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FIFTH ANNUAL UIW RESEARCH WEEK

POSTER SESSION EVENT PROCEEDINGS



University of the Incarnate Word
4301 Broadway San Antonio TX 78209

FIFTH ANNUAL UIW RESEARCH WEEK

February 27 – March 2, 2012



**University of the Incarnate Word
4301 Broadway San Antonio TX 78209**

POSTER SESSION EVENT PROCEEDINGS

*Sponsored by:
UIW EARDA Project [Funded by the National Institute of Health]
UIW School of Graduate Studies and Research Office of Research Development [ORD]
UIW Office of Instructional Technology*



Dear Colleagues,

With great pleasure I welcome you to the University of the Incarnate Word's Fifth Annual Research Celebration. This week we continue and expand our tradition of celebrating academic accomplishment by showcasing the UIW research enterprise in all of its forms which gives life to the research mission of the institution and contributes so much to our classrooms and beyond. We are indeed fortunate to be a community of educators and scholars seeking to advance our disciplines and help shape the broader community.

As a laboratory of liberal education, UIW's research enterprise provides a format for the development of critical thinking skills, problem solving, interdisciplinary perspectives, and a social and moral orientation that informs the questions explored and their applications to the world in which live. As you examine the work of our research community represented in these proceedings you will quickly experience the breadth of our investigators which includes numerous examples of the scholarship of discovery where original research has advanced knowledge; the scholarship of integration involving synthesis of information across disciplines, across topics within a discipline, and across time; the scholarship of application that goes beyond the service duties of a faculty to those within or outside the University and involves the rigor and application of disciplinary expertise with results that can be shared with and/or evaluated by peers; and the scholarship of teaching and learning where we have made contributions to the systematic study of teaching and learning processes.

As a result of a broad spectrum of work in higher education and by the significant achievements of faculty and students, UIW enjoys a special place in the world of academe. The research presented not only showcases disciplinary accomplishment but serves to illustrate UIW's commitment to academic excellence.

Our research celebration would not be possible without the support and effort of many individuals. The list is too long to recount here in full, so instead I will simply indicate the groups that participated in organizing and sponsoring our celebration. These include the UIW EARDA project (sponsored by the National Institute of Health), the members of the Faculty Research Advisory Committee, the administrators and staff of the Office of Instructional Technology, and the School of Graduate Studies and Research Office of Research Development. To each individual who contributed to the planning and success of today's event I offer my sincere thanks and gratitude. To all presenters and attendees, please accept my best wishes and thanks for your contributions and engagement with the research enterprise.

Sincerely,

Kevin B. Vichcales

Dr. Kevin B. Vichcales, Dean
School of Graduate Studies and Research

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**COLLEGE OF HUMANITIES, ARTS & SOCIAL
SCIENCES**

MY FUTURE SELF MAY NOT LIKE OLDER PEOPLE EITHER: ATTITUDES TOWARD OLDER ADULTS AND THE FUTURE OLDER ADULT SELF

Stefanie S. Boswell, Ph.D.

Purpose of Study

The purpose of the current study was to investigate if young adults' attitudes toward older adults could be modified through a writing activity that would increase the salience of their own future older adult self (FOAS). Specifically, it was hypothesized that young adults who imagine and write about a FOAS will rate older adults more favorably than young adults who imagine and write about a typical older adult (TOA).

Rationale and Significance

Stereotyping and discrimination against older adults, or ageism, continues to be prevalent, despite the growing proportion of older adults in the population (Allan & Johnson, 2009; Cherry & Palmore, 2008; McConatha, Schnell, Volkwein, Riley, & Leach, 2003). Prior researchers have found that undergraduates espouse negative attitudes about older adults; moreover, when compared to older adults, young adults report more negative attitudes about aging. However, ageism is a unique type of negative attitude because young adults who possess these attitudes will one day become old themselves (Packer & Chasteen, 2006).

Description of Methodology

Participants were 43 students (67.4% female, 51.2% Hispanic, 46.5% freshman, $M_{\text{age}}=20$ years old; data will be collected from 10 additional participants this month) enrolled in undergraduate psychology courses; they were randomly assigned to either the FOAS ($n=20$) or TOA ($n=23$) group. Participants were directed to write about the thoughts, feelings, and activities of the target person (FOAS or TOA) for eight minutes. Following completion of the writing activity, participants completed three measures of ageism: the Refined Aging Semantic Differential (RASD; Polizzi, 2003) for the FOAS and TOA (measures were counterbalanced to prevent order effects) and Kogan's Attitude toward Old People Scale (KAOP; Kogan, 1961; measures general ageism). KAOP has two scales: positive attitudes and negative attitudes.

Findings and Conclusion

An ANOVA was conducted with RASD FOAS, RASD TOA, and the KAOP scales as the dependent variables. Results of the analysis did not support the study's hypothesis; there were no significant differences between groups in ratings of FOAS, $F(1,41)=.29, p=.59$; TOA, $F(1,41)=.35, p=.56$; or general ageism, KOAP-positive, $F(1,41)=.01, p=.92$; and KOAP-negative, $F(1,41)=.03, p=.87$.

The current intervention was not sufficient to produce change in participants' attitudes toward older adults. Participants who wrote about a FOAS were no more likely to report positive feelings toward the FOAS, a TOA, or older adults in general than participants who wrote about a TOA. It is possible that the writing intervention was too brief (eight minutes) to produce attitudinal change in participants; a more time-intense intervention may be necessary to modify personal attitudes toward older adults. Additionally, it is possible that participants' identification as young adults interfered with their ability to identify with and take the perspective of a FOAS or TOA. Packer and Chasteen (2006) found that individuals who highly identify as young adults may experience difficulty taking the perspective of an individual from another age group. A future study planned by this researcher will include this identification variable.

PREDICTIVE FACTORS OF RELATIONSHIP SELF-EFFICACY IN UNDERGRADUATES

Mollimichelle K. Cabeldue, Honors Student, and Stefanie S. Boswell, Ph.D.

Purpose of Study

The purpose of the study was to identify factors that are predictive of relationship self-efficacy (RSE). Hypothesis: Jealousy, self-esteem, attachment style, and gender will significantly predict RSE. Specifically, it was hypothesized that jealousy, anxious attachment style, and avoidant attachment style will be negatively correlated with RSE and self-esteem and secure attachment style will be positively correlated with RSE.

Rationale and Significance

Development and maintenance of relationships is a critical developmental task of early adulthood (Lopez, Morua, & Rice, 2007); individuals risk social isolation should this not occur (Shultz & Shultz, 2009). Although there are several influences on one's ability to develop and maintain relationships, a critical factor is confidence in one's ability to do so, or relationship self-efficacy (RSE) (Lopez et al., 2007). RSE is confidence in one's ability to complete behaviors supportive of the successful maintenance of relationships. This study investigated factors predictive of RSE.

