergraduate science majors. These techniques include using solid phase extraction (SPE) in conjunction with Gas Chromatography-Mass Spectrometry (GCMS) in an arson investigation and Fourier-transform infrared spectroscopy (FTIR) in fiber analysis. Work is also presented describing the development of a new method useful in identification and quantitation of prescription drugs that have been diverted to illegal sales.

Information about the Authors:

Petra Malova is a senior chemistry major planning on attending graduate school in chemistry. She is originally from Slovakia and became interested in this project because it is a very current and interesting topic.

Dr. Jonathan Schoer is an assistant professor of chemistry currently teaching analytical chemistry.

Faculty Sponsor: Dr. Jonathan Schoer

Student Contact: [petra.malova@valpo.edu](mailto:petra.malova@valpo.edu)

Investigation of Poverty Opinions on Valparaiso University's Campus

Shariliz Martinez, Karen Meuzelaar, Shannon Speaker

Departmental Affiliation: Social Work

College of Arts and Sciences

Poverty is an integral part of our society. It is important to learn all we can about this issue so that there can be empathetic understanding and a move toward lifting these people out of poverty. It is hypothesized that those students who have had more courses in social sciences and cultural diversity will have a more sympathetic view towards impoverished people than students who are not required to take as many of these classes. This study tests Valparaiso University students' opinions of poverty based on Bradshaw's (2007) five theories of poverty (individual, cultural, political-economic structure, geographic, cumulative and cyclical). Data will be collected from beginning (freshman/sophomore) classes and advanced (junior/senior) classes from the Colleges of Nursing, Arts and Sciences, Business, and Engineering. This is to see whether students' opinions vary due to their academic program. It will also indicate whether each college exposes its students to enough diversity classes. If the results show that students from the College of Arts and Sciences are more sympathetic toward impoverished people than students in the Colleges of Engineering, Nursing and Business, then curriculum changes may be necessary for Valparaiso University.

Information about the Authors:

Office of Sponsored and Undergraduate Research - Valparaiso University  
Shariliz Martinez, Karen Meuzelaar, and Shannon Speaker are junior social work majors.

Shariliz is interested in working with families and children. She is currently interning at the Caring Place, Inc. working with victims of domestic violence.

Karen is also interested in working with families and children. She is currently interning with the Court Appointed Special Advocate program in Valparaiso.

Shannon is interested in working with senior issues and health care issues. She is currently interning at the Village Park Enrichment Center at Banta working with senior citizens.

All three are interested in poverty because it affects the lives of the population they hope to serve.

Faculty Sponsor: Dr. Matthew Ringenberg

Student Contact: [shariliz.martinez@valpo.edu](mailto:shariliz.martinez@valpo.edu)

Ancient Tradition Meets Contemporary Practice: Libby Larsen's Missa Gaia and the Roman Catholic Mass

Paula Maust

Departmental Affiliation: Music

College of Arts and Sciences

American composer Libby Larsen (b. 1950) has drawn on her Roman Catholic background in the creation of numerous large concerted works, including Missa Gaia: Mass for the Earth (hereafter referred to as Missa Gaia). Larsen claims to have learned to read music and words simultaneously; as a middle school student she composed opera-like productions for her friends' entertainment at recess. Her Catholic school education, just prior to and during the Second Vatican Council, established her close relationship to the traditional form of the mass. In Missa Gaia, Larsen drew on that form for a new purpose. In her words, it is "a mass for our times which adopts the form and spirit of the traditional Mass and replaces the texts with words addressing human beings' relationship to the Earth." The Missa Gaia contains seven movements of the Roman mass: Introit, Kyrie, Gloria, Credo, Agnus Dei, Sanctus, and Benediction. Her texts, however, are drawn from the Bible, Native American writers Joy Harjo and Maurice Kenny, medieval mystic Meister Eckhart, the Chinook Psalter, and poets M.K. Dean, Wendell Berry, and Gerard Manley Hopkins. This paper compares the Roman Catholic Mass as it existed prior to the Second Vatican Council with Larsen's transformation of it in Missa Gaia. Larsen's compositional and textual choices are analyzed in light of the historical elements of the traditional mass which inspired the Missa Gaia. Since critical commentary on this work to date is limited, the study is based on direct analysis of the composition and the traditional mass, with some reference to materials provided by the composer.

