# PROGRAM ABSTRACTS

# Regis University Celebration of Research, Scholarship and Creative Excellence

Clarke Hall Atrium and Conference Rooms

April 24, 2013 11:00 am – 5:30 pm

**Poster and Platform Sessions** 

# Regis University Celebration of Research, Scholarship, and Creative Excellence

## April 24, 2013; 11:00 am – 5:30 pm Clarke Hall

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## Regis University Celebration of Research, Scholarship, and Creative Excellence

## April 24, 2013; 11:00 am – 5:30 pm Clarke Hall

## **POSTER SESSION (Clarke Hall Atrium)**

11:00 am – 5:00 pm Poster Viewing

4:00 pm – 5:30 pm Poster Presentations

## PLATFORM SESSIONS (Clarke Hall Conference Rooms)

11:45 am – 1:00 pm Session 1; Room DCH136/137 (Student Session); Session Chair: Leah Sheridan

Erina McGuire\*: Raspberries

John Ludlam\*: Work With Your Hands

Jacob Garcia: Reductive Detoxification of TNT

Kyle Farrell\*: Electron Transfer Reactions of Cytochrome c Oxidase: Isolation, Characterization

and ligand binding studies

Reuben M. Closson\*: Common Celtic in Contemporary Galician Lexicon

1:00 – 1:15 pm Break and Poster Viewing

1:15 – 2:15 pm Concurrent Sessions

## Session 2; Room DCH136/137; Session Chair: Karen Smith

Kristine Brands, MBA: Planned Change in a Chinese Company: A Participatory Action Research

**Approach** 

Martin McGovern, PhD: Reading from the Hotel Amerika

Loretta Notareschi, PhD: Bordone

Anthony Ortega, MFA\*: Nature, Migration and Culture

## Session 3; Room DCH106; Session Chair: Jim Ungvarsky

Jolynne Reynolds, PhD, LPC, RPT-S\*: THIS IS ME: Enhancing the Resilience of Bicultural/Biracial

**Adopted Adolescents** 

Michael Spangle, PhD, and Myra Isenhart, PhD: Forgiveness: My gift to myself

Erica Nagel-Allgood, PhD: Great Ideas for Teaching Students (G.I.F.T.S.): We Are All In This

Together

Linda Osterlund, PhD, LMFT: The Smart Counselor: A Counselor's Personal Relationships Need

**Intentional Consideration for Success** 

2:15 – 2:30 pm Break and Poster Viewing

2:30 - 4:00 pm

**Concurrent Sessions** 

## Session 4; Room DCH106; Session Chair: Luka Powanga

David Bauman, MHR, PhD: Leadership and the Three Faces of Integrity

**Kinoti Meme, PhD\***: Exploring Social Entrepreneurship and Market Based Solutions as Models for Community Development: A Program Study of Nongovernmental Organizations in Kenya

**Steven Bennett, PhD**: Disillusionment and the Hardening of the Sacred Heart: Remembering How the Heart is an Organ of Perception

Robert Collins, PhD: The relationship of goal setting to persistence

**Luka Powanga, PhD**: Framework for Evaluating and Prioritizing Energy Improvement Opportunities in an Industrial Setting: The Case of Golden Aluminum Inc

Kenneth Friedman, PhD: The Grameen Bank and Social Business

#### Session 5; Room DCH136/137; Session Chair: Obdulia Castro

**Erika Nelson-Wong, PT, PhD\***: Influence of Lecture Slide Completeness on Student Learning in a Physical Therapy Curriculum

**Cheryl Kruschke, EdD, MS, RN, CNE,** and **Tristen Amador, PhD, MSW**: Testing the Care Dependency Scale in the Long Term Care Setting

Christine Finnn PhD, RN, FNP, MS, MA, FNE: Strangulation Are We Assessing?

**Patricia Abbott, PhD, FNP-BC, RN**: The Use of Nurse Practitioners and Physician Assistants in Emergency Departments: A Descriptive Study of Practice

**Patricia Cullen, PhD, CPNP**: Functional Status, Behavior, Executive Function and Quality of Life in Children Undergoing Treatment for Standard-Risk Medulloblastoma: The Children's Oncology Group Nursing Experience

Ira Gorman, PT, PhD: Child Obesity: Parents vs. Environment: Who has the greatest influence?

4:00 - 5:30 pm

Poster Presentations

**Celebration Reception** 

Father John Fitzgibbons, SJ: Welcome

Pat Ladewig, PhD: The Culture of Research and Scholarship at Regis University

Office of Academic Grants: Faculty Award Presentations

Wine, Non-Alcoholic Beverages, and Light Snacks

6:30 - 8:30 pm

School of Physical Therapy – Fifteenth Annual Research Symposium

Peter Claver Hall Mountain View Room; Doctor of Physical Therapy Class of 2013

## PLATFORM SESSION ABSTRACTS

## SESSION 1 11:45 am – 1:00 pm

Erina McGuire\*. "Rasberries"

Student, Department of English, Regis College

\*URSC Student Travel Grant Recipient: 2013 National Undergraduate Literature Conference

Raspberries is the story of a girl working to dig up a raspberry patch in Ireland. While the girl pulls up roots she listens to a tape of her father telling his life story in an Alcoholics Anonymous meeting. Different aspects of the father's life trigger memories for the girl, and as three stories interweave the overarching tale of the girl's life comes to surface.

## John Ludlam\*. A Human Connection Through Portraits

Student, Department of Fine Arts, Regis College \*URSC Student Research and Scholarship Grant Recipient

For my final thesis project I will be producing portrait photographs of abnormal, unique, and interesting people. I have been inspired by the work of the portrait artists Diane Arbus, Richard Avedon and Ian Ruhter who have focused their work in similar fields. I expect that my photographs will speak to the power of the human connection to overcome differences only to find similarities in all of us. The funds received from this grant will allow me to purchase the necessary materials to produce my final project such as film, paper and presentation materials. It is my goal to take the traditional values that past photographers have set forth, and push those traditions into a new and contemporary style and photographic process. Ultimately I am interested in expressing the human condition that connects all of us through expressing common values of characteristics of individuals.

#### Jacob Garcia, Joshua J. Gallegos, Philip D. Ord, Surendra N. Mahapatro. Reductive Detoxification of TNT

Student, Department of Chemistry, Regis College

The oxidative detoxification of 2, 4, 6-trinitrotoluene (TNT) has been an extraordinary challenge since its large scale use during the Second World War. Oxidation of TNT requires brutal conditions such as dichromate and concentrated sulfuric acid and days of reaction time. TNT contamination in soil and in water is more severe in military bases, explosive manufacturing plants and ammunition facilities. An attractive alternative approach employs a reductive strategy involving electrochemical reduction of the nitro groups to amines (Wang et al. *Electroanalysis*, **2011**, 23, 1193-1204). The fully reduced product (2, 4, 6- tri-aminotoluene) can then be easily functionalized to phenols using century –old classic diazonium ion chemistry (Sandmeyer reaction). In a recent electrochemical study (Chua et al *Journal of Physical Chemistry*, **2012**, 116, 4243-4251), Cyclic voltammetry of TNT indicated a remarkable selectivity; the first reductive step involved the *ortho*-nitro group.

Using 2, 4-dinitrotoluene as a model compound, we have studied the selectivity of reduction (if any) by nano-iron particles. The nano-iron particles were generated in situ by the reduction of ferrous ammonium sulfate (complexed with citrate) by sodium borohydride (Ranu et al; Chemical Communications, **2012**, DOI: 10.1039/c2cc3099h; first published on the WEB on 10 April 2012, Royal Society of Chemistry). Using stoichiometric conditions of reactants (1 mmol nitro compound: 3 mmol nano-iron particles), the reduction product was purified by silica chromatography (hexane –ethyl acetate; 2:1) and analyzed by 500 MHz <sup>1</sup>H-NMR at the University of Denver. The integrated NMR spectra was used to estimate the observed *ortho/para* ratio.

Interestingly, the reduction at the para-position was preferred to the reduction of the ortho-nitro group (para: ortho = 60:40). This result conflicts with the electrochemical measurements where there was remarkable selectivity (100%) for the reduction of the ortho nitro group.

We are extending our work to the reduction of TNT by nano-iron particles and by Raney nickel/NaBH<sub>4</sub>. Cyclic voltammetric studies of the nitroaromatics will be presented (Supported by several WAESO undergraduate research grants).

**Kyle Farrell\*,** Sara X Rodriguez, Adaivet Martinez, Surendra N. Mahapatro. Electron Transfer Reactions of Cytochrome *c* Oxidase: Isolation, Characterization and ligand binding studies

Student, Department of Chemistry, Regis College

\*URSC Student Travel Grant Recipient: More Graduate Education at Mountain States Alliance Undergraduate Research Conference

Higher eukaryotic aerobic organisms cannot exist without oxygen. Cytochrome c oxidase is the key terminal enzyme (complex IV) in the electron transport respiratory chain. It spans across the inner mitochondrial membrane and catalyzes the four electron reduction of oxygen to water by four transmembrane electron transfers from reduced cytochrome c

 $4 \text{ Fe}^{2+}$ -cytochrome  $c + 8 \text{ H}_{in}^{+} + \text{O}_{2}$ 

 $4 \text{ Fe}^{3+}$ -cytochrome  $c + 2 \text{ H}_2\text{O} + 4 \text{ H}_{\text{out}}^{+}$ 

Electron transfer is coupled to a vectorial transfer of protons across the inner mitochondrial membrane, leading to the ATP synthesis via  $F_1F_0$  Atpase. Neurodegenerative diseases, such as Alzheimer's and *Parkinson's diseases*, and stroke is a malfunction of mitochondria including cytochrome c oxidase (The many clinical faces of cytochrome c oxidase deficiency; DiMauro et al, *Adv. Exp. Med. Biol.* 2012, 748, 341-347). In 1995, the crystal structure of oxidized cytochrome c oxidase at 2.8A resolution was reported (Yoshikawa et al *Science*, 269, 1069-1074, 1995; ibid, Science 272, 1136-1144, 1996). The presence of two hemes (cytochrome a and  $a_3$ ) and two coppers ( $Cu_A$  and  $Cu_B$ ) provide unique spectral signatures for ligand binding studies. During the past fifty years, ligand binding involving small ligands such as cyanide, carbon monoxide and azide has been intensely studied for gaining insight into the oxygen binding site of the enzyme. In order to probe the active site by redox active ligands such as nitroxyl (HNO) and hydroxylamine (known inhibitors of mitochondrial respiration), as a first step, we have directed our effort toward the isolation, purification and characterization of cytochrome c oxidase from beef heart mitochondria (the enzyme is not available for purchase from commercial biochemical vendors); there are recognized difficulties in extracting the enzyme from its membrane bound environment to a detergent environment in aqueous phosphate buffer (Mahapatro, S. N., & Robinson, N. C.. Effect of changing the detergent bound to bovine cytochrome c oxidase upon its individual electron-transfer steps. *Biochemistry*, 1990. *29*(3), 764-770).