Description of Methodology

Participants were 132 undergraduate students (48.5% Hispanic, 67.4% female, 47% freshman) enrolled University of the Incarnate Word. Students completed a demographic questionnaire, the Adult Attachment Scale (Collins & Read, 1990), an 18-item, 5-point Likert-type instrument designed to measure adult attachment styles, "secure," "anxious," and "avoidant"; the Self-Report Jealousy Scale, (Bringle, Roach, Andle, & Evenbeck, 1979), a 25-item, 5-point Likert-type instrument designed to measure jealousy with an emphasis on romantic jealousy; the Rosenberg Self-Esteem Scale, (Rosenberg, 1965), a 10-item, 4-point Likert scale instrument designed to measure individual self-esteem; and the Relationship Self-Efficacy Scale, (Lopez et al., 2007) a 35-item, 9-point Likert-type instrument designed to measure a person's confidence in their abilities to engage in relationship maintenance behaviors within intimate relationships (Lopez et al., 2007).

Findings and Conclusion

Standard multiple regression yielded a significant prediction model for RSE, $R^2=.15$, adjusted $R^2=.10$, $F(6,118)=3.47$, $p<.01$. As hypothesized, self-esteem ($\beta=.26$, $p=.01$) significantly predicted RSE. However, attachment style (secure, anxious, avoidant), jealousy, and gender were not significant predictors of RSE. Results indicated that self-esteem significantly predicts RSE; individuals with more positive feelings of themselves tend to experience greater confidence about their relationships with others. These findings were consistent with previous research that found a strong relationship between self-esteem and general self-efficacy (Luszczynska, Gutierrez-Dona, & Schwarzer, 2005). Jealousy, which has previously been associated with poorer relationship outcomes (Collins & Read, 1990), was not a significant predictor. Highly jealous individuals may feel confident about their relationship success, though that confidence may not reflect quality relationship outcomes. In addition, previous research indicated that dimensions of attachment were a strong predictor of relationship quality (Collins & Read, 1990). However, contrary to the hypothesis and previous research, the current study did not find that secure, anxious, or avoidant attachment styles were a significant predictor of RSE. This could be because attachment style between close friends and romantic partners is less stable than attachment style with parents (Kirkpatrick & Hazan, 1994). Finally, gender was not found to be a significant predictor of RSE. This is somewhat consistent with past research. Lopez et.al (2007) found that while men and women score higher on different subscales of RSE, neither scores higher on overall RSE.

SEX AND RELATIONSHIP STATUS DIFFERENCES IN JEALOUSY

Mollimichelle K. Cabeldue, Honors Student, and Stefanie S. Boswell, Ph.D.

Purpose of Study

The purpose of the study was to investigate sex and relationship status differences in jealousy. Hypothesis: Females will be more jealous than males regardless of relationship status.

Rationale and Significance

Jealousy is a common component within romantic relationships that may contribute to negative interpersonal outcomes (Whitson & Mattingly, 2010). Prior research has yielded inconsistent results regarding jealousy and gender. Several studies have found no gender difference in jealousy (Pines & Friedman, 1998; White, 1981); however, Hansen (1985) found greater jealousy in women, whereas Mathes and Severa (1981) found greater jealousy in men. In addition, research has shown an inconsistent correlation between jealousy and relationship status. Burchell and Ward (2011) found that women's jealousy was higher when in romantic relationships, while Khanchandani and Durham (2009) found that women's jealousy was lower when in romantic relationships. Other research shows that participants in committed relationships had higher mean scores of jealousy than did participants in unsuccessful, terminated relationships (Mathes, 1986). The present study investigated sex and relationship status (single vs. in a committed relationship) differences in jealousy in undergraduates (the data for this investigation originated from another study by this author).

Description of Methodology

Participants were 120 undergraduates (46.7% Hispanic, 67.5% female, 50% single, 51.7% freshman) enrolled at a small university. Participants completed a demographic questionnaire and the Self-Report Jealousy Scale, (Bringle, Roach, Andle, & Evenbeck, 1979), a 25-item, 5-point Likert-type instrument designed to measure jealousy with an emphasis on romantic jealousy.

Findings and Conclusion

The overall ANOVA for jealousy was significant, $F(3,112)=2.96$, $p=.04$, and yielded a significant main effect for gender $F(1,112)=6.38$, $p=.01$, but not relationship status ($p=.21$). Females ($M=63.39$) reported significantly higher jealousy than males ($M=58.56$). However, there were no significant difference in jealousy between single participants ($M=60.54$) and those in committed relationships ($M=63.28$). The gender by relationship status interaction was not significant ($p=.77$). Overall, females reported more jealousy than males regardless of relationship status. This supported the hypothesis and is consistent with previous research about gender. For example, Hansen (1985) found that within married couples, females experienced higher levels of jealousy than males. Hansen's research attributed this primarily to gender role orientation. According to Hansen, gender role orientation fosters feelings of dependency and a personal inadequacy. If females feel they are dependent on males, this may explain why they display higher scores of jealousy than males. This may extend to single females who have previously been in relationships or observed gender role orientation. However, this does not support previous research about relationship status and gender. Although previous research has been inconsistent, it did find an association between relationship status and jealousy. However, the current results did not produce this relationship. This suggests that gender may play a more important role in jealousy than does relationship status. Other research suggests that this could be due to other factors correlated with gender such as self-esteem, insecurity, and anxiety (Peretti & Pudowski, 1997).

A SOCIAL AND HISTORICAL PERSPECTIVE OF EPHESIANS 5:21-33: LOOKING AT THE DYNAMICS OF GENDER, CULTURE, AND AUDIENCE

Ralonda R. Green, McNair Scholar

Purpose of Study

The qualitative study consists of exploring the controversial elements regarding gender roles addressed in Ephesians 5:21-33. Research questions include: a) Does John Heil's "audience-oriented method" offer a new perspective on Eph.5:21-33, and can additional evidence be found using social-historical contexts; b) What was the cultural and social environment of the Church of Ephesus and first/second century Christians, and how do these aspects apply to ancient views of men, women and the marriage structure; and c) Does the author of Ephesians demand more of the husbands than the wives, and would the people have rejoiced at the letter, as Heil claims?

Rationale and Significance

Scholars and clergy have debated whether scriptures containing controversial elements regarding gender roles embody ideas of hierarchy. Agreement with this stance has been used to justify discrimination toward women in both the family and church leadership dynamics. The ways in which scriptural analysis have been conducted have also been questioned. Some scholars and clergy have chosen one of the following methods: text-centered, theological, or social-history to interpreting the Bible. However, there has not been a study using all three literary methods as a means to evaluate ancient manuscripts. The importance of this study is the combining of these three methods to interpret how the audience might have responded to the letter as it was read aloud to the Ephesians during that time. My study will offer a new technique to use in interpreting text.