Information about the Author:

Paula Maust is a junior Bachelor of Music, Church Music/Organ Performance major. This research was compiled for a late Romantic and modern music history course. Paula chose to combine her interests in liturgy and modern compositions in this research project. Her interest in Libby Larsen's compositions was taken to a level beyond this research when she chose to perform a work by the modern

Office of Sponsored and Undergraduate Research - Valparaiso University  
composer on her junior organ recital. Upon graduation, Paula plans to attend graduate school to obtain a Master's of Music in Organ Performance degree.

Faculty Sponsor: Dr. Linda Ferguson

Student Contact: [paula.maust@valpo.edu](mailto:paula.maust@valpo.edu)

Visualizing Web Search Results

Brett Meyer

Departmental Affiliation: Mathematics and Computer Science

College of Arts and Sciences

The one aspect of information retrieval applications (e.g., web search engines) that has remained relatively unchanged is the presentation of the result: the user receives a simple ordered list of documents to read through. This ongoing project displays the set of documents as interactive graphical maps. In this way, we hope to exploit the much greater information-processing capacity of the visual field. This year our search software obtains and displays 50 to 100 web page abstracts obtained from Yahoo! and Digg. The abstracts are clustered into a user-selectable number of fuzzy sets. More related documents cluster closer together and each document can have some degree of membership in several clusters. Assigning each cluster center to a spot on the screen, the experimental visualizations then attempt to portray how related each document is to each cluster. The user can mouse-select regions of this map, picking a set of related web page abstracts that can be viewed as text in the ordinary way.

Information about the Author:

Brett Meyer is a computer science major and mathematics minor. After graduation, he will be working as a software engineer with Raytheon while attending grad school at Purdue University Fort Wayne.

Faculty Sponsor: Dr. Michael Glass

Student Contact: [brett.meyer@valpo.edu](mailto:brett.meyer@valpo.edu)

Can Social Bonds Predict Civic Engagement? An Extension of Travis Hirschi's Social Bond Theory

Melissa Moore

Departmental Affiliation: Sociology

College of Arts and Sciences

Since the early 1990s, research has shown the vital role that civic engagement plays in the preservation of strong communities. These findings have prompted other researchers to focus on specific variables in an effort to obtain a comprehensive understanding of what civic engagement is all about. Unfortunately, given their minimal scope, these theories are inadequate at what they set out to do. The purpose of this project is to present an alternative, more inclusive approach that not only encompasses main parts of nearly all existing theory, but also offers a more complete understanding of civic engagement. This study will attempt to show how the four aspects of Travis Hirschi's social bond theory – attachment, commitment, involvement, and belief – can explain and possibly predict levels of engagement. This was done by analyzing the results of a survey distributed to a stratified random sample of Valparaiso University students, faculty, and staff. The

Office of Sponsored and Undergraduate Research - Valparaiso University  
questions on the survey were designed to measure each of the four aspects of social bonds as well as each respondent's level of civic engagement. Specifically, the study attempts to show that people with strong social bonds are more likely to become civically engaged than people with weak social bonds.

Information about the Author:

Melissa Moore is a senior sociology and political science major. She began the project last year in her senior seminar class and decided to expand her studies into an honors thesis. She presented her work at the North Central Sociological Conference on March 28 and plans to also present at the Undergraduate Research Conference at Butler University on April 18. After graduation, she plans to attend a graduate program in sociology.

Faculty Sponsor: Dr. Lissa Yogan

Student Contact: [melissa.moore@valpo.edu](mailto:melissa.moore@valpo.edu)

Empathy and Analogy: Developing a Responsible Ethical-Epistemic Orientation toward Others

Nathanael Romero

Departmental Affiliation: Philosophy

College of Arts and Sciences

To be able to empathize with somebody is to be able to understand and relate to that person on the basis of similar concerns, feelings, circumstances, histories, motivations, and values. On the basis of similarity between you and me, I am able (by way of analogy from my case to your case) to come to an understanding and a value-laden appreciation of your circumstances. I am able to enter into your world, feel your pain, and walk in your shoes. As a mode of epistemic and moral engagement with others, however, this strategy of empathy by analogy has its pitfalls. While persons may resemble each other in some respects, they are different in many important respects and analogy can easily lapse into unjustified projection of one's own mental states onto others, distorting one's view of others by masking their particularity. Inspired by a virtue-theoretic approach to epistemology and drawing upon work in the philosophy of mind, I will argue that, despite the worries raised about them, analogical modes of understanding are both possible and indispensable for a proper moral-epistemic orientation toward others.