## Reuben Closson\*. Common Celtic in Contemporary Galician Lexicon

Student, Department of Modern Language, Regis College

\*URSC Student Travel Grant Recipient: Tri-annual conference of the International Association of Galician Studies (AIEG) in Cardiff, Wales, UK

My presentation will report on initial results of my long term research project on semantic remnants of proto-Celtic in Galician Landscape Vocabulary. The hypothesis I am seeking to support is that landscape terms like *meadow*, *valley* and *pasture* (*prado*, *vale* and ≈ *veiga* in Galician), while etymologically coming from Latin, have some meanings in modern Galician that come instead from an ancient Celtic language, since the peoples living in Galicia were likely Celtic before the Roman conquest of the Iberian Peninsula. My hypothesis is that Galician, today a Romance language, adopted the new words from Latin, but kept the original Celtic meanings superimposed on the new Latin words. My research expands the study of the celticity of the Galicians to everyday words. In existing research in this area this Celtic link has so far been limited to the perusal of anthroponyms, hydronyms and toponyms used for personal names and names of mountains, rivers and places.

## SESSION 2 1:15 pm – 2:15 pm

Kristine Brands, MBA. Planned Change in a Chinese Company: A Participatory Action Research Approach

Assistant Professor, School of Management, College for Professional Studies

Opportunities continue to open up for researchers to partner with organizations around the world, allowing them to learn and contribute to the overall body of knowledge in academia. The purpose of this paper is to offer a reflexive view on participatory action research (PAR) and the challenges of outsider researchers from the United States working with Mainland Chinese insider participants as they worked together to improve and sustain a company's knowledge on planned change and organizational development (OD). It documents the process followed and the researchers' observations during the PAR project to transform the company from a silo-based organizational culture to one of cooperation and collaboration. Additionally, it addresses the importance of having a clear contract with all participants as a success factor. Despite the positive impact researchers might have on the organizations and research, they also experience the reinforcement of some old lessons regarding trust and cooperation.

Martin McGovern, PhD: Readings from the Hotel Amerika

Associate Professor, Department of Innovative Studies, College for Professional Studies

A group of national and international writers previously published in *Hotel Amerika* was invited to read at the 2013 AWP Conference in Boston, the national creative writing convention. Dr. Martin McGovern was among the readers. He will read "Socrates and the Locusts" and "Those Years," the poems previously published in *Hotel Amerika*, as well as a new medium-length experimental poem, "Blue."

Quote about *Hotel Amerika*, one of the leading literary magazines in the country: "You know to expect something different from *Hotel Amerika* just from its name [it was formerly The Ohio Review]. It's going to take you elsewhere, or if not, it will give you a decidedly different take on the place you call home."

## Loretta Notareschi, PhD: Bordone

Assistant Professor, Department of Music, Regis College

Bordone, meaning "drone" in Italian, is an improvisational piece for violin and laptop. The laptop part is a virtual instrument, called the "Drone Machine," that I built in Max in 2012. The Drone Machine player manipulates layers of pre-recorded drones (some acoustic, some electronic) by filtering their spectra in real time. A score outlines the relative intensities to be reached by both players but is otherwise open in terms of length, pitch and "noise" content, form, and other musical parameters. The musical landscape conjured is both familiar and otherworldly. This piece is an outgrowth of my study at the International Composers and Interactive Artists workshop in Citta' di Castello, Italy in July 2012, sponsored by a generous grant from Regis University.

## Anthony Ortega, MFA\*: Nature, Migration and Culture

Associate Professor, Department of Fine & Performing Arts, Regis College \*URSC Faculty Research and Scholarship Grant Recipient

I am requesting travel funds to San Luis, Colorado to conduct 4 days of print making at Ventero open press to create new body of artwork. This new artwork will be a series of prints expressing a correlation between human and animal migration. I will incorporate the migration of the sandhill crane as a metaphor for human migration. I will complete this creative project in three steps: 1) create a series of drawings (studies) of images of sandhill cranes based on my resent observation and photographs; 2) create a series (studies) of Mexican migrants based on my photographs; and 3) create twelve new art works that incorporate nature, migration and culture. This research/creative project will aid me in the development of new ideas and new methods of expression on the migration of human beings and the migration of the sandhill crane.

## SESSION 3 1:15 pm – 2:15 pm

Jolynne Reynolds, PhD, LPC, RPT-S\*: THIS IS ME: Enhancing the Resilience of Bicultural/Biracial Adopted Adolescents

Professor and Post-Graduate Certificate in Counseling Children & Adolescents Coordinator, Graduate Counseling Division, College for Professional Studies

\*URSC Faculty Research and Scholarship Grant Recipient

Through my mission leave, I have participated in the "This is Me" (TIM) Program for internationally adopted adolescents, part of the programming for teens at Heritage Camps for Adoptive Families (HCAF) Inc., http://www.heritagecamps.org.

The TIM Program is a 2 hour workshop held for all participating teens at ten different HCAF camps designed to assist teens in developing a positive bicultural/biracial identity. HCAF camps are held every summer in Colorado and are representative of ten different adopted child birth cultures including: African Caribbean, Cambodian, Chinese (2 camps), Filipino, Indian Nepalese, Korean, Latin American, Russian Eastern European Central Asia, and Vietnamese. The TIM workshop is designed to be interactive between the teens and members of the cultural community of their birth culture. During the TIM workshop, adult members of the cultural community act as mentors and engage teens in an interactive panel discussion where information about their birth cultural identity is explored. Their panel presentation and discussion is followed by specifically developed activities for the teens that are geared toward building their positive bicultural identity and increasing their ability to cope effectively with stereotypes, prejudice, or overt and covert oppression they may encounter regarding their bicultural/biracial heritage. In March 2012, the project was awarded partial funding from SPARC in the amount of \$1776.00. These funds were used toward materials and supplies as well as gas vouchers for the community members who are participating in the program. The present proposal reflects budgetary items not met in the first SPARC award that if funded will support the research portion of implementing the proposal.

## Michael Spangle, PhD, and Myra Isenhart, PhD: Forgiveness: My gift to myself

Professor/Chair, and Affiliate Faculty (respectively), Department of Social and Behavioral Sciences, and Master of Arts Department, College for Professional Studies

For many people, their best efforts to repair relationships is sabotaged by the inability to forgive past offenses and move on. This session reports how demographic factors may predict the willingness or capacity of individuals to participate in forgiveness. Presenters will discuss the factors that promote a willingness to apologize, the willingness to forgive, the factors that prevent forgiveness, and how we as friends might facilitate forgiveness with those we live and work.

## Erica Nagel-Allgood, PhD: Great Ideas for Teaching Students (G.I.F.T.S.): We Are All In This Together

Assistant Professor, Department of Social and Behavioral Sciences, College for Professional Studies

Based on the theme of the COMMunity this year at the NCA conference, this submission for G.I.F.T.S. is a team/group dynamic activity. The activity can be easily explained in a limited amount of time (which is critical in the G.I.F.T.S session) but is a comprehensive activity for any group communication, team dynamics, conflict management, or leadership course. The activity encompasses and easily ties together various concepts of verbal and nonverbal communication, conflict, roles, interpersonal and organizational communication, leadership, systems thinking, communication flow and processes. This activity is an excellent culminating activity in any group dynamics, interpersonal, organizational, leadership, or conflict management course.

**Linda Osterlund, PhD, LMFT**: The Smart Counselor: A Counselor's Personal Relationships Need Intentional Consideration for Success

Associate Professor, Graduate Counseling Division, College for Professional Studies

A counselor's relationship skills are required to be exceptional, regardless of the therapeutic orientation. Often, counselors can build quality therapeutic relationships, yet struggle in their personal relationships. Research and qualitative experiences of the counselor and their partner relationships will be presented. Participants will gain awareness of the unique experience of the relationship between a counselor and their partner. Strategies will be explored for building healthy relationships. Goal setting will be utilized to build resilience in the counselor/partner relationship. Implications for graduate training programs will be discussed.

## SESSION 4 2:30 pm – 4:00 pm

David Bauman, MHR, PhD: Leadership and the Three Faces of Integrity

Assistant Professor, Department of Business Ethics, Regis College

Recent integrity scholarship has concluded that it is not fundamentally a moral concept. This paper presents an account of leadership integrity that defends its ethical meaning while identifying important cognitive structures that clarify the confusion surrounding integrity attributions. I argue that integrity is fundamentally, but not exclusively, a moral concept that supports the ethical claims of leadership theories. I explain how a leader's integrity is founded on identity-conferring commitments to values and then describe three types of leadership integrity to better understand these constructs.

**Kinoti Meme, PhD\***: Exploring Social Entrepreneurship and Market Based Solutions as Models for Community Development: A Program Study of Nongovernmental Organizations in Kenya

Chair, Department of Global Nonprofit Leadership, College for Professional Studies
\*URSC Faculty Research and Scholarship Grant Recipient

Aid and development organizations deal with persistent issues that defy easy solutions (e.g. poverty, health, water, etc.). This means a continued desire to find better approaches for development that will help address these intractable human needs. Researchers and practitioners have suggested and applied numerous models or approaches for development in different development contexts. These models have included relief intervention, capacity building, direct service provision, and lately, marketdriven solutions, value-add programs and entrepreneurship ventures. This study concerns itself with recent proposals for Social Entrepreneurship (SE) and Market-Based Solutions (MBS), as models for community development and seeks to locate their viability within a particular context. The study especially seeks to explore the use of SE and MBS by Nongovernmental Development Organizations (NGDOs) in Kenya, East Africa. The goal is to establish how these emergent development proposals are applied in a particular context and how they have impacted (or not impacted) changes in the focus of development agencies (i.e. NGDOs), as well as the sector in general.