Description of Methodology

My methodology was a qualitative design comprised of a three step process used to evaluate Ephesians (Eph) 5:21-33. First, I familiarized myself with the historical Ephesus culture, as it related to the book of Ephesians and Greco-Roman history. Second, I viewed my subject through three different perspectives: social-historical evidence, biblical commentaries, and John Heil's audience-oriented method (a text-centered approach to viewing a text through the experience of the historical audience related to that passage). Lastly, after compiling all evidence mentioned above, I analyzed the text of Eph. 5:21-33 having gained a basic understanding of both biblical terminology and social history related to gender roles and the household code of the century when Ephesians was written.

Findings and Conclusion

The textual analysis shows that Heil's audience-oriented perspective offers a limited viewpoint of the text. It uses an entirely theological perspective, lacking the historical cultural perspective of the implied audience. Ephesian Christians lived in a multicultural environment where both Jews and Gentiles had different views on both gender and marriage. Gentile Christians generally tolerated the rising independence of women and a more equal view of gender roles. Jewish Christians, on the hand, favored a more patriarchal view of gender roles based on Jewish tradition. Understanding this cultural context gives the reader a clearer reading of the letter to the Ephesians. This information allowed the researcher to create an audience profile that Heil lacked. The researcher determined that culturally, Paul was to an extent demanding more of men than of women concerning the text. However, in viewing the data from various perspectives mentioned above, Paul demanded more from both men and women as it relates to the image of Christ.

IRAQI WOMEN OF THREE GENERATIONS: CHALLENGES, EDUCATION, AND HOPES FOR PEACE

Sr. Martha A. Kirk, Th.D., and Sr. Patricia Madigan, Ph.D.

Purpose of Study

Kofi Anan, the former Secretary General of the United Nations has said, “There is no tool for development more effective than the education of girls. . . . No other policy is as powerful in increasing the chances of education for the next generation. And I would also venture that no policy is more important in preventing conflict, or in achieving reconciliation after a conflict has ended.” This project seeks 1) to document if or how the Gülen-inspired schools have opened the horizons of young women, given them confidence, knowledge, skills, and virtue that can contribute to a better future for their country, Iraq, 2) to gather from women’s perspectives firsthand information going back to the middle of the twentieth century 3) to consider women’s resilience and strength in challenging situations, 4) to help young and old grow in bonds of understanding and appreciation for each other.

Rationale and Significance

To create healthy, stable societies, democracy, and peace, women’s history and voices need to be valued and promoted. Some of the young people interviewed in the researcher’s 2010 study spoke of people in the northern Iraq area not appreciating education. Often they mentioned women not getting educational opportunities. Young people mentioned, that once their families had seen them flourishing in the schools, the families embraced the value of education. Education in knowledge, skills, and especially virtues is a critical part of the constructive development of their country.

Description of Methodology

This qualitative research in Iraq during June 2011 involved getting images and asking people approved interview questions. We obtained twenty-nine sets of stories of three generations of Iraqi women: 1) Women who had graduated or will graduate from the Gülen-inspired schools or women who have worked with these schools, 2) their mothers or aunts, and 3) grandmothers or great aunts. Interviews gathered information on women’s lives, attitudes, values, educational opportunities (or lack of), and the context of Iraq. Also other people who knew the work of the schools and the young women were interviewed on if or how the women are being empowered, and how this could help their war-torn country develop positively. Both researchers reviewed the information looking for common themes and patterns.

Findings and Conclusion

1) The Gülen-inspired schools, which were quietly established just six years after the 1988 massacres, are helping women to overcome the fear, distrust, and cycles of violence. Women are gaining confidence, knowledge, and leadership skills. While people of families speaking Kurdish, Turkmen, Arabic, and Syriani had often been separated from each other in the past, within the schools they were learning to work together across religious, ethnic, and economic divides. 2) The women often mentioned violence which they had experienced whether in the war with Iran in the 1980’s, the massacres of over 180,000 men under the central Iraqi government in the 1988 in the Kurdish area, or the civil war in the northern region. 3) Women go forward with courage and build reconciliation. 4) Generations participating expressed appreciation for the experience of hearing each other’s stories.

SERVICE-LEARNING AND MISSION: DOES SERVICE-LEARNING ENHANCE STUDENTS' PERCEIVED UNDERSTANDING OF UIW MISSION AND SOCIAL JUSTICE PRINCIPLES?

Lisa K. Lockhart, Ph.D.

Purpose of Study

This study aimed to determine whether students in a Social Psychology course with a service-learning component increased self-reported understanding of: a) the UIW Mission, and b) social justice principles. It also aimed to determine whether this experience changed their attitudes regarding Catholic institutions' responsibility to speak out against social injustice. It was hypothesized that students' post-semester attitudes would indicate greater understanding of social justice and a stronger belief in responsibility of institutions like UIW to be a voice for the oppressed.

Rationale and Significance

Service-learning courses have been touted as beneficial to students across a variety of disciplines as well as to the community organizations they serve while linking coursework with experiential learning (e.g., Brown, 2009; Hammer, 2008; Primavera, 1999). The present study was an attempt by this instructor to determine whether her students believed that their service-learning experience contributed to their understanding of the institutional mission statement and of broader social justice principles.

Description of Methodology

Participants ($n = 46$) were students enrolled in two semester sections of a Social Psychology course at UIW. The course had a service-learning component consisting of a minimum of four community service hours served with an organization of their choosing and a project reflecting on: a) their perceptions of their experience; b) the links between their service and social psychological concepts; and c) how their experience related to social justice principles and the UIW Mission. Participants completed a pre-test (T1) at the beginning of the semester and then a post-test (T2) at the end of the semester assessing their self-reported understanding of: a) the UIW Mission; b) social justice principles; c) their belief in the responsibility of Catholic institutions like UIW to speak out against social injustice. Paired t -tests were conducted assessing T1 to T2 change on the measures of interest to determine whether perceptions of understanding increased from pre-semester to post-semester.

Findings and Conclusion

Paired t -tests indicated a significant difference between T1 and T2 ratings, with students perceiving greater understanding of both the UIW Mission [$t(45) = 7.63, p < .001$] and social justice principles [$t(45) = 7.65, p < .001$] after participating in the course and the service-learning project, in support of the hypothesis. Pre- and post-course beliefs in the responsibility of a Catholic institution to speak out against social injustice also approached statistical significance [$t(44) = 1.97, p = .055$]. Findings indicate that students perceive that they are learning more about the UIW Mission and social justice. The limitation of the present analysis is it only taps students' perceived understanding without assessing the actual accuracy of their knowledge of these issues. Further analysis of T1 to T2 objective understanding of these concepts is called for. The present study does fulfill a practical aim, in that it demonstrates that students do perceive an actual benefit from instruction centered around social justice and Mission principles. This answers the important practical question that this instructor had regarding the utility and benefit of diverting class time from breadth of course content to depth of links between social psychological principles and social justice ideals.