Information about the Author:

Nathanael Romero is a senior philosophy major. In his departmental honors project on empathy, he traces points of intersection between different philosophical disciplines, including ethical theory, epistemology, and the philosophy of mind.

By considering the nature and scope of empathy as a mode of moral and epistemic engagement with others, he hopes to provide a footing for negotiating the frustrating, exciting, perplexing, and fascinating otherness of others. Nathanael plans to attend graduate school in philosophy.

Faculty Sponsor: Dr. Aaron Preston

Student Contact: [nathanael.romero@valpo.edu](mailto:nathanael.romero@valpo.edu)

Isolation and Characterization of Metal-Reducing Enzyme Expressed by Shewanella algae, Strain BrY: Gene Sequencing

Windy Santa Cruz, Changmo Sohn

College of Arts and Sciences

This work is a small part of a large Department of Energy (DOE) research effort to harness microbes to the task of immobilizing uranium and plutonium contaminants in soil and ground water. The specific goal of the work reported here is to determine the DNA sequences of the genes that code for the metal-reducing enzymes expressed by the soil bacterium *Shewanella algae*. Work during the past year has been focused on the following tasks: 1) determination of the phylogenetic relationship between *S. algae* and its closest relatives, 2) the determination of aerobic growth kinetics for *S. algae*'s closest known relative, *S. loihica*, 3) the design and testing of PCR primers to amplify one of the *S. algae* metal-reducing genes. Using these primers, a 420 bp PCR product was amplified and sent to the University of Chicago DNA Sequencing Facility for DNA sequencing. The resulting sequence was found to be highly homologous with the expected genes in *S. algae*'s close relatives. This work is supported by DOE subcontract 21059-001-05.

Information about the Authors:

Changmo Sohn is a junior pre-med student with a chemistry major. Last year, he was looking for summer research opportunities in the biochemistry field. He talked to Dr. Goyne, who is a biochemistry professor, and discovered that Dr. Goyne had a research opportunity available for him. Sohn is very interested in Dr. Goyne's research which involves searching for bacteria that can clean up nuclear waste.

No information was provided for Windy Santa Cruz.

Faculty Sponsor: Dr. Thomas Goyne

Student Contact: [changmo.sohn@valpo.edu](mailto:changmo.sohn@valpo.edu)

Analysis of Biodiesel Contaminants via Infrared Spectroscopy

Stephanie Scherer

Departmental Affiliation: Chemistry

College of Arts and Sciences

Biodiesel is an alternate diesel fuel that is produced via the transesterification of vegetable oils, animal fats, or waste oils into methyl esters. In recent years, there has been growing interest for the use of infrared spectroscopy to analyze biodiesel. One of the major benefits that an infrared spectrometer has over the current methods of analysis is that the analysis time is greatly reduced. The purpose of this project was to develop a method to quantify triglycerides, diglycerides, monoglycerides, free fatty acids, glycerol, methanol, and water in biodiesel using a Thermo Fisher Nexus 670 FT-IR and a Thermo Fisher Antaris NIR. During the summer of 2007, sixty-eight biodiesel standards were spiked with varying amounts of the listed contaminants and were then analyzed on the infrared spectrometers. The spectra were then used to generate calibration curves for the various contaminants. Successful calibration curves were generated from the triglyceride, monoglyceride, methanol, and free fatty acid data.

A successful calibration curve was created for glycerol in the mid-infrared region and also for water in the near infrared region.

Information about the Author:

Office of Sponsored and Undergraduate Research - Valparaiso University  
Stephanie Scherer is a junior biochemistry student from St. Louis, Missouri. On campus, she is the secretary of the Chemistry Club and also the vice president of optometry for the annual pre-med/nursing medical mission trip to Central America. After graduation, Stephanie plans on going to graduate school to obtain a Ph.D. in medicinal chemistry.

Faculty Sponsor: Dr. Warren Kosman

Student Contact: [stephanie.scherer@valpo.edu](mailto:stephanie.scherer@valpo.edu)

A Relative Abundance Measurement of Three Naturally Occurring Isotopes in Molybdenum

Lawrence Selvy

Departmental Affiliation: Physics and Astronomy

College of Arts and Sciences

In this experiment, the relative abundances of  $^{92}\text{Mo}$ ,  $^{98}\text{Mo}$ , and  $^{100}\text{Mo}$  will be measured using beta decay spectra. A sample of naturally occurring Mo will be irradiated with the thermal neutron bath at Valparaiso University. A NaI(Tl) will then be used to observe the beta decays from  $^{93}\text{Mo}$ ,  $^{99}\text{Mo}$ , and  $^{101}\text{Mo}$ . Once the decay spectra are obtained, known decay spectra and detector characteristics will be used to determine the relative abundance of the three naturally occurring isotopes.