This study has significant importance in international community development and social sciences in general because it seeks to locate efforts for community development within a particular context to determine its efficacy and usage. Apart from confirming (or negating) particular theoretical proposals for development (i.e. SE and MBS), the study will seek to highlight any proven efforts for poverty alleviation and sustainable community development with the desire for proposing sector-wide adoptions, especially in the Sub-Saharan region.

**Steven Bennett, PhD**: Disillusionment and the Hardening of the Sacred Heart: Remembering How the Heart is an Organ of Perception

Professor, Graduate Counseling Division, College for Professional Studies

Contemporary experience has been radically altered by the technological and commercial influences that dominate our daily lives. Technology speeds up and broadens our access to vast amounts of facts and information. However, this modern landscape of information, facts and entertainment has slowly eroded the narrative fabric of our culture that helps us identify and differentiate the qualities and meaning of ourselves as unique individuals. Disillusionment arises as we witness the impersonal developments of science, technology and commercialism that expand far beyond our capacity to understand and value their utility. More and more, we find ourselves following their lead and defaulting to false desires and to a spectator consciousness.

In this article, we will address the fact that our modern scientific materialism conceals within it an "agnostic reflex" which, in orienting us to the thinking head can foster a hardening of the heart. This same evolution has forgotten the necessity of experiencing the heart as an organ of perception. Knowing the heart as an organ of perception reacquaints us with the vital and sacred experiences of desire, feeling and imagination as the narrative building bocks for a way through the disillusionment of self-estrangement in an ever more mechanical universe.

## Robert Collins, PhD, Dorothy Williams, PhD, Jill Coddington, PhD: The relationship of goal setting to persistence

Professor, School of Humanities and Social Science, College for Professional Studies

This research project was designed to investigate the impact of formal goal setting activities of adult non-traditional graduate students on their persistence to complete a master's degree. The researchers hypothesized that students in a program that incorporated goal setting and monitoring procedures would graduate at higher rates than students in comparable programs that did not incorporate goal setting and monitoring. Data were acquired from Regis University records for a period of three academic years describing students in eight graduate programs offered in the College for Professional Studies. The data were analyzed using selected statistical methods to test the significance of findings. The preliminary findings did not support the hypothesis; however, further analysis of the data was conducted in an effort to understand more specific details. The authors believe that other variables that were not identified nor controlled in this study may have played a part in the outcome of this project. Since the three semester period to which the data were limited may have been a factor in the findings, the researchers anticipate a follow-up analysis when an additional year of data is available and again when second year of additional data is available.

**Luka Powanga, PhD,** and David Petroy: Framework for Evaluating and Prioritizing Energy Improvement Opportunities in an Industrial Setting: The Case of Golden Aluminum Inc

Professor, School of Management, College for Professional Studies

Over the past decades, there has been a proliferation of literature on sustainability and energy efficiency. However, the literature on application of energy frameworks to evaluating energy projects is at best fragmentary. This paper fills the void in literature by developing and implementing a framework for evaluating and prioritizing energy improvement opportunities in an industrial setting utilizing Golden Aluminum as an example.

## Kenneth Friedman, PhD: The Grameen Bank and Social Business

Adjunct Faculty, College for Professional Studies

Muhammad Yunus won the Nobel Peace Prize for his pioneering work in micro-finance. As part of its evolution Yunus proposed the notion of social corporations. These are similar to conventional profit-maximizing corporations in that they must be profitable to survive. But they differ from profit-maximizing corporations in that their rationale is not to maximize profits for shareholders, but to resolve social, economic, or ecological problems.

Yunus's work has won widespread acclaim, as it has been responsible, arguably, more than any other institution in history, for alleviating poverty. Yet it has been ignored by the economics profession. This is unfortunate, for his work has crucial implications for economic theory. It presents an alternative capitalist perspective, one that may be both more realistic and more functional than traditional concepts.

There is an appendix suggesting a social corporation designed to address the endemic malnutrition in the Democratic Republic of the Congo, the homeland of one of the authors.

## SESSION 5 2:30 pm – 4:00 pm

**Patricia Cullen, PhD, CPNP,** and Ida (Ki) Moore, DNS, FAAN: Functional Status, Behavior, Executive Function and Quality of Life in Children Undergoing Treatment for Standard-Risk Medulloblastoma: The Children's Oncology Group Nursing Experience

Associate Professor and Director, Department of Accelerated Nursing, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

Central nervous system (CNS) tumors account for 20% of tumors in the pediatric age group. Despite significant therapeutic advances, treatmentrelated morbidity is often substantial. Previous efforts to study the late effects of treatment in this population in the national pediatric oncology clinical trials arena have been minimally successful. The purpose of this study was to describe the reported functional status (FS), behavior, executive function, and quality-of-life (QOL) of a large, homogeneously diagnosed and treated group of children with standard-risk medulloblastoma at proximal, intermediate, and distal points in their treatment and follow-up utilizing a novel assessment paradigm for obtaining these data. The study is the first nurse-led project embedded in an international clinical trial for children with a CNS tumor (Children's Oncology Group ACNS0331) and was conducted with the support of the Children's Oncology Group (COG) Nursing Discipline Committee. Enrolled children were 3-21 years of age, had minimal residual tumor following surgery, and no evidence of metastasis. Patients included in this analysis received a common chemotherapy plan, standard or reduced-dose craniospinal radiation and were also randomized to receive boost radiation to either the entire posterior fossa or only the tumor bed. Parents completed five proxy assessment instruments provided by the investigators. Instruments were centrally scored and results entered into the consortium data capture system. Demographic variables of race, gender, age, method of payment, and presence of neurological co-morbidities were analyzed. Data monitoring analyses demonstrated excellent compliance with this study requirement when compared to legacy studies. Once study accrual is complete, these data will be analyzed to determine outcomes related to QOL, behavioral adjustment issues, functional status limitations, and problems related to executive function. The cost-effective, nurse-delivered approach used in this study for obtaining functional outcomes data in children with medulloblastoma may lead to prompt referral of identified children for more extensive neuropsychological testing, and nursing collaboration with schools. (The project is supported by the National Cancer Institute, U10 CA98543 and U10 CA095861 and the Oncology Nursing Foundation.)

**Erika Nelson-Wong, PT, PhD\*,** Heidi Johnson Eigsti, PT, PhD, Amy Stone Hammerich, PT, DPT, Nicole Marcisz, MS Ed: Influence of Lecture Slide Completeness on Student Learning in a Physical Therapy Curriculum

Assistant Professor, School of Physical Therapy, Rueckert-Hartman College for Health Professions \*URSC Faculty Research and Scholarship Grant Recipient

Purpose: There are conflicting student and faculty attitudes regarding completeness of lecture material. Informal surveys of DPT students suggest they prefer access to complete lecture slides during class, because note-taking interferes with listening resulting in missed information. Faculty express the opinion that incomplete lecture slides facilitates student engagement through note-taking and encourages class participation. The purpose of this study was to investigate the influence of lecture slide completeness and content area on DPT student recall/retention in foundation level courses.

Number of Subjects: 66 DPT students

Methods: This was a repeated measures, counterbalanced experimental design. Three levels of lecture slide completeness: Complete (100% information included); Fill in the Blank (75% of the information, with selected blanks); Incomplete (50% of the information, outline format) were used in first semester courses: Management Applications in Physiology 1 (MAP1), Critical Inquiry (CI) and Biomechanics (BIO). Three faculty delivered 50-minute lectures within their course using each of the formats. Presentation order was counterbalanced to minimize order effects. An Instructional Developer reviewed all lecture slides to ensure they met the format criteria and to minimize disparity between faculty. Immediate recall quizzes were given after the initial lecture, and retention quizzes were given at the next class session. Quiz scores were entered into a 3x3x2 within factor ANOVA (3 levels of slide format and course, 2 levels of quiz timing). Significance criterion was set at  $\alpha \le .05$ . Bonferroni adjusted t-tests were used for *post hoc* comparisons.

Results: Significant findings (adjusted alpha  $\leq$  .006) are as follows. Recall was higher with Complete slides for MAP1 (86 +/- 14.3 %) and CI (88.1 +/- 15 %) compared with BIO (75.3 +/- 21 %). Recall was higher with Fill in the Blank slides for BIO (88.1 +/- 13.7%) compared with MAP1 (72.5 +/- 17.4%) and CI (60.8 +/-16.3%). Recall was higher with Incomplete slides for BIO (88.5 +/- 15.7%) compared with MAP1 (76.9 +/- 15.8%) and CI (48.1 +/- 23.5%). A similar pattern was observed for retention, with no differences between recall and retention performance for any of the slide formats or content areas. Within course comparisons revealed no differences between Fill in the Blank and Incomplete slide formats, however student performance was highest in BIO and lowest in both MAP1 and CI with less complete slides.

Conclusions: These findings suggest there may not be a best practice for lecture slide completeness, with variation between course type and instructor. In this study, MAP1 and CI concepts were more abstract than BIO, and this may have impacted results. Student performance was stable over time regardless of slide format.

Relevance: Physical therapy educators teaching abstract content might enhance student performance by providing complete lecture materials.

## Cheryl Kruschke, EdD, MS, RN, CNE: Testing the Care Dependency Scale in the Long Term Care Setting

Assistant Professor, Online Nursing Program, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

Background: Falls continue to rise in the older person population which can lead to serious injury or death. Of those who fall, up to one-third suffer severe enough injuries to impact their ability to live independently; or the fall may even result in an early death. The cost of falls continues to rise with expenditures currently in the billions of dollars and expected to triple in the next decade. The Centers for Medicare and Medicaid has also identified fall prevention as a key element in the survey process for long term care facilities and now designate falls in the acute care setting as never events with restricted payment for treatment of injuries or other adverse effects of falls.

Purpose: The purpose of this research study was to test the Care Dependency Scale (CDS) in the long term care setting to determine if it is a reliable tool to measure dependency as a precursor to determining risk for falls. Aim #1: Examine reliability of the CDS in the United States. Aim #2: Test the predicted validity of CDS-falls.