DOES THIS VOICE MAKE MY BUTT LOOK BIG? A STUDY INVESTIGATING THE CORRELATIONS BETWEEN BODY COMPOSITION TO VOCAL RANGE AND QUALITY

Elizabeth F. Lopez, Honors Student, and Jessica Ibarra, Ph.D.

Purpose of Study

The purpose of this study was to explore the correlation between different body types (body composition) to vocal range and quality from university level singers to investigate whether increased body fat adversely affected performance of vocal range and quality.

Rationale and Significance

To some extent, the vocal range is set in every person based on the size and thickness of their vocal chords. For example, vocal fold length is important for the pitch range and timbre of the voice. Other non-physiological factors, such as levels of hydration or the resonance of their body are important determinants of vocal range and quality. Interestingly, no studies have indicated the role of body composition in vocal fold physiology, even though it is well recognized that other body parameters contribute to the health and efficiency of the vocal apparatus. More specifically, the ways in which hydration affects the vocal range and quality is another less discussed area. The lack of literature indicating the effects that body composition has on the voice prompted our investigation. Several studies have shown muscle tension and overuse in the vocal apparatus affect the quality of the voice. However, there is little data to explain how the amount of muscle or fat in the body affects vocal quality and range.

Description of Methodology

This was a prospective repeated measures study. Body composition parameters, vocal range, flexibility, weight, and timbre were obtained from university level singers before, and after chorale practice. The subjects consisted of 32 university level singers, 18 female and 14 male, ranging in age from 18-39 years volunteering for the study. Mean age for the subjects was 22 years. The mean years of singing was 8.4 years with a mean of 1.4 years of voice lessons. Subjects were recruited from the University of the Incarnate Word Chorale and maintained an active performance schedule. All testing was conducted during a single visit. The subjects were instructed to refrain from eating or drinking until after the post-evaluation. They were scheduled during the day when subjects typically report to chorale practice. Each subject read and signed a consent form approved by the UIW IRB for human subject's approval before participating in the study (IRB #11-10-010).

Three tasks were completed during the protocol and vocal parameters were measured before and after a routine rehearsal in a randomized and blind fashion. The first task was measurement of basic health parameters including height, weight, blood pressure, and heart rate. The second task was measurement of body fat, body water, muscle mass, bone mass, visceral fat, physique, and basic metabolic rate (BMR) using a body composition monitor (Tanita Corp. of America, Illinois, USA). The third task was vocal range, which was subjectively measured by a trained pianist a trained vocalist and pianist were able to assess the participant's vocal range and categorize the quality of each participant's voice. Each subject was asked to perform in their most comfortable vocal ability and scored on range, quality, timbre (reedy-warm), weight (light-dark), flexibility (1-10), and voice part. Following chorale practice, the third task was repeated. The primary statistical method used to examine correlations between body compositions to vocal range and quality was paired T-test. A $p=0.05$ was considered significant in all testing.

Findings and Conclusion

Based on body fat composition the relationship between healthy and obese subjects revealed a significance for vocal weight ($p=0.05$) at the initial assessment and also found significance after chorale practice ($p=0.005$). No significance was found for vocal half steps or flexibility. This is the first time a study of this type has been conducted to compare body composition to vocal quality and range.

CORRIDOS DE SOUL: THE ROOTS OF CHICANO SOUL IN SAN ANTONIO, TEXAS

Jaime J. Lopez, McNair Scholar

Purpose of Study

The purpose of this ethnographic study was to investigate and illuminate the lived experiences of select individuals from San Antonio, Texas, who participated in the birth of a unique musical sub-genre known as Chicano Soul.

Rationale and Significance

The complexities of the lived experience tell us a great deal about the formulation of culture. Cultural Studies supports this inquiry and provides a host of lenses and theories that, when applied, can help to interpret these particular exchanges of information. The purpose of this study was to capture and interpret lived experiences in Chicano Soul with the hope that the information would provide additional insight about the formulation of Chicano Soul music culture. This study considered issues of assimilation, hybridity, and identity in the uniquely diverse culture of San Antonio, Texas, during the 1960s.

Description of Methodology

Oral history formulates the basis of this investigation of Chicano Soul music. The selection process consisted of a specific list of recording artists, disc jockeys, producers, and club owners. Interview questions for these specific individuals ranged from general questions regarding Chicano Soul, to specific questions regarding their unique and professional involvement in the music industry. Participants were asked questions regarding their unique and specific experiences with Chicano Soul.

Findings and Conclusion

This study found that in addition to a multiplicity of social and cultural circumstances that instigated Chicano Soul, such as demographic segregation, ethnicity, and class, one of the most relevant instances of the creation of the music was a particular community's interpretation process of specific existing popular music in the 1960s. This study concluded that it was the individuals' unique bi-cultural ethnicity and experience, as well as geographic proximity that contributed to the production of Chicano Soul as a musical sub-genre. Despite demographic segregation and economic instability, the community that produced this unique musical art form, did so as a means of and interest in participating in popular American music culture.

THREATS TO ECONOMIC SELF-SUFFICIENCY: A STUDY OF GLOBAL REFUGEES IN SAN ANTONIO, TX

Rosario Plascencia, McNair Scholar

Purpose of Study

This two-part study measured the economic self-sufficiency of the refugees from Burma, Iraq, and Bhutan and identified the threats refugees encounter in their pursuit of economic self-sufficiency in San Antonio, Texas.

Rationale and Significance

In 2009, the United States and refugee resettlement organizations resettled 74,602 refugees from diverse countries to the United States. Once refugees are resettled, the main goal of the resettling organizations is to help refugees become economically self-sufficient within the refugees' first 6 months of arrival. The problem with this goal is that many refugees do not attain economic self-sufficiency within this time frame. Therefore, identifying the threats that hinder refugees' attainment of economic self-sufficiency and reporting these to organizations that work with refugees would enable the organizations to better assist the refugees in attaining economic self-sufficiency.

Description of Methodology

This study was conducted by utilizing open-ended questions to interview both refugees (n = 8) and program administrators/staff (n = 4) of the Center for Refugee Services, a non-profit 100% volunteer run organization that offers mental health, employment, education, and other services to refugees. The interviews took place during an hour interview session in local coffee shops, refugees' homes and the Center for Refugee Services. For this study, the names of the refugees were changed to protect the refugees' confidentiality. For the first part of this study, refugees' economic self-sufficiency was measured. Economic self-sufficiency was defined in this study as having enough income to be deemed ineligible for the Supplemental Nutritional Assistance Program (SNAP). This definition was adopted as it was reasoned that if an individual cannot afford to purchase food, a basic need, then he or she is not self-sufficient.