Information about the Author:

Lawrence Selvy is a resident of Nevada who came to Valpo four years ago to study the physical universe. He is a senior physics major and a member of Sigma Pi Sigma. His senior project has undergone major revisions due to budget and time concerns.

Faculty Sponsor: Dr. Shirvel Stanislaus

Student Contact: [larry.selvy@valpo.edu](mailto:larry.selvy@valpo.edu)

Computer Assisted Tutoring

Adam Shull

Departmental Affiliation: Mathematics and Computer Science

College of Arts and Sciences

This poster was from the REU held at Valpo last summer. The research was part of a project to advance a computerized assistant for mathematics tutors. Our work was in the areas of computational linguistics and mathematics education. In the former, we isolated phrases in student-tutor dialogues that referred to equations being passed between the student and tutor. We then wrote a parser to isolate the terms being referred to in the equations. The goal of these two steps was to link the dialogue phrases with the terms they referred to. In the mathematics education area, we identified and categorized student errors during tutoring sessions in an effort to determine the most common types of error. The purpose of this research is to allow the computerized tutoring assistant to monitor the student-tutor conversation and automatically offer appropriate suggestions to the tutor when the student is stuck.

Information about the Author:

Office of Sponsored and Undergraduate Research - Valparaiso University  
Adam Shull is a sophomore mathematics and computer science double major.

He wants to go on to graduate school after graduating from Valpo and study mathematics. He enjoys doing research in mathematics. In addition to the work last summer, he has done research during the school year and will be participating in another REU this summer.

Faculty Sponsor: Dr. Rick Gillman

Student Contact: [adam.shull@valpo.edu](mailto:adam.shull@valpo.edu)

The Effect of Humor on Memory after Five Weeks

Lindsay Spurlock

Departmental Affiliation: Psychology

College of Arts and Sciences

This study's primary focus was the effect of humor on memory after five weeks. Previous studies about humor's effect on memory show that humorous material is more likely than non-humorous material to be recalled over short periods of time. However, no research has focused on humor's effect on memory over long periods of time. Participants viewed slides consisting of a photo, keyword, and a phrase that was either humorous or non-humorous. They were also asked to rate how humorous each slide was. After five weeks, participants were given recall sheets and asked to recall what they could of the keywords and to give brief descriptions of photos presented in the slides. Some recall sheets provided cues that were full phrases from slides and others presented cues that were partial phrases. Using a 2 (humorous or non-humorous) x 2 (partial or full cue) x 2 (List A or List B) x 2 (Order 1 or Order 2) mixed factorial analysis, results showed that recall for photos paired with humorous phrases was significantly higher than for those paired with non-humorous phrases. Recall for keywords yielded no difference. The interpretation of humor's impact on memory was complicated by interactions with cue and list.

Information about the Author:

Lindsay Spurlock is a senior psychology major this year at VU and will be earning a bachelor of science degree in May. After graduation, she hopes to obtain a master's degree in the field of psychology. Two years ago, she underwent a variation of this experiment as a participant, but she wanted to gain better insights into how memory is affected by humor over long periods of time as well as how the experiment was conducted.

Faculty Sponsor: Dr. Kieth Carlson

Student Contact: [lindsay.spurlock@valpo.edu](mailto:lindsay.spurlock@valpo.edu)

Bach as Innovator: The Six Suites for Unaccompanied Violoncello

Shannon Stutler

Departmental Affiliation: Music

College of Arts and Sciences

Many of J. S. Bach's pieces served specific functions within the accepted frame of musical structure and technique during his time. However, his Six Suites for Unaccompanied Violoncello served a variety of purposes and stretched the established limits and customs of music during the Baroque period. Although the

Office of Sponsored and Undergraduate Research - Valparaiso University  
suites are mysterious, by investigating the influences of the suites, conclusions can be drawn about the purposes and function of the Suites both in the Baroque period and modern times. Research indicates that the violoncello suites served as experimentation into the world of the violoncello. Because of his experimentations, he created a work which epitomizes technique and education of the violoncello while revolutionizing the instrument.