Methods: This was a nonexperimental, univariate descriptive study based on the intent to study the cause and effect relationship between falls and dependency using the Care Dependency Scale (CDS). The CDS is made up of 15 multiple choice questions. Each question refers to a different aspect of dependency. Use of the 5-point Likert scale provided the prevalence rate for each aspect of dependency. Reliability was determined for this study based on Cronbach's alpha. Inter-rater reliability as well as test-retest reliability was determined using Cohen's Kappa. Validity based on Dutch studies was accepted for this study. The CDS was completed by licensed nurses. Participants in this study resided in a 90-bed assisted living care home in the mountain region of the United States. All older persons residing in the facility were eligible to participate.

Results/Outcomes: This study was intended to determine if older persons with increased dependency were at higher risk for falls. This study identified falls as a relevant problem for older persons and the need for further study, especially in the long term care setting. The long-term goal of the principle investigators is to develop a fall risk assessment tool that can predict falls in the older person based on care dependency.

Implications for Practice: The validation of the Care Dependency Scale in the United States will enhance research already completed in the development and testing of a tool to determine the dependency level of each participant. This study is intended to determine if older persons with increased dependency are at higher risk for falls.

## Christine Finn, PhD, RN, FNP, MS, MA, FNE: Strangulation: Are We Assessing?

Associate Professor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

Purpose: The purpose of this case study constructed review, will utilize our early research, and in-depth literature review to describe understand the scope and current practice regarding identifications, assessment, and treatment of victims of strangulation; while forensically documenting and reporting.

Design and Methods: Exhaustive review of current literature related to strangulation especially in sexual assault victims.

Practice Implications: Improving the ability of forensic nurses to identify possible strangulation will expedite appropriate treatment and immediate involvement of the legal system. Forensic nurses will be able to assist in giving timely treatment to reduce complications, while being knowledgeable of the early warning signs and forensic implications.

Patricia Abbott PhD, FNP-BC, RN, Brenda K. Zierler, PhD, RN, Deborah Ward, PhD, RN, FAAN, Karen G. Schepp, PhD, PMHNP-BC, FAAN: The Use of Nurse Practitioners and Physician Assistants in Emergency Departments: A Descriptive Study of Practice

Instructor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

Background: Emergency departments are dealing with increasing crowding, at the same time that they have evolved into the "safety net" for the healthcare system in the United States. With increasing numbers of patients presenting to fewer and more crowded emergency departments, this "safety net" is tearing, leaving emergency departments at risk of not being able to care for the influx of patients presenting for care. Research has shown that 60-80% of patients presenting to the emergency department are non-emergent. Current and upcoming changes in the health care system could increase the numbers of patients seeking care in the emergency department making optimal use of nurse practitioners and physician assistants more important than ever. The use of these providers in this setting to care for non-emergent patients may be a cost effective model, but there is little data as to how to effectively utilize this workforce to help ease crowding and possibly improve access to care.

Purpose: The purpose of this research is to examine the use of nurse practitioners and physician assistants in emergency departments to gain insight on the impact of staffing patterns on crowding. This data may help emergency department management with staffing and to use this workforce more effectively.

Methods: A descriptive, cross-sectional study using online survey methodology, which was developed to meet the aims of the study (37 questions), was sent to managers in all emergency departments in Washington and Oregon in March 2009. This was a finite population of one hundred and fifty-eight managers. A series of five emails was used to introduce and follow up with the managers in addition to an incentive of a \$5.00 coffee voucher. Descriptive and Chi-square statistics were used to analyze the data.

Results: Ninety-three out of 158 emergency department managers returned the survey for an overall 59% response rate. Of these, 58% utilized nurse practitioners and physician assistants in the emergency department. Larger, urban hospitals that reported overcrowding employed these providers' more than smaller, rural hospitals. Acuity of patients seen by nurse practitioners and physician assistants was 50% of the providers saw non-emergent patients and 50% saw non-emergent and emergent patients. There was a state variance in regards to acuity. Seventeen percent of managers responding to the survey were unclear on the difference between the roles, but a significant majority (89%) reported that current utilization of these providers had a positive impact on timeliness of care by decreasing wait times and lengths of stay in the emergency department.

Implications for Practice: With further clarification and understanding, the potential to use nurse practitioners and physician assistants in a more consistent and effective manner will be enhanced, which may improve efficiency of emergency departments by decreasing crowding, decreasing cost of care and possibly improving access to care. Ideally, this research can be done in more states to add more depth to the data.

Ira Gorman, PT, PhD: Child Obesity: Parents vs. Environment: Who has the greatest influence?

Assistant Professor, School of Physical Therapy, Rueckert-Hartman College for Health Professions

# POSTER ABSTRACTS (In alphabetical order)

**John Arman, PhD, LPC, Jennifer Cates, PhD, LMFT, LPC, and Jody Huntington, PhD, LPC:** Applying the Ignatian Pedagogical Paradigm in Counseling and Marriage and Family Therapy Practica

Associate Professor, Graduate Counseling Program, College for Professional Studies An Ignation Scholars Project

Four faculty members from Regis University share their application of the Ignatian Pedagogical Paradigm (IPP) in Counseling and Marriage and Family Therapy Practica. Using the IPP they guide the learners in an intentional way to integrate values and action in service to others. Faculty use the IPP to support learners and invite them to thoughtfully engage with the elements of the paradigm. A discussion and review of how the faculty incorporates the five IPP elements in the practica setting is provided.

**Barbara W. Berg, DNP, RN, CNS, PNP, CNE**, Pamella Stoeckel PhD, RN, CNE, Cheryl Kruschke EdD, RN, CNE: Flipped Classroom: Using Online Learning Modules

Associate Professor and Director, Department of Online Nursing, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

The flipped classroom is a pedagogical model in which the typical lecture and homework of student work are placed in reversed order in a course. This approach gives students class time to apply concepts, and provides time for instructors to give feedback in order to detect errors in thinking. The flipped method gives students more flexibility to learn at their own pace outside of class. It creates a role change for instructors who are challenged to create learning activities that prepare students for in-class applied learning. The idea of the flipped classroom can be used with online learners who receive didactic information through audio visual means which can then be discussed and applied in the discussion forums and in group assignments. This presentation describes a situation where faculty were faced with preparing nursing students with basic knowledge about finance, accounting, and economics that was needed in advanced coursework. There was insufficient time and no available credits to support having an additional course. To address this faculty created modules that could be reviewed by the students at an individual pace before advanced courses. The modules were self-paced, interactive, and included self-assessments to gauge learning. Audio visual aspects of the modules were used to made them interesting and engaging. Students could ask questions of faculty on a special discussion forum. Student opinions of the learning experience were elicited. The results were highly complementary of the teaching approach, and students praised the self-paced aspects of this teaching format. A review of the process of designing and creating the online learning modules is presented. Presenters will provide suggestions for teachers at any level on how to build self-paced interactive modules that could be used in the flipped classroom.

**Theresa Buxton, PhD, RN, CNE, and Nicole Marcisz, MS Ed**: Student Reflection Blogs to Communicate Lessons Learned in the Complex World of Service Learning

Assistant Professor and Instructional Designer (respectively), Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

After attending this presentation participants will be able to evaluate the appropriateness of student reflection blogging as an effective tool to assess student learning. Participants will receive samples of service learning reflection papers and student blogs with accompanying grading guidelines/rubrics and evaluate learning between the two formats. Decisions can also be made about blogging applicability and appropriate usage for their own courses or programs. This presentation has implications for a variety of fields such as business, health care, teaching effectiveness, or any professional discipline in which a person wishes to continually grow their individual practice.

Matthew G. Fete, PhD\*, Leticia Shea, PharmD\*, **Erica Caffarini, Hanna Savaryn**: A Chemical Analysis of Currently Available Melatonin Products in the United States

Students, School of Pharmacy, Rueckert-Hartman College for Health Professions \*URSC Faculty Research and Scholarship Grant Recipients

<u>Objective</u>: To quantify the concentration of melatonin in OTC products and determine if there are other active ingredients present that are currently not listed on the product label.

<u>Method</u>: Our primary objective is to quantify the concentration of melatonin in OTC products using Ultraviolet/Visible (UV/Vis) Spectroscopy and High Pressure Liquid Chromatograthy Mass Spectrometry (HPLC MS). Melatonin solubility in ethanol allows extraction from commercial formulations and HPLC MS and UV/Vis (Melatonin  $\lambda$ max = 277) will be used to quantify melatonin in the studied formulations and HPLC MS can be used to identify ingredients not listed on the product label

<u>Results</u>: As this study was funded in late January, dissemination will focus on melatonin extraction procedures, experimental design anticipated to give data on 16 different commercial formulations, and method development for our spectroscopy, liquid chromatography and mass spectrometry studies.

Implications: Melatonin is commonly used to help alleviate insomnia, and its over-the-counter products are commonly sold as dietary supplements labeled as treatment for sleep-benefit. Over the past several years, the FDA has found over 400 products marketed as dietary supplements that contain regulated pharmaceuticals and/or chemicals.[1] Also, it is impossible for FDA to regulate the majority of dietary supplements, which are imported from over 150 countries to the US each year.[2] We are initiating the movement to recognize the potential safety issues associated with these products. While many consumers see melatonin as a supplement, it is also important to note that is a neurohormone actually derived from the pineal gland.[3] While sale of this product is unregulated within the United States, many countries prohibit its use or require a prescription for melatonin. In fact, in Europe, high concentration melatonin is prescribed as birth control.[4]

<u>Conclusions</u>: Crude melatonin extraction from commercial formulations using ethanol has been achieved for 16 different formulations and initial UV/Vis Spectroscopy methods have been developed for melatonin quantification. HPLC MS methodologies are under development to give absolute melatonin quantifications, as well as provide information on any ingredients contained in commercial formulations that do not appear on the product label.