Findings and Conclusion

Seven of the eight refugees interviewed in this study met the federal guidelines for SNAP benefits. Therefore, they were not considered economically self-sufficient. The threats to economic self-sufficiency identified by the refugees included: employment, degree recognition, language, transportation, daycare, and health/healthcare care coverage. The program administrators/staff identified the following threats: skills/education, language, employment, degree recognition, and health/healthcare coverage. Interestingly, both the refugees and program administrators/staff identified employment, language, degree recognition and health/healthcare coverage, but only the refugees identified transportation and daycare and only program administrators/staff identified skills/education. Additionally more refugees identified degree recognition than did program administrators/staff. These results will allow the Center for Refugee Services and other organizations that render aid to the refugees to better assist the refugees in overcoming these threats to economic self-sufficiency.

INTER-RATER RELIABILITY: EVALUATING A GRADING RUBRIC IN THE R-STATISTICAL COMPUTING ENVIRONMENT

Harold Rodinsky, Ph.D., and Lisa Lockhart, Ph.D.

Purpose of Study

Many faculty, at all levels of education, use a grading rubric to evaluate written assignments. An assignment is created and students informed about the criteria for grading. Faculties then evaluate the assignments using the rubric they created. Faculty rarely, if ever, systematically evaluate the reliability and validity of their grading rubrics. This study sought to test the reliability and validity of a grading of an 'in use' grading rubric and to put forth a systematic methodology for the evaluation of grading rubrics.

Rationale and Significance

The grading rubrics used to evaluate written assignments also form the basis of the instructions given to students who will produce the written works. Major threats to the validity (and reliability) of the rubric is the comprehensibility of the instructions given to the students, faculty bias, and consistent, accurate use of the rubric, by faculty, across all student work submitted. In order to insure accurate evaluation of student's written work a methodological tool needs to be applied to the evaluation of the grading rubric.

Description of Methodology

The methodology was to use 10-raters from the same population of undergraduates that produced the written assignments. These raters were trained to rate student written comments. After training the raters were provided a randomly selected set of 20 written assignments. The statistical procedure used Krippendorff's Inter Rater Reliability, is a methodology used in content analysis when multiple raters are used and accurate probabilities required. Krippendorff's alpha can be computed manually or in the R-Statistical Computing Environment.

Findings and Conclusion

The result from the computation of Krippendorff's was, $\alpha=.574$ in Cohen's taxonomy (1960), $\alpha=.574$ is categorized as moderate agreement. In this calculation the overall sample mean was $m=3.553$, the overall sample $SD=.7202$ and CI at 95%, LL 3.1362, and UL 3.9715. The standard error of the mean was calculated at $sem = 0.04178$. With raters producing only a moderate level of agreement and raters being drawn randomly from the population of students that produce the written assignments the reliability of the instructions to the students may be ambiguous indicating that the rubric needs to be rewritten.

DIFFERENCES BETWEEN SPANISH-SPEAKING AND ENGLISH-SPEAKING PARENTS' RATINGS OF INFANT FEAR

Teresa Taylor-Partridge, Ph.D., and Rachel Schindel, Student

Purpose of Study

The purpose of this study was to explore cultural differences in parent ratings of infant fear using the Infant Behavior Questionnaire-Revised (Gartstein & Rothbart, 2003). Spanish-Speaking Hispanic (SP), English-Speaking Hispanic (EH), and English-Speaking Non-Hispanic White (EN) parents rated their 12-month-old infants on fear. As a pilot study, there were no theoretical hypotheses regarding the direction of differences in ratings of infant fear.

Rationale and Significance

Often infant research is conducted on Non-Hispanic White populations without attention to cultural differences that may influence child outcomes. Fear of new experiences and new people is associated with difficulty in both cognitive and social functioning (Reiser-Danner, 2003). Thus, it is important to establish if there are groups of infants who are more likely to experience higher levels of fear than other groups. Preferred Language is often used as an index of acculturation into the United States culture. Thus, I compared parent rated infant Fear, as measure by the IBQ-R, between groups who varied on preferred language (English vs. Spanish) and Ethnicity (Hispanic vs. non-Hispanic White).

Description of Methodology

Parents of 30 infants (15 female) completed the IBQ-R (Gartstein & Rothbart, 2003) as a measure of infant fear, a factor of temperament. Parents chose to complete the English version or the Mexican-Spanish version of the IBQ-R. Parents also indicated ethnicity (Hispanic versus Non-Hispanic). Ratings for each behavior ranged from 1 (never) to 7 (always) on a Likert scale. The dependent variable consisted of the average rating for each infant on questions related to fear (*Overall Mean = 3.19*). The independent variable was language/ethnicity group (SH; EH; and EN). I analyzed the data using analysis of variance (ANOVA) and paired comparisons *post hoc* with Bonferroni correction to determine if there were significant differences between the means and which means differed.

Findings and Conclusion

The analysis shows that there was a significant difference in how the different language/ethnicity groups rated infants on the IBQ-R factor fear, $F(2, 27) = 6.38$, $p < .01$, $\omega = .51$ (large effect). Post hoc t-tests using Bonferroni correction showed that the Spanish-speaking Hispanic parents rated their infants significantly higher on fear than English-speaking Hispanic parents, *Mean difference* = 1.32, $p < .05$, and English-speaking Non-Hispanic parents, *Mean difference* = 1.48, $p < .01$. English-Speaking parents rated infants similarly on fear regardless of ethnicity. These results may relate to differences in actual infant Fear; however, another possibility is that Spanish-speaking parents experience more anxiety in a primarily English-speaking environment and project that anxiety onto their infants. Further study of parental factors (e.g., anxiety) and infant factors (e.g., behavioral observation) is indicated.

EUPHONIES OF THE SPIRIT: THE COMMON-THREAD OF THE SACRED EXPERIENCE WITHIN MONOTHEISM

Marcella N. Wilkinson, McNair Scholar

Purpose of Study

This study is a phenomenological analysis of the Spirit of God illustrated by sacred music within the Abrahamic Religious Traditions. The purpose of this study is to stimulate interfaith dialogue, relations, and interfaith experience. My hypothesis is that there is a universal experience of God common to Judaism, Christianity, and Islam.

Rationale and Significance

There is a suppressed euphony within the Abrahamic Religious Traditions. This mysterious and rhythmic undertone of the Great Monotheistic Faiths can be experienced through the creative nature of artistic expression. This study is an exploration of the nature of sacred music and how it relates to the Spirit, and ultimately gives way to a religious experience that informs the identity of the followers of the One True God. This knowledge will enhance our present understanding of the universal harmony (euphonies) of the Spirit of God. Ongoing observations of religious services and conversations with Muslims, Jews, and Christians challenge the present systematic comprehension of the Spirit and shine light on the variety of fruits the Spirit makes manifest.