Information about the Author:

Shannon Stutler is a junior music education major and will be student teaching in the fall. She is a member of Sigma Alpha Iota and the Music Educator's National Conference. This presentation evolved from the fall music history course. After further development, the information was presented as part of the Bach Institute Student Symposium in January.

Faculty Sponsor: Dr. Linda Ferguson

Student Contact: [sasstutler@gmail.com](mailto:sasstutler@gmail.com)

Instrumentally Conditioning Aggressive Response to Provocation

Ryan Taber

Departmental Affiliation: Psychology

College of Arts and Sciences

Although a large part of any aggressive response is cognitively based, behavior modification techniques, especially punishment, are often used by parents, teachers, correction officers, etc. to respond to and hopefully eliminate aggression.

But is punishment necessarily the most effective way to inhibit aggression? This study examines the effect of each of the four instrumental conditioning contingencies (positive reinforcement, negative reinforcement, positive punishment, negative punishment) on rate of aggressive responding.

To test these comparisons, participants are asked to play a simple computer game, ostensibly against another participant in the room next door, in which they gain points for clicking one on-screen button. However, points are periodically subtracted from their score. These subtractions are attributed to their opponent. The participants then have the choice to respond aggressively by clicking a second on-screen button, which supposedly subtracts a point from their opponent's score. They are either rewarded for non-aggression or punished for responding aggressively based on experimental group. The study is still in progress. Inconsistencies in prior research make prediction of results difficult, but it is generally predicted that reinforcement of non-aggression will produce more of an inhibitive effect than punishment of aggression.

Information about the Author:

Ryan Taber is a sophomore psychology and German major from Fishers, IN.

Faculty Sponsor: Dr. Angela Vernon

Student Contact: [ryan.taber@valpo.edu](mailto:ryan.taber@valpo.edu)

Faith through an Esthetic and Ethical Reconciliation in Walker Percy's Love in the Ruins

Colleen Tichich

Departmental Affiliation: Christ College

In *Love in the Ruins*, Walker Percy presents the audience with the character Tom More. More's wife, Doris, left him after their daughter, Samantha, died of illness. His daughter's death leads More to struggle with issues of resignation. In addition, Samantha's death leads to a schism between the esthetic and ethical within More. This split is demonstrated through the variety of relationships that More has with various women. My research suggests that Percy uses two of Søren Kierkegaard's works, *Fear and Trembling* and *Stages on Life's Way*, to shape More's struggle with issues of resignation and the difficulty he encounters as he attempts to balance the tension between rationality and romanticism. Percy juxtaposes these conflicts within an individual creating a unique perspective on the role of ethical and esthetic union in resignation and faith. Percy resolves this tension in a faith-shaping moment out of which More regains all that he had lost. In this moment More recognizes his need to accept the past and now focus on living in the present. This moment indicates More's ability to now face the loss of his daughter and wife and demonstrates a reconciliation of the esthetic and the ethical.

Information about the Author:

Colleen Tichich is a senior music education and humanities major from Circle Pines, MN. Currently she is a member of the Symphony Orchestra, Kantorei, Chamber Concert Band, woodwind quintet, and horn ensemble. This is her first presentation at the VU Celebration of Undergraduate Scholarship. Last year she presented a paper at the National Conference for Undergraduate Research entitled, "Text, Context, Tone: The Importance of Interpreting Hymns in Their Entirety for the Christian Tradition."

Faculty Sponsor: Dr. Gretchen Buggeln

Student Contact: [colleen.tichich@valpo.edu](mailto:colleen.tichich@valpo.edu)

Electrical Models for Vertical Carbon Nanotube Capacitors

Joshua Wood

Departmental Affiliation: Electrical and Computer Engineering, Mechanical Engineering

College of Engineering

We present electrical models for a carbon nanotube capacitor with very high capacitance per unit area. Multiple potential structures of the carbon nanotube capacitor are presented and the capacitance per unit area for each structure is calculated. The capacitors exhibit from 50fF/um<sup>2</sup> to 387fF/um<sup>2</sup>.

Information about the Author:

Josh Wood is a senior computer engineering major. Over the last two years, he has been researching opportunities to extend computational speed (Moore's Law) by using techniques ranging from quantum computing to carbon nanotubes.

Upon graduation, he will be pursuing a M.S. and Ph.D. in electrical and computer engineering, with an emphasis on nanoelectronics at either the University of Illinois at Urbana-Champaign or Stanford University. He also plans to get an M.B.A.