#### References:

- 1. Pierce A. The American Pharmaceutical Association Practical Guide to Natural Medicines. New York: The Stonesong Press, 1999:19.
- 2. Tainted Supplements CDER.FDA website 2012. Available at: http://www.fda.gov/ForConsumers/ConsumerUpdates/ucm236774.htm
- 3. Zhdonova I.V, Wartman RJ. Efficacy of melatonin as a sleep-promoting agent. Journal of Biological Rhythms.12.6(1997): 644-50.
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**Taryn Campbell**, Jolynne Reynolds, Ph.D., LPC, RPT-S: The ""This is Me"" Community Program: A Cultural Community Mentorship Training Program

Student, Graduate Counseling Division, College for Professional Studies

The "This is Me" (TIM) program has been in existence at Heritage Camps for Adoptive Families (HCAF) for three years and utilizes community volunteers from varying cultures to mentor internationally adopted adolescents in creating a bicultural identity. This research sought to measure the impact of a training program and subsequent panel experience on the perceptions of the cultural community mentors. The research examined the cultural identity of the mentors, how the training prepared them, and what they believed was necessary for adopted adolescents to create a bicultural identity. The participants included 14 male and 21 female subjects all over the age of eighteen and representing 12 world cultures. All participants were required to have attended HCAF in the past. Participants were introduced to TIM and were informed of their contributions to the program, after which each mentor would attend a panel at the HCAF camp that represented their culture. Each participant was required to fill out a survey before training and after their experience on the panel. The surveys focused on identity development of the mentor, necessary topics to be discussed with the adolescents for identity development and level of comfort discussing these topics. The findings showed that many of the participants displayed a high level of comfort when in discussion with the adolescents. There was change of opinion on what topics of discussion are necessary in the post surveys. Some participants demonstrated a change in cultural identity after contributing to the panel. The study demonstrated that the training was effective in preparing the mentors and the input will help to improve TIM in the future.

Victoria Caruana, PhD: Using Case Study to Gauge Transformative Learning of General Education Preservice Teachers

Assistant Professor and Chair, Teacher Licensure, College for Professional Studies

The overall purpose of this study was to examine the use of case study (Yin, 2009) to describe transformative learning of general education student teachers toward including students with disabilities in inclusive classroom settings. The single case design of this study represents a critical case in testing a well-formulated theory (transformative learning). It offered a specified, clear set of theoretical propositions and provides the circumstances, based on the relevant literature, within which these propositions are believed to be true. The collection of data from multiple sources of evidence indicated the degree of support for the propositions. Reliability and validity of this single case study design was achieved by using multiple sources of evidence. When the embedded units within a single case meet all of the conditions for testing the theory, it has the potential to "confirm, challenge, or extend the theory" (Yin, 2009, p. 47).

Patricia L. Cullen, PhD, CPNP: Use of Reflection to Enhance Professional Development in Nurse Practitioner Students

Associate Professor and Director, Department of Accelerated Nursing, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Purpose</u>: The purpose of this project was to qualitatively analyze reflective journal submissions of graduate nursing students enrolled in a pediatric primary care course and was conducted to provide support for the value of integrating this activity into the graduate curriculum.

<u>Background</u>: Reflective practice integrates thought and action with reflection and involves critically analyzing one's actions with the goal of improving personal professional practice. Based on the work of Schön (1987 and 1991), there has been interest in the exploration of ways in which professionals learn and in the analysis of reflection as an important learning tool. Previously published reports have established the efficacy of reflective writing in professional development (Glaze, 2002; Chirema, 2007). Further work is needed to strengthen the belief that reflection enhances the relationship between theory and practice.

<u>Methods</u>: Qualitative methodology utilizing descriptive phenomenological analysis of serial reflective journals written by graduate nursing students enrolled in a pediatric primary care course was employed. Purposeful sampling was utilized and 26 students participated in the project. Students submitted eight journals over the course of one semester. A constructivist theoretical paradigm provided the foundation for the project. Informed consent and institutional review board approval were obtained for the project.

Results: Student journals were analyzed thematically, for categories of reflection, and for evidence of reference to multiple avenues of nursing knowledge. Thematic analysis revealed persistent themes of role stressors, goals, growth experiences, social awakening, and role development. Analysis for categories of reflection revealed entries consistent with the four stages described by Glaze (2002). Journals also reflected evidence of multiple avenues of nursing knowledge (Carper, 1978) which evolved over the semester from primarily empirical to those of a personal, aesthetic, and ethical nature at the conclusion of the study.

<u>Implications</u>: Future work should be directed at replication of these findings in additional groups of graduate students to better describe the process of advanced practice role development and to define the role best served by the reflective writing experience.

**Sandra L. Foster, PhD** and **Carole Hruskocy, PhD**: The Potential Impact of 3D technology on Teaching and Learning for Students with Learning Disabilities

Associate Professor and Professor (respectively), School of Education and Counseling, College for Professional Studies

This poster presentation will provide audience members with knowledge and insight on 3D technology and its impact on students identified with learning disabilities. Results from a two year study in Boulder Valley School District will be shared along with 3D simulations used in the study.

**Joshua J. Gallegos**, Jacob M. Garcia, Micah M. Fernandez, Surendra N. Mahapatro, PhD: Biological Chemistry of Diazene: Cyclic Voltametric studies of Arylhydrazines, aryldiazenes and aryldiazonium ions

Student, Department of Chemistry, Regis College

Arylhydrazine, aryldiazene and aryldiazonium ions are known to induce hemolytic anemia and "Heinz" bodies (in blood). The molecular basis of hemoglobin inactivation involves electron transfer reactions with the heme iron. Because of our recent interest in the electrochemical reduction of aryldiazomium ions, we have extended our studies to aryldiazene and arylhydrazines. p-Nitrobenzenediazonium tetrafluoroborate reacts with sodium borohydride in acetonitrile in argon saturated solution. The one electron-irreversible reduction wave due the aryldiazonium ion (0.365 V versus Ag/AgCl reference electrode) was completely bleached indicating that a new species (most probably the aryldiazene) was formed.

$$ArN_2^+ + H^- \rightarrow Ar - N = N-H$$

Our results are consistent with earlier reported UV-Vis studies where an unstable aryldiazene species was observed in the reaction of aryldiazonium salts with sodium borohydride in acetonitrile (Traylor & McKenna, *J. Am. Chem. Soc.* **1971**, 93, 2313-2314). In addition to *p*-nitrophenylhydrazine, p-nitroaniline, several other products including nitrobenzene and bis—*p*-nitrohydrazobenzene (demonstrated in a CIDNP study (Shelvin et al, *J. Am. Chem. Soc.* **1978**, 6426-6429) have been reported in the decomposition of p-nitrophenyldiazene. The peak observed at negative potentials (0.875 V vs. Ag/AgCl) is in a region where nitrobenzene (one of the multiple decomposition products) shows CV signature.

The extremely unstable phenyldiazene could also be generated *in situ* by the facile decarboxylation of diazocarboxylates at physiological pH (7-7.2) (Synthesis of p-nitrophenyldiazene (Kosower & Huang, *J. Am. Chem. Soc.* **1968**, 90, 2354-2361).

Ar-N=N-COOH  $Ar - N = N-H + CO_2$ 

Another alternative synthesis involves the reduction of aryldiazonium ions by cycloheptatriene which is a known hydride donor.

We are presently synthesizing the aryldiazenes by the above methods for cyclic voltammetry studies. As phenylhydrazine and phenyldiazene are related to each other by two-electron redox processes, we have also carried out CV studies of p-nitrophenylhydrazine.

**Nicole Gunderson\***, Sheryle Ishimoto, Lauren Burt, PharmD, BCOP, Nancy McClew, PharmD, BCPS, Robert Swaney, MD, MSPH: G-CSF for Primary Prophylaxis of Febrile Neutropenia in Patients at a Community Cancer Center

Student, School of Pharmacy, Rueckert-Hartman College for Health Professions
\*URSC Student Travel Grant Recipient: 2013 ASHP Midyear Clinical Meeting and Exhibition

Febrile neutropenia (FN) is a severe and life-threatening complication of chemotherapy administration. FN may lead to delays or dose reductions in chemotherapy treatment, or hospitalizations for cancer patients. Hospitalization for treatment of FN is known to increase morbidity, mortality, and costs for cancer patients. Granulocyte-colony stimulating factors (G-CSF) have been proven to reduce the duration of neutropenia by stimulating progenitor cells to neutrophil production. G-CSF is indicated as primary prophylaxis for chemotherapy regimens depending on their risk of causing FN and compelling patient risk factors. It has been shown to be both clinically and cost effective. The objective of this study is to review the prescribing habits of a community cancer center to evaluate the rate that primary prophylaxis was prescribed based on level of indication.

## Theresa M. Holsan, RN, DNP, FNP-C: Developing Systems to Improve Hypertension Monitoring at a Primary Care Clinic

Instructor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Purpose</u>: Healthcare Effectiveness Data and Information Set (HEDIS) Hypertension (HTN) measures evaluate the percentage of individuals between ages 18 and 85 who had a diagnosis of HTN and whose blood pressure (BP) was less than 140/90 mm Hg. Primary care clinics are responsible for evaluation of patients with HTN and reporting care to effectively treat this disease. Despite the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure guidelines about 59% of the patients in the United States with HTN are being treated and only 34% of those treated have well-controlled blood pressures.

The purpose of this quality improvement project was to implement process changes that improved the evaluation of BP measurement accuracy and provider documentation with appropriate patient follow up for patients with HTN.

<u>Review of the Literature</u>: A comprehensive review of original studies published in English from all countries beginning 2000 to January 2012 was performed. Relevant literature was identified through CINAHL, PubMed, and OVID. Data from eight unique studies was extracted and summarized in a table format for goals, methodology, outcomes, and conclusions.

<u>Summary</u>: A pre-post design was used over a 15 month project period. Multiple plan-do-study-act (PDSA) cycles were initiated and three practice outcomes evaluated. Specific interventions include: standardization of BP measurement technique, standardized BP documentation, streamlined patient reminder system, and improved patient demographic data entered into the electronic medical record (EMR). Descriptive statistics and Pearson Chi-square were used to evaluate the effectiveness of the interventions.

BP was entered in the vital sign section of the chart 100% and variation in BP measurement was reduced. Changes to patient follow up resulted in 93% of patients with HTN having a follow-up visit entered into the EMR. Adult hypertensive patients with adequately controlled BP improved from 56.8% to 75.3%.  $\chi$ 2 (1, N=2444) =36.36, p<.0001, v=.195.