Description of Methodology

My research is designed as a qualitative study in which I utilized primary and secondary source materials gathered from the disciplines of: Theology, Philosophy, and Music Theory. I made use of the ethnographic methodology through interviews to obtain authentic religious experiences that occurred to Jewish, Christian, and Islamic individuals and also personally participated in a number of religious services. For the purpose of this research, music is employed as a metaphor for the Spirit while a post-modern lens was utilized to emphasize an affinity between the experience of music and therefore the Spirit.

Findings and Conclusion

The analysis of the interviews revealed that the participants regard the sacred Spirit as a universal tenet of the Abrahamic Religious Traditions. Faithful followers of Islam, Judaism, and Christianity consider the Supreme Being as One and consider themselves as siblings within the family of God. Like music, the sacred Spirit can be identified through experience and through that experience we find our identity. Analysis of the primary and secondary source materials revealed an inclusive connection within the monotheistic faiths and a global imperative to have central conversations with believers outside their own religious conscious.

DIVISION OF EXTENDED ACADEMIC PROGRAMS

SOULY ALIGNED: UNDERSTANDING INTEGRAL LEADERSHIP FROM THE NEXUS BETWEEN ENTREPRENEURIAL LEADERSHIP AND WORKPLACE SPIRITUALITY

Matthew D. Gonzalez, Ph.D.

Purpose of Study

This paper attempts to understand integral leadership by looking at the nexus between individual entrepreneurship and workplace spirituality.

Rationale and Significance

Considerable discussion in both the academic and practitioner realms has been devoted to the role entrepreneurs play as primary change agents. They are innovators, paradigm pioneers, and visionaries who are confronted with the issue of developing leadership qualities to grow their businesses and to benefit the larger society through their enterprises. This search for the development of sound entrepreneurial leadership coupled with the rise of corporate crises and scandals, terrorism and violence, the extent of poverty and environmental decay and a greater emphasis on the search for meaning even in relatively affluent nations are contributing to a heightened uneasiness and a search for another kind of leadership that is more encompassing, ethical, and compassionate. In particular, this researcher adapts Pauchant's (2005) multi-disciplinary integral leadership framework, first introduced by Wilber (2000). The rationale for this choice is motivated by the desire to look into the role of leadership in organizational spirituality. This sophistication of this framework allows the transcendence of the many current limitations in the existing leadership research to talk to the practicability in organizations and communities. More importantly, it explicitly includes post-conventional dimensions observed in integral leadership – the integral method of leadership integrates the physical, psychosocial and spiritual realities of an entrepreneur's environment.

Description of Methodology

Data is presented in the form of a single-case study focused on both the entrepreneurial and spiritual behaviors and actions of Warren Buffett, CEO and Chairmen of the Board for Berkshire Hathaway, Inc. The constructs of entrepreneurial leadership and integral leadership are defined through multiple lenses to include the behaviors and characteristics within both, a) the entrepreneurial leader, and b) the integral leader. An analysis of Mr. Buffett's leadership approach, organizational profile, global influence, and change management approach are synthesized as independent variables on workplace spirituality (dependent variable). Data collection included primary interview, primary data, and secondary data.

Findings and Conclusion

Organizations tend to take on the persona and culture of the entrepreneur-director. Warren Buffett has displayed two out of the three necessary components of Pauchant's (2005) integral method of leadership. Where Mr. Buffett falls short in the integral method of leadership is in the spiritual aspect of creating a bond with his employees, and stakeholders alike. Second, new leaders (whether they be nascent entrepreneurs or groomed leadership) must recognize the behavioral aspects of practicing spirituality as a means of inspiring employees, followers, and fellow leaders alike through a value-system and general demeanor toward business and life. The case of Mr. Buffett operating under Institutional Imperative behavioral aspects of entrepreneurial leadership through vision, passion, goal attainment, and newfound social skills aids in support of future growth in behavioral vs. trait theories in spirituality. Third, the implications toward studies on organizational legacy building, in tandem with personal legacy building, contribute toward the practice of souly aligning a persona with a spiritual friendly workplace environment.

DREEBEN SCHOOL OF EDUCATION

PRESCHOOL USE OF EXPLICIT NAMES OF NUMBERS IN LEARNING TO COUNT IN BOLIVIA AND MEXICO

Judith E. Beauford, Ph.D., Absael Antelo, Ph.D., and Suzanne Meche, MA

Purpose of Study

This is an investigation of the lasting benefits of the use of explicit number names in an extended intervention with 4 and 5 year old children.

Rationale and Significance

Evidence has been building that among reasons for the superiority of Asian children in international comparison in mathematics, the language structure for naming numbers may also have some impact on student performance. Miura (2001) and Fuson, Grandau, and Sugiyama (2001), among others, have compared the mathematics performance of children from Mandarin and European language heritages with consistently better number sense shown by children from Japan, China, and Korea. Rather than new names for each two-digit number, children are taught the names for the first 10 numbers and then the two-digit numbers are named by identifying the number of tens and units present in the number. For example, 26 is read “two-ten six.” This use of explicit number names imbeds information about the place value of numbers within the name of the number.

Using explicit number names, intervention studies have resulted in increased abilities in number sense in children in the first grade (Alsawaie, 2004, in Arabic; Cotter, 2000, in English; Hankes, Soldier, & Davis, 1998, in Lakota). A two-year intervention with preschool children in a small elementary school in Texas showed promising results in longitudinal analysis. The project was expanded to a larger school in Texas, and in several schools in Mexico and Bolivia. We present in this paper the preliminary results in Mexico and Bolivia after only one year of implementation. Student results and teacher reactions are offered.

Description of Methodology

A sample of 31 Kindergarten students came from a population of approximately 180 children in a private elementary school in Mexico. Both English and Spanish are used as the languages of instruction in this school. With no other changes to the curriculum, explicit number names were used to count, tell time, name dates, measure, and with any other use of number in both languages in the prekindergarten and kindergarten classes. At the end of the year, the children were assessed individually in their ability of count, read, model, and identify place value in two-digit numbers. Teachers from a similar project in Bolivia were surveyed about their perceptions of the benefits and outcomes of the project, teaching and evaluation, importance of modeling numbers, and interactions among children, parents, and administrators.

Findings and Conclusion

Those children who use explicit number names more often show stronger abilities in modeling and identifying place value. Teachers' early perceptions were in alignment with student assessment results. They reported that children were able to learn to count as well with explicit as with traditional number names and, in addition, better understand the meaning and place value of two-digit numbers. They found that pairing the explicit language with modeling of two-digit numbers was a natural extension which reinforced the place value concept in a concrete way. Similar assessments have been done at least once a year at each research site. Differences in the results among sites will also be addressed.