Faculty Sponsor: Dr. Mark Budnik

Dr. Eric Johnson

Student Contact: [josh.wood@valpo.edu](mailto:josh.wood@valpo.edu)

Allison Wunsch

Departmental Affiliation: Political Science

College of Arts and Sciences

Currently, society is trying to determine our next President. A recent article in the Chicago Tribune addressed the personalities of many of the presidential candidates. Does personality make a difference in the ability to govern? How do personal relationships affect legislative success? Are these characteristics important to the success of passing desired legislation? I have examined five governors and sent a survey to Iowa.

A study done by Margaret Ferguson showed the more “affiliation and intimacy” motives governors used in a state of the state address, the less legislative success they had. The study therefore suggests that the more cooperative and the friendly governors are, the less success they will have. My research does not support these findings. Using governors with the five highest rankings in “affiliation and intimacy” from the Ferguson study, I tested her findings. I examined numerous articles on each governor to study the discrepancy. Using these case studies and my survey, I have determined the importance of personality and personal relationships in a governor’s legislative success. Legislators in order to determine the answers to these questions.

Information about the Author:

This project is an accumulation of knowledge from Allison’s four years as a political science major. She is interested in more than just the system and the process; she seeks to understand how the actual person affects politics. Political science can many times overlook the fact that the people involved in the decisions are people with personal relations to one another. Her research for this project focused on this significant part of politics.

Faculty Sponsor: Dr. Jennifer Hora

Student Contact: [allison.wunsch@valpo.edu](mailto:allison.wunsch@valpo.edu)

An Experimental and Computational Study of the Frequency Dependence of Faraday Rotation

Benjamin Anderson

Departmental Affiliation: Physics and Astronomy

College of Arts and Sciences

The Faraday Effect is a magneto-optical phenomenon by which the plane of polarization of light is rotated in a material in a longitudinal magnetic field. There have been many proposed methods of theoretical ways of predicting the magnitude of this effect, which is characterized by the Verdet constant, but all seem to run into some trouble in predicting the value of the Verdet constant. I performed a limited experimental study, due to equipment failures, and a theoretical study of water's Verdet constant.

Information about the Author:

Benjamin Anderson began doing the background research for this project freshman year, reading papers, books, etc. During his junior year, he performed some

Office of Sponsored and Undergraduate Research - Valparaiso University  
background computational studies, and finally in his senior year, he began the full blown project as an Honors Thesis. His interest in the project stemmed from how gravitational fields affect light. Knowing this fact, he wondered if magnetic fields would affect light as well. He plans on going to graduate school and studying quantum optics.

Faculty Sponsor: Dr. Andrew Richter

Student Contact: [ben.anderson@valpo.edu](mailto:ben.anderson@valpo.edu)

Public Relations Messages on Diabetes: Analysis of the Communication Delivery Systems and Message Content

Kenzie Baldwin, Lindsay Engelbert

Departmental Affiliation: Communication

College of Arts and Sciences

Diabetes is a modern day epidemic among children in America. Unhealthy lifestyles promoted by American food culture are increasing the diagnoses of type 2 diabetes in children. Thus families should be positively informed to promote healthy lifestyles.

In a previous case study published in textbooks, the complexities of diabetes were not carefully presented and ultimately subjugated to the goal of meeting financial bottom-line criteria. It is noted the complexity of merging technical information into communication formats on the topic of type 2 diabetes is a challenge, especially when organizations are connecting messages with the financial mission.

This study identified the programs and messages created by a nonprofit organization, a public school, and a corporate community healthcare hospital to assess the effectiveness of organizational communication outreach efforts on diabetes. It was the intent of this study to ascertain the campaigns were truly represented of the diabetes situation. To attend to this concern, a content analysis of these messages indicated the outreach captured the critical information and were disseminated in effective approaches. Thus by evaluating these key messages from both technical and tactical standards, the effectiveness of these campaigns was determined accurate and thus effective.

Information about the Authors:

Kenzie Baldwin is a senior music education major with a public relations minor. She is involved in MENC and SAI. Kenzie lived in the area of Washington, D.C. where the misleading diabetes campaign was conducted.

Lindsay Engelbert is a senior public relations major with a business minor. She is a member of PRSSA and works at Buffalo Wild Wings.

Faculty Sponsor: Dr. Bonita Neff

Student Contact: [kenzie.baldwin@valpo.edu](mailto:kenzie.baldwin@valpo.edu)

The PDF Footer