Implications for Nursing: A combination of chart review and QI methodology offered a powerful way to improve practice. Feedback from the healthcare provider group indicated greater teamwork and improved processes. The interventions provided measurable and sustainable improvements through interdisciplinary, collective efforts, while HEDIS measures and national benchmarks were exceeded. Communication was strengthened and use of the EMR was augmented. Advanced practice nurse leadership roles led themselves to initiating QI of chronic conditions while serving as primary care clinicians.

William Irizarry and Charlotte Ricchetti, PharmD, BCPS, CDE\*: Impact of an Interprofessional Group Clinic on Anticoagulation Outcomes

Student and Assistant Professor (respectively), School of Pharmacy, Rueckert-Hartman College for Health Professions

Warfarin is a commonly used medication used to treat and prevent thromboembolic events (e.g. blood clots, strokes); however, poorly managed warfarin therapy can lead to complications, which include hemorrhage or recurrent thrombotic events. Clinica Family Health Services is a community healthcare system with five clinic locations providing care to low income families in Boulder and Adams counties. Clinica strives for a goal of at least 80% of measured international normalized ratios (INRs), the standard test to determine warfarin control, to be within the therapeutic range. The Boulder site implemented an interprofessional group clinic comprised of a registered nurse (RN), registered pharmacist (RPh.), medical assistants (MA), and pharmacy students. As a result, Boulder has the highest percent of INRs within range each month.

The group clinic model utilizing point-of-care testing is to be expanded to a second Clinica site which will allow for measurement of both clinical and satisfaction outcomes before and after expansion of this anticoagulation service. Dissemination of these outcomes will serve as a model for other healthcare providers to improve the quality of care they provide to their anticoagulation patients. In addition, this pilot project can serve as a prototype for collecting outcomes for provision of clinical pharmacy services and interprofessional healthcare services; especially for diseases or medications that carry a high risk of complications if not well managed. Ultimately, the goal is to contribute to the body of knowledge that demonstrates how high quality interprofessional teams that include a pharmacist can result in improved healthcare outcomes.

**Karen Leduc, DNP APN-BC CNS CNE CPN,** Lisa Martin, M.A., CCC-SLP, Joyanne mcshea, M.A., CCC-SLP: Communication vulnerabilities: An interprofessional quality improvement project

Associate Professor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Background:</u> Communication is one of the most valuable tools patients and families have to navigate their medical care. Communication breakdowns have dire consequences that include misdiagnosis, medication errors, and unnecessary extension in length of stay. Augmentative and alternative communication techniques can significantly alleviate communication barriers and should be a major component of the communication resources available across healthcare settings.

<u>Purpose:</u> The purpose of the project was to:

- Assess nurses' knowledge, skills, and attitudes (KSA) about communication (pretest) and provide an educational intervention on augmentative techniques (posttest).
- Describe families' perceptions of patient-provider communication.

<u>Methods:</u> The project utilized a purposive sample of families and nursing staff surveyed via the REDCap platform to assess the efficacy of a communication resource, the *On the Spot Communication Tool Kit*. Descriptive and comparison analyses were conducted.

Results/Outcomes: Two samples of families (n =40) identified as communicatively vulnerable were surveyed regarding communication tools (picture board, dry erase board, talking photo album, magnification) and strategies (teach back method, background noise minimized, optimal lighting, key points of the interaction highlighted) utilized during their hospitalization. The mean number of strategies used did not significantly change from pretest to posttest, but the mean number of tools used, significantly increased from .22 at pretest to .85 at posttest. The overall total mean comprised of both strategies and tools used significantly increased from .50 at pretest to .69 at posttest. Communication effectiveness and satisfaction also increased from pretest to posttest but was not statistically significant.

The nurse survey (n = 53) consisted of ten open ended questions about communication resources. Three mean scores were compared from pretest to posttest: strategies/tools utilized (pretest 10.52, posttest 9.69); rate significance (5.00 pretest, 4.88 posttest); and training scores (3.94 pretest, 4.38 posttest) indicating positive outcomes with the training program developed by speech pathologists.

<u>Implications:</u> Interprofessional collaboration resulted in enhanced approaches to address communication vulnerabilities specific to pediatric populations. Outcomes included the expansion of nurses' competencies and KSA with the adapted arsenal of communication resources resulting in families' increased satisfaction with provider communication.

Grant support for REDCap Platform: NIH/NCRR Colorado CTSI Grant NumberUL1 RR025780

**Karen Leduc, DNP APN-BC CNS CNE CPN,** Donnya Mogensen, MS RN: New graduate transition program appraisal: Are we bridging the gap?

Associate Professor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Background:</u> The ongoing nursing shortage requires an emphasis on hiring new graduate nurses. To meet workforce demands, organizations are challenged to address recruitment, retention, and turnover with the newly hired nurse. In response to the transformative and stressful journey of transition for new graduate nurses, residency programs are developed to support the acquisition of clinical skills and to foster commitment and socialization into the profession. Outcomes consistently identified in the literature associated with these transition programs include nurses' sense of clinical competence and turnover. The evidence supporting residency programs as an intervention to reduce turnover and facilitate transition is therefore compelling.

<u>Purpose:</u> This project was designed to evaluate the experience of new graduate nurses in an internally developed residency program. The project aims included assessing retention rates before and after implementation of the program. The second aim was to describe the relationship of new nurses' characteristics to the nurses' perceptions of clinical competence.

<u>Methods:</u> The project was a retrospective review of existing data consisting of survey responses on the Casey-Fink New Graduate Experience Survey and organizational retention and turnover statistics. N = 28. Chi-square test of model of fit was utilized to compare retention and turnover. Descriptive statistics focused on the Casey-Fink subscales related to Organizing/Prioritizing and Communication/Leadership as a correlate of perceived clinical competence. Correlation analyses examined the relationship between nurse characteristics and the variables of perceived competence. Effect size calculations were computed to provide an estimate of the magnitude of the transition program.

Results/Outcomes: Pearson's Chi-Square test for turnover and retention was not significant (5.6% prior to the program, 7.0% after implementation). Mean scores were calculated for the Support (3.28), Organizing/Prioritizing (3.17), Stress (.11), Communication/Leadership (3.28), and Professional Satisfaction (3.56) subscales. The relationship of Casey-Fink scores to nurse characteristics identified positive correlations of age with support (r = .47, p = 0.07); Communication/Leadership (r = .49, p = 0.053); and the composite scores (r = .49, p = 0.055). Three subscales demonstrated large effect sizes: Organizing/Prioritizing (. 87); stress (1.06); Communication/Leadership (1.02) indicating positive educational and clinical differences.

<u>Implications:</u> Deliberate prioritization of new graduates' most pressing needs with targeted education, social support, and clinical coaching fosters the transition process and benefits the organization by impacting safe patient care and addressing the staggering turnover rates in the first year of practice. This program appraisal identified additional needs for educational support in the clinical arena as well as ongoing performance appraisal and feedback to bridge the gap between undergraduate education and the realities of clinical practice.

Marianne McCollum, PhD, Leah M. Sheridan, PhD, Karen S. Pennington, PhD, RN, Louise Suit, EdD, RN, CNS, Alice Davis, PT, DPT, Susan A. Scherer, PT, PhD: Assessing Teaching Effectiveness in an Interdisciplinary Environment

Assistant Dean for Assessment, School of Pharmacy, Rueckert-Hartman College for Health Professions

<u>Intent</u>: Faculty in the Regis University, Rueckert-Hartman College for Health Professions (RHCHP) teach in their own discipline as well as in teams in interprofessional courses. RHCHP faculty also worked together to assess teaching effectiveness across the college. Two principles framed this work. First was the recognition that data on teaching effectiveness should be collected from multiple sources that *inform* the faculty member. Second was the desire to develop reflection practices consistent with Jesuit educational philosophy and values that serve to *transform* the faculty member.

<u>Process</u>: The college's Evaluation and Outcomes Committee (EOC), representing schools within RHCHP, developed processes to assess teaching effectiveness. The effort required consideration of the fact that courses taught in the college are both single discipline and interprofessional, and utilize a variety of delivery mechanisms (e.g., ground-based, online) and pedagogies (e.g., didactic lectures, simulations, team-based and problem-based learning).

<u>Outcomes</u>: EOC members developed a comprehensive guide for assessment of teaching effectiveness. Multiple tools (e.g., student course evaluations and peer teaching assessments) were developed to collect feedback from multiple perspectives (e.g., students, peers, self, and colleagues in team-taught courses). Principles and guidance on self-reflection were incorporated to assist the faculty member in identifying opportunities for growth as a teacher.

<u>Implications</u>: Faculty in health professional programs are increasingly working together to expand interprofessional teaching activities consistent with contemporary practice. In addition to teaching together, RHCHP faculty also worked collaboratively at the program evaluation level to create mechanisms for principle-centered assessment of teaching effectiveness in a Jesuit interdisciplinary environment.

Martin Munoz, PhD: "Men in Black." Jesuit Higher Education 1(2): 143-145 (2012)

Professor, School of Education and Counseling, College for Professional Studies An Ignation Scholars Project

This paper examines an often violent and capricious world, fashioned from images and experience of human suffering. The 24 hour media cycles remind us of a succession of stories that brings awareness into the larger narrative of living in a frightening psychological landscape. We now live in a world of narratives that value information at the exclusion of context. We are increasingly moving from the experience of faith by the promise of scientific breakthroughs in therapy, medication, and neurobiology. However, our vigilance continues to isolate us from the "agony and ecstasy" inherent in the human experience. This paper examines Henry Corbin's notion of an agnostic reflex (a disassociation between thinking and being), exacerbated our isolation and fear. This paper examines the "Agnostic Reflex" through the psychological lens of mass murderer James Holms. We then we see how "Men in Black" (Jesuits) remind us that despite suffering and tragedy in the world, we can still aspire to how "we ought to live" and reflect on how the experience of the agnostic reflex serves only at our behest.

## Sharon Panik, MA: Service Learning and The Jesuit Values

Adjunct Faculty and University Supervisor for School of Education, College for Professional Studies
An Ignation Scholars Project

Implementation of service learning throughout the Regis University experience prepares graduates for a lifetime of *Cura Personalis, Magis* and Becoming *Men and Women For and With Others*.