PASSING THE TORCH OF LEADERSHIP: CREATING SUCCESSION IN A FEMALE-LED NON-PROFIT ORGANIZATION AND COMMUNITY IN BUKOBA, TANZANIA

M. Alison Buck, Ph.D., and Elizabeth A. Holbrook, Doctoral Student

Purpose of Study

For all organizations, particularly those situated in underdeveloped countries, capacity building efforts leading to long term sustainability are crucial to ongoing success. Preparing for succession of leadership is critical to creating long-term sustainability, with female-led organizations in this setting providing unique concerns. One female-led organization currently experiencing these concerns is the Bukoba Women's Empowerment Association (BUWEA), located in Bukoba, Tanzania. The purpose of this study is to explore the challenges, struggles, hopes and dreams of women associated with BUWEA, and thus provide greater understanding of the creation of future female leadership for this non-profit organization and its surrounding community in an underdeveloped country.

Rationale and Significance

Female-led non-profit organizations in underdeveloped countries face particular challenges. Lack of financial resources and educational opportunities, along with societal constraints on women have historically created barriers difficult for female organizational leaders to overcome. With continuing growth over the span of fifteen years, BUWEA provides an example of non-profit organizational success. Now, as its founding leaders grow older, BUWEA is faced with the challenges associated with creating succession of leadership. By providing voice for the female founders of BUWEA and potential future female leaders in the community, there can be greater understanding of the role of female empowerment in this organization and its surrounding community while it prepares for the next generation to take over.

Description of Methodology

With research questions examining personal challenges, empowerment, and the hopes and dreams of the women, the researchers deemed that a qualitative study situated within a phenomenological framework was most appropriate. The study also utilizes narrative methods to share the stories of BUWEA and community members. Triangulation was achieved through the use of interviews of female participants, use of observational data, and review of records. Interviews were conducted with a total of eight women and three high school students; observational data were recorded in researcher journals which also utilized reflective practice activities; records from BUWEA's office and its partner organization, Women's Global Connection (WGC), were examined. Data will be analyzed utilizing thematic methods. Limitations of this study include those associated with conducting cross-cultural research, such as interpretation and translation concerns, as well as the researchers' relatively short duration of stay in Bukoba. The strength of the long-term relationship between WGC and BUWEA can possibly alleviate concerns about these limitations.

Findings and Conclusion

While seeking to explore the succession planning challenges, struggles, hopes and dreams of the BUWEA women and women in the surrounding community, preliminary findings indicate the following emerging themes: desire for self-determination and financial opportunities; loyalty to local community; and belief in future possibilities, including collective female empowerment. Findings from this study can open further exploration of female leadership issues in developing countries.

MANDATORY ENROLLMENT + DEVELOPMENTAL MATH STUDENT = SUCCESS

Renea Fike, Ed.D, David S. Fike, Ph.D., and Kevin B. Vichcales, Ph.D.

Purpose of Study

The purpose of this study is to assess the impact of participation in a developmental mathematics course, if needed, during the student's first semester. It addresses the question of whether enrollment in developmental mathematics should be required during the first semester. The primary research question is, "For first-semester students who are not college ready in mathematics, are student outcomes (first-semester GPA, Fall-to-Spring retention, Fall-to-Fall retention) the same for those who successfully complete a developmental mathematics course as compared to those who defer enrollment until future semesters?" The research hypothesis is that student outcomes differ for those who successfully complete a developmental mathematics course during the first semester, compared to those who are college ready in mathematics, those who fail developmental mathematics in the first semester, and those who defer enrollment in developmental mathematics.

Rationale and Significance

Developmental mathematics programs differ by institution. Some institutions have a sequence of developmental mathematics courses while others have a single developmental course. Standards for placement and policy for mandatory enrollment differ by institution. Programs are designed and implemented with the goal of remediating students and improving their prospects for academic success in higher education. However, these program differences may have a bearing on student outcomes. This study looked at the issue of first-semester enrollment (one specific characteristic of developmental mathematics programs) to assess its association with student outcomes. The findings suggest that allowing students who need developmental mathematics to delay enrollment may not be in the best interest of the students; policy requiring mandatory enrollment during the students' first semester may be of greater benefit to students and their institutions.

Description of Methodology

This retrospective study used a sample comprised of 3476 first-time-in-college freshmen who enrolled at a university during the fall semesters 2005-2009. Students were classified into three groups (college ready, enrolled in developmental math first semester, or deferred enrollment in developmental math). Differences between subgroups within the sample were analyzed using Chi-Square for categorical variables and one-way analysis of variance for continuous variables. Multiple regression was used to determine if Fall GPA was associated with first-semester math status while controlling for covariates. Logistic regression models were developed to determine if Fall-to-Spring and Fall-to-Fall retention were associated with first-semester math status. In the interest of parsimony, independent variables that were not statistically significant were removed from the models. Variance inflation factors and residuals were reviewed. For cases with missing data, the cases were excluded from analyses. For all analyses, the level of significance was .05.

A limitation is that this study was retrospective; causality cannot be established.

Findings and Conclusion

The findings from this study suggest that students who defer enrollment in developmental mathematics may have less desirable outcomes as measured by Fall GPA, Fall-to-Spring retention and Fall-to-Fall retention. The primary conclusion from this study is that establishing policy requiring mandatory enrollment in developmental math courses for students who are not college ready during their first semester may be in the best interest of the students and their academic institutions.

USING CLICKERS TO PREPARE PRESERVICE TEACHERS FOR CERTIFICATION

Renea Fike, Ed.D., David S. Fike, Ph.D., and Krystal Lucio, BA

Purpose of Study

The purpose of this study was to determine if the use of clickers would improve student learning outcomes for students in a teacher education program. The primary research questions were: “Does in-class review improve learning outcomes?” and “Do student learning outcomes differ based upon the method of review (review with clicker vs. review without clicker)?” The answer to these questions may inform the practice of using clickers within classrooms for review of course content.

Rationale and Significance

It is imperative that teacher education programs prepare their teacher candidates to pass required teacher certification examinations. A strategy used to prepare students is to review competencies for teacher certification and then take a practice examination over each competency in class. This provides the opportunity for the class to discuss test strategies as well as the reason a particular answer is the best response.

This study was focused on determining effective strategies that enhance the likelihood of success on teacher certification examinations.

Description of Methodology

This was a prospective, randomized, intervention-based, mixed-methods study. The sample consisted of 26 teacher education students, yielding power of 80%. For each of the 13 teacher certification competencies, 9 multiple choice questions were prepared to assess pre-service teachers’ knowledge. The 113 questions were randomly assigned for either review in class using clickers, traditional review (nonclicker), or no review. Mid-term and final exams were analyzed to determine if student learning outcomes differed between the three methods (clicker review, traditional review, no review). Paired t-tests were used. Item difficulty and the time lag between review and testing were analyzed. A qualitative review was also conducted to assess students’ perception and preferences relative to the use of clickers in class. A limitation of this study was that it applied only to teacher education students.