Becoming an involved community member strengthens our ability to think outside ourselves and to *See God* in every circumstance. These concepts must be taught, and by involving teacher candidates in service learning as a way of life, the young children in their classes will have th opportunity to experience being *Contempletives in Action* by thinking of others and following through with an activity (THINK and DO). Of course, the closure is *Unity of Mind and Heart* where a person is whole only when they act with brainpower and compassion.

Service Learning has the power to develop the person a a whole -- and change lives.

Patrick Serrano, Pablo Cabrera, Christian Ghincea, Marina Pshichenko, Nicholas Stephanus, Kateri Ahrendt, PhD\*, Glenn Capodagli, PhD, Scott Pegan, PhD: Identification of *Mycobacterium Tuberculosis* Fructose 1,6-Bisphosphate Aldolase (MtFBA) Inhibitors

Student and Assistant Professor (respectively), Department of Chemistry, Regis College \*URSC Faculty Research and Scholarship Grant Recipient

Tuberculosis (TB) is one of the most prevalent and deadly diseases in the world. Nearly one-third of the global population is latently infected with Mycobacterium tuberculosis, and up to one in ten of these individuals will become ill with TB during their lifetime. Tuberculosis is a disease of poverty that primarily afflicts young adults in developing countries. The standard treatment for TB recommended by the World Health Organization involved a regimen of four drugs taken over a six month period. This lengthy therapy renders patient compliance difficult, particularly for those in developing countries, contributing towards the increasing incidence of multi-drug resistant and extensively-drug resistant strains of TB. Hence, there is a substantial need to identify new TB therapeutics.

One potential target for tuberculosis antibiotic development is Mycobacterium tuberculosis' fructose-1,6-bisphoshpate aldolast (MtFBA), an enzyme essential for bacterial survival that is non-existent in humans. To date, several inhibitors of MtFBA have been reported, though these compounds lack the necessary physicochemical properties for advancement into potential therapeutics. The long-term goal of this project is to develop more potent and bioavailable inhibitors of MtFBA.

**Leah M. Sheridan, PhD,** Robert Haight, Sue Scherer, PhD, DPT, Peter Clapp, PhD, Peter Cogan, PhD, Michele Hanselin, PharmD, Karen L. Smith, PhD, Robin Wackernah, PharmD, Marianne McCollum, PhD: The creation and implementation of an instrument to peer-assess TBL™ facilitation

Assistant Professor, School of Pharmacy, Rueckert-Hartman College for Health Professions

Background: Regis University's School of Pharmacy (SOP) began using TBL as its main pedagogical strategy during AY 2009-2010 and continues to use it today. Perceiving a need to provide valuable feedback to faculty for the continual development and improvement of content delivery, the Rueckert-Hartman College of Health Profession's Evaluation and Outcomes Committee (EOC) began to develop means of assessing teaching in the classroom. Part of the assessment strategy is the formal peer assessment of teaching, using tools developed by the EOC. To meet the particular needs of the SOP, a sub-committee of the EOC was tasked with developing an instrument to peer-assess TBL™ facilitation.

Description: A group of EOC members and SOP faculty brainstormed a number of factors and concepts important to the facilitation of TBL. Utilizing a modified Delphi method, the group narrowed the list of factors and concepts to a reasonable number that could be easily captured during a peer-assessment, while retaining those items most important to the facilitation of TBL™. After the identification of factors was completed, a single page instrument was created that allowed a peer assessor to capture what was occurring in the classroom during TBL™ activities. This instrument went through an iterative piloting process to ensure that it was usable, and items that were impossible to capture with any accuracy were removed.

<u>Results</u>: An instrument designed to help the peer assessor capture the major aspects of TBL facilitation was created that includes areas to track time spent on applications, TBL mechanics, the Four S's, observations of the team, and how questions are asked and directed through the classroom.

Conclusion: The TBL peer assessment instrument will be utilized for faculty peer assessment beginning Spring 2013.

Emma Shewmaker: The Effects of Handedness and Initial Hand on Bilateral Transfer

Student, Department of Psychology and Neuroscience, Regis College

Major Purpose: Using a ball attached by string to a cup, Munn (1932) investigated bilateral transfer, or the ability to transfer a skill from one side of the body to the other, in a fine motor skill task. In this original study, the experimental group, who practiced the skill with both hands, showed significantly greater improvement than the control group, who practiced only with the preferred hand (Munn, 1932). Research has also shown that dominance of the initial hand used affects transfer. Participants who began with their non-dominant hand and then switched to their dominant hand showed a greater magnitude of transfer for task speed than those in the reverse condition (Kumar & Mandal, 2005). Similarly, another study by Bhushan, Dwivedi, Mishra, and Mandal (2000) investigated bilateral transfer in a mirror-tracing task where participants either had a preferred hand, or were ambidextrous. Their research suggests that the magnitude of bilateral transfer varies based on the hand dominance of the participant; compared to dominant-handed participants, ambidextrous participants did not experience bilateral transfer.

According to the work of Porac, Rees, and Buller (1990), left-handers living in a right handed world often experience pressure to switch hands, which leads to an increased use of both hands, or at least a developed tolerance for the non-dominant hand. This would cause them to be more ambidextrous, and therefore less likely to experience bilateral transfer, than right-handed participants. However, Kumar and Mandal's (2005) study indicated that there was no significant difference in the magnitude of transfer between right- and left-handed participants. One possible explanation for this unexpected finding is that the study used a fairly small number of trials, making it difficult to decipher whether the lack of difference they found between right- and left-handers is due to insufficient manipulation, or that there is truly no difference between the groups. So in the present study we doubled the trials with the initial hand and increased the number of trials with the second hand by 5, in an attempt to have a stronger manipulation that might allow us to obtain a difference between right- and left-handed participants. In addition to increasing the number of trials, we also decided to include only female participants, because research has shown a difference in performance on a mirror-tracing task between men and women (O'Boyle & Hoff, 1987), which could have an effect on bilateral transfer in this particular task.

<u>Procedure</u>: The current study has a 2 x 2 between-subjects factorial design. The first independent variable is hand dominance, with the two levels of right-handed or left-handed. The second independent variable is initial hand in training with the two levels of dominant hand or non-dominant hand. The dependent variables are the magnitude of transfer for number of errors and for speed. This magnitude of transfer is calculated using the following formula: [(Average score of first 10 trials – Average score of last 10 trials) / Average score of first 10 trials] X 100% (Kumar & Mandal, 2005).

This study will include a total of 36 female participants, half of which are self-classified as right-handed and half of which are self-classified as left-handed. Thus far, data has been collected with 16 participants. After giving informed consent, the participants use the Model 58024 Automatic Mirror Trace apparatus, which allows their hand and the image they are tracing to be seen only in a mirror. Each participant traces the star as quickly and as accurately as possible 35 times (10 times with the initial hand, 15 times with the second hand, 10 more times with the initial hand). Each trial is scored for speed and errors. Once the 35 trials are complete, the participants receive a debriefing sheet and the experiment is concluded.

Results: As stated above, data collection is ongoing. The preliminary results from the initial data are as follows. For the speed dependent variable, we did not find a significant main effect for handedness (F(1, 11) = 0.12, p = .73) or initial hand (F(1, 11) = 0.58, p = .46). The interaction between handedness and initial hand was not significant either (F(1, 11) = 0.87, p = .37). The effect sizes for handedness (d = -0.25) and initial hand (d = -0.38) were both small to medium. For the errors dependent variable, we did not find a significant main effect for handedness (F(1, 11) = 0.001, p = .98) or initial hand (F(1, 11) = 0.24, P = .63). The interaction between handedness and initial hand was not significant either (F(1, 11) = 0.24, P = .64). The effect sizes for handedness (d = -0.01) and initial hand (d = -0.30) were both small.

<u>Conclusion</u>: Although the results have not reached significance with the first half of participants, the sample is still small at this point, so it is possible that the differences could reach significance with the full sample. If results do reach significance, it tells us that the increased use of both hands seen in left-handers affects some cognitive components that, in turn, limit bilateral transfer. However, if we do not find a difference based on handedness, it suggests that the use of both hands on a regular basis by left-handers may improve overall right hand performance, but it may not have a big enough effect on the cognitive components associated with bilateral transfer. This continued research on bilateral transfer is important because it can help to inform us on individual differences in brain development.

**A. Louise Suit, EdD, RN, CNS**, Janet Houser, PhD, Lauren Burt, PharmD, BCOP, Allana Sucher, PharmD, Steve Luckey, PhD, Daniel Roysden, PhD: Relational Aggression in Health Professions Students

Associate Professor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Aim</u>: To present preliminary findings of the prevalence of relational aggression among health professions students enrolled in a western faith-based liberal arts university.

<u>Background</u>: Relational aggression is the overt and covert manipulation and control of another person and is getting increasing attention in the media. Little has been studied about the prevalence and effects of relational aggression in an era of unfettered electronic communications. An interprofessional research group implemented a survey design to determine the prevalence of relational aggression among health care students and any associations with student characteristics.

Method: Based on a review of the literature and existing instruments, a test blueprint was developed and a 15 item Student Interaction Assessment (SIA) was constructed. The instrument measures the subscales of overt physical aggression, overt and covert emotional aggression, intimidation, electronic media aggression, and social isolation. Content validity was established by expert panel and pilot testing of reliability yielded an alpha coefficient of .82. 274 health professions students completed the online SIA survey to assess the prevalence and nature of relational aggression.

<u>Results</u>: Descriptive analysis revealed a prevalence of relational aggression. In the past year, more than 13% of respondents reported they had been "physically pushed or shoved" and 5% have experienced "physical threats". Males were significantly more likely to experience physical aggression, as were those who were divorced or widowed. 10.6% of the respondents had private information shared on the internet without their permission, with 7.7% reporting that others had tried to damage their reputation via social media sites. There were no significant differences in reports of relational aggression between ethnic groups. There were significant associations between the experience of relational aggression and loss of confidence across all gender, ethnic, and marital status groups.

<u>Conclusions</u>: Prevalence was found for relational aggression in the forms of overt physical and emotional abuse and intimidation among health professions students. Electronic media are providing an opportunity to share private information without permission, and to use the internet to damage reputations. Relational aggression is associated with a lack of confidence and may be related to academic performance.

Implications: Results can inform academic and student life university administrators about the occurrence of relational aggression for health professions students and the need for services.

## Matthew G. Fete, PhD, and Curt P. Tschida: Trigger Induced Polymer Degradation

Student, School of Pharmacy, Rueckert-Hartman College for Health Professions \*URSC Faculty Research and Scholarship Grant Recipient

Objective: To gain a better understanding of the principles of a biodegradable or trigger induced polymer system that could be utilized for drug delivery and/or drug targeting.

Method: Our strategy is unique in that we use a trigger to induce the degradation of the polymer system rather than hydrolysis. To understand the fundamentals of the degradation cascade we made the first generation of the model system carry an acid labile trigger. We have identified three different molecules that can all be synthesized with relative ease from propargyl alcohol. The three molecules can be easily linked by coupling molecules A, B, and C through acid and alcohol functionality to give polyalkyne oligomers of type A(B)nC. The alkynes can then be modified using 2+2+2 Diels Alder chemistry to yield a polyalkene polyester oligomer that is essentially a chain of sequential masked lactones. Installation of the aromatic moieties, positions the THP protected alcohol in the proper conformation to attack the first ester ketone upon deprotection, forming the thermodynamically favorable lactone product. Upon removal of a molecular trigger attached to molecule A, the oligomer degrades to give A + nB +C. The removal of the THP protection group in a Nuclear Magnetic Spectrum (NMR) tube will allow us to determine whether or not the expected products have been synthesized following the degradation of the polymer. We have prepared and successfully tested a single molecule model system and are in the process of preparing a dimer model system.

<u>Results</u>: The initial steps of the procedure indicate that successful synthesis of monomer A, B and C occurred. Further analysis and use of HPLC will conclude whether the synthesis of the polymer has occurred.

<u>Implications</u>: This exciting area of biotechnology has already led to the development of biodegradable sutures, bone screws and other medical products. We are proposing the research of a rather simple three component model system that will help us determine the practicality of such a technology in drug delivery. Once a fundamental understanding of the system is acquired the trigger can be tailored to be base labile or even enzyme labile and drug molecules can be added to the oligomer using the same methods as described for the model systems.

<u>Conclusions</u>: We have successfully synthesized Monomer A, B and C. Our next step is to use a N,N'-Dicyclohexylcarbodiimide (DCC) coupling reaction to combine Monomer A, B and C. Cis-bonds will be established using 2+2+2 Diels Alder chemistry and the proper diene in order to have the completed polymer structure. Once this is completed we will verify the effectiveness of this cascade degradation mechanism through the use of an NMR spectrum. This will indicate the plausibility of this type of technology use in drug delivery.

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## Shu-Yi Wang, PhD, RN, CNS: The Effectiveness of Online Case Studies among Medical-Surgical Nursing Students

Associate Professor, Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Context</u>: With instant access to vast resources of data and information, students are no longer totally dependent on faculty for knowledge. The online case studies provide an introduction to real world patient situation with critical thinking questions to help students learn to manage complex patient conditions and make good clinical judgment.

<u>Objectives</u>: The purpose of this study was to examine the effectiveness of case studies integrated throughout medical-surgical nursing course and to evaluate the leaning experiences among medical-surgical nursing students.

Methods: Cross-sectional research design was to assess 110 BSN students and 79 ADN students. Measurements included a 10-item of overall of case study, 11-item of satisfying found the each session of case study, 1-item of rate of the case study overall, and 1-item of descriptive question. Statistical analyses included descriptive statistics, and t test analysis.

<u>Results</u>: The result showed ADN students have greater satisfaction using case study than BSN students. There is no difference between ADN and BSN by using online resource. Overall rate using case study is "very good-excellent" for BSN and AND students.

<u>Conclusions</u>: The online case studies emphasize practical thinking and assist students in identifying situation. Educators may choose as instructional strategy for accomplishing a particular educational objective. The results of this study can be applied as a reference for effective instructional strategies and to extend for online learning independently.

## Amie Webb: The Effects of Priming for Creativity in Introverts and Extroverts

Student, Department of Psychology and Neuroscience, Regis College

Previous research has shown that incubation of creativity can be enhanced by priming, using specific associative priming (Mednick, Mednick, & Mednick, 1964). Mednick (1962) argued that incubation of creativity was influenced by variation of attention, and Martindale (1995) reconceptualized Mednick's (1962) idea to enhanced activation of nodes. An experiment by Friedman, Fishbach, Forster, and Werth (2003) used this idea to predict that broad perception would widen the scope of attention, enhancing activation, and thereby induce creativity. In this study, the participant had to search a small or large field (on a computer screen) for a number and then take a test of creativity (Friedman et al., 2003), and showed higher creativity after the larger field of searching. Zabeling and Robinson (2010) showed that a child-like mindset, induced having the participant think about how they would spend a day as a 7 year old child, was especially inductive to enhancing creativity. Researchers have also suggested that some people may be more susceptible to creativity priming than others. Carson, Peterson, and Higgins (2005) predicted that the personality traits, openness to experience and extroversion, enhanced creative performance. Similarly, Zabeling and Robinson (2010) also found that the child-like mindset affected introverts creativity levels more than extroverts.

The purpose of the current experiment is to extend upon the previous research by seeing if performing a child-like activity such as coloring, instead of directly telling the participant to put themselves in the perspective of a child-like state of mind, will enhance creativity. Furthermore, this study aims to assess whether this more implicit priming of the child-like mindset will also show differences by personality, so will assess whether extroverts or introverts will show more enhanced creativity. I hypothesize that participants assigned to a child-like priming manipulation will show a greater amount of creativity. I hypothesize that participants will show a greater amount of creativity. I hypothesize that introverted participants will be affected more by priming than the extroverted participants that are primed.

**Lisa S. Zenoni, MS RN CRRN**, and **Gwendolyn M Lindemann, MS RN CRRN**: Preparing today's students for tomorrow's bedside leaders

Assistant Professor and Instructor (respectively), Loretto Heights School of Nursing, Rueckert-Hartman College for Health Professions

<u>Purpose/Aims</u>: The purpose of using innovative strategies in a leadership course is to prepare students to fully embrace leadership principles in preparation for assuming leadership roles at the bedside and beyond as new graduate nurses.

Rationale / Background: Traditionally, students struggle with seeing themselves as leaders upon graduation. This quality improvement project involved using multiple strategies including music, movies, projects, clickers, and presentations for ongoing development of leadership knowledge for traditional senior nursing students enrolled in a leadership course. With a student reported need for opportunities to identify leadership principles and attributes in preparation for assuming leadership roles at the bedside upon graduation, the use of multiple teaching methods and opportunities supports the advancement of leadership skills for BSN prepared nurses entering into the profession. Focusing on leadership related to styles, change, conflict, and ethics prepares students to manage the role of the nurse leader in diverse and dynamic patient care settings.

Brief description of the undertaking: To increase knowledge acquisition, students were presented principles of leadership using multiple methods in different contexts throughout the semester using scaffolding methods with the constructivist principle of Cognitive Flexibility Theory. The students were introduced to basic leadership principles and descriptions early in the course. Building upon the background knowledge, students self-selected groups and chose movies from a designated list and collaborated in an on-line discussion format. Students answered questions addressing leadership related to styles, change, conflict, and ethics. Each individual student reflected upon his or her own clinical experiences and observations when responding to the group's posts. Throughout the semester, students identified potential leadership principles exemplified in a variety of well-known songs and shared examples of experiencing the leadership principles in practice. Students also participated in collaborative exercises including a communication, persuasion, and negotiation activity in the campus community; a politics and health care policy awareness event; and a leadership in informatics presentation. In culmination of their acquired knowledge, students collaborated to identify a sentinel event and create a plan for implementing change in practice using necessary leadership principles.

<u>Outcomes achieved</u>: Because of the scaffolding strategies, students successfully demonstrated increased identification of leadership principles and attributes, and implemented the principles in action. Students reported increased awareness of leadership in clinical practice and readiness to utilize leadership skills at the bedside upon graduation.

<u>Conclusion</u>: By providing students the opportunity to learn leadership principles using scaffolding throughout the semester, students are better prepared to realize their role as bedside leaders in the practice environment upon graduation.

**Nicolas Zhou\***, Simon Ekman, Dan Chan, Murry Wynes, Zhiyong Zhang, Kristen Hege, Shuichan Xu, Lin Pei, Leslie Rozeboom, and Fred R. Hirsch: The mTOR Inhibitor CC-223 Acts in Synergy With Erlotinib in Non-Small Cell Lung Cancer Cells Resistant to EGFR Tyrosine Kinase Inhibition

Student, Department of Biology, Regis College

\*URSC Student Travel Grant Recipient: 24th EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics

Activation of the phosphoinositide-3-kinase (PI3K)/mTOR pathway is a common down-stream mechanism of resistance to Epidermal Growth Factor receptor (EGFR) tyrosine kinase inhibitors (TKIs). CC-223 (Celgene Corporation) is a dual mTOR kinase inhibitor active against both mTORC1 and mTORC2 complexes, and is under early clinical development. We evaluated whether CC-223 in combination with erlotinib can increase the therapeutic effect of EGFR tyrosine kinase inhibition in four different non-small cell lung cancer (NSCLC) cell lines: A549, H1975, H1650 and HCC95. These cell lines exhibit intermediate or high resistance to EGFR TKIs. The efficacy of the EGFR TKI erlotinib could be increased in NSCLC by combination treatment with the novel mTOR kinase inhibitor CC 223. The synergistic, anti-proliferative effect of combination treatment of erlotinib with CC-223 was shown to involve increased cell cycle arrest and increased inhibition of signaling components in the mTOR pathway, especially 4E-BP1. Thus, the therapeutic effect of the EGFR tyrosine kinase inhibitor erlotinib in NSCLC cells can be potentiated by treatment with the dual mTOR kinase inhibitor CC-223 which may indicate further clinical investigations in lung cancer patients whose tumors demonstrate primary or acquired resistance to EGFR TKIs.

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