Findings and Conclusion

Students preferred review with clickers, and were more engaged when clickers were used for review. Quantitative findings indicate that in-class review of complex questions produced improved learning outcomes. However, the use of clickers for in-class review did not provide greater benefit than review following a traditional format. While the use of clickers in pre-service teacher education programs may contribute to in-class student engagement, the benefit from the use of clickers does not extend to better student learning gains when compared to a traditional review method.

CHURCH MOTHERS: INFORMAL LEADERS IN THE AFRICAN METHODIST EPISCOPAL CHURCH

Tava R. Herring, Doctoral Student

Purpose of Study

The purpose of this qualitative study is to explore the phenomenon of church mothers as they perceive themselves as informal leaders in the Black Protestant Church, specifically the African Methodist Episcopal Church. Through the sharing of the lived experiences of 9 Church Mothers, the researcher will gain insight into how these women view their contribution to their church and communities. Research Questions will include; How do African American women as informal leaders perceive their role as church mothers in the African Methodist Episcopal Church? What do African American women as informal leaders believe is the future of informal leadership like theirs within the church community?

Rationale and Significance

This study will contribute to the body of knowledge in leadership, specifically leadership of African American females in the context of their role in the African American church community. This study will further explore the area of informal leadership and help to ensure that the lens used to explore includes the African American female. Discovering the phenomenon of the church mother will also help to illuminate more opportunities for research in the area of womanism as a viable epistemology. This study will also give voice to a group who has not traditionally been given a voice in this research arena.

Description of Methodology

The participants for this basic interpretative qualitative study were selected through purposive sampling (Patton, 1990). The women were asked to identify, in writing, two women (from their church) they believe to be church mothers. 9 church mothers will be asked to provide demographic information prior to their semi-structured interview. The interviews are conducted in the homes of the Church Mother. Observations are conducted during meetings or other gatherings with some of the participants in order to observe the church mother in her community. In this study, the use of personal interviews and other qualitative methods in order to explore informal leadership of African American women in the African Methodist Episcopal church limits the generalizability of the results to these women in the southwestern region of the United States. Small sample size will also hinder generalizability. Another limitation relates to the reliability of the memories of the women interviewed over a short period of time. The researcher will be using the information from the interviews, participant observation and existing documentation to validate my findings in a process known as Triangulation.

Findings and Conclusion

The 4 women who have shared their stories tell tales of great joy and service. While not all of the women grew up in the church it is clear that each of them feel that the choice of service is a calling. Each woman has expressed in some way the importance of 1) Placing God first (above others and self); 2) Family (within the church as well as outside); 3) Understanding of “the other” or being non-judgmental. Each woman expressed that the main goal of their leadership journey is to set an example in hopes that their lives can help others be set free (anti-oppressionist).

A STUDY OF THE RELIABILITY AND VALIDITY OF THE FELDER-SOLOMAN INDEX OF LEARNING STYLES IN CHINESE TRANSLATED VERSION

Wei-chao Hsu, Doctoral Student

Purpose of Study

The purpose of the study was to examine the reliability and validity of the Chinese version of the Index of Learning Styles instrument.

Rationale and Significance

The Felder-Soloman Index of Learning Styles (ILS) has been a popular free instrument to measure learning styles of college students since its on-line publication in 1997, but a Chinese version has not been appropriately standardized or assessed for its reliability and validity. Even though several researchers have translated the ILS instrument into Chinese and administered it to various student groups, including undergraduates and elementary school students, only one study reported the reliability and validity focusing on college students. Adapting the translated version by TamKang University, this study can contribute to the ongoing validation work on the Chinese ILS instrument and extract trends in the cross-cultural data.

Description of Methodology

By randomly sampling students at a private university in southern Taiwan, the researcher administered the 44-item dichotomous ILS questionnaires to over 900 college students during classes in May 2010. With the consent of a total of 770 participants, the researcher employed factor analyses through principle component analysis (PCA) and structural equation modeling (SEM) with reliability tests to identify problematic dimensions and items for further modification. Factor structure, internal consistency reliability, and inter-scale correlation were discussed.

Findings and Conclusion

Although only the sensing-intuitive scale satisfied the 0.5 criterion for the attitude and preference survey, the results of the Cronbach's alpha values in each learning dimension as well as factor structures showed similar patterns to those from previous studies, especially in comparison to Ku and Shen's (2009) study. Moreover, the findings also provided a clearer overview in regards to learning preferences of college students in Taiwan. The study further investigated the identified problematic statements and focused on the language barriers of translation and interpretation in order to offer implications of these findings for future research.

THE EFFECTIVENESS OF INTERACTIVE COMMUNICATIONS TECHNOLOGY TOOLS TO ADVANCE WOMEN'S EMPOWERMENT IN AFRICA

Maria E. Marquise, M.A., Doctoral Student

Purpose of Study

The purpose of this study is to determine if perceptions of empowerment were achieved through the use of Interactive Communications Technology (ICT) by two groups of women in rural Africa: the Bukoba Women's Empowerment Association in Tanzania and the Masupa Nzila Empowerment Association of Mongu, Zambia. To determine if the effectiveness of educational and technological training provided by the Women's Global Connection (WGC) to the two women's groups was successful, the following research questions will be investigated: Does technology affect communication between the participant and business associates? Does technology affect the speed of the decision-making process? Does technology allow more tasks to be completed by the participants than without it? Does technology affect participants' reliance on other people? Has technology improved participants' lives?

Rationale and Significance

The capacity to utilize technology is one of the indicators used to measure empowerment. It should be noted that "three years of collaboration between the Saint Cecilia Women's Group (SCWG, the initial collaborative group in Bukoba which consisted of eight members) led to the strengthening of the Bukoba women's leadership skills, improvement of the SCWG's organizational capacity, development of the basic computer and Internet skills, and growth in the group's membership and outreach" (Ettling et al., 2010, p. 51). If the outcomes are significant, the WGC plans to employ similar processes in other impoverished countries to empower women to pursue higher education, become technologically literate, and be able to make decisions about their livelihood.

Description of Methodology

Survey research was conducted to determine if there was a significant association between feelings of empowerment and the use of technology for the two groups of women who participated in the WGC programs. Analysis will determine if answers provided to surveys completed by both of these groups offer an indication that there is a co-variance between the groups that can be used with future groups of women in other countries.

Findings and Conclusion

This study compared survey responses from the women's group in Zambia to the Tanzanian women's group to determine if there were significant findings in the outcomes. Surveys were completed in October 2008 and July 2009. Because a significant relationship was determined, it can be concluded that empowerment through the use of technology has occurred among the women in both groups. There is much opportunity for future research regarding the effectiveness of ICT tools to advance women's empowerment in Africa. Results of this research study produced only four participants who utilize the internet (6% of total participants). At this time, computers are centrally located in learning centers within each town where the WGC has begun its collaboration process. As computers become more readily available in Africa, studies should be conducted as to the educational, economical and empowering effects this particular type of ICT creates.

BEST PRACTICES IN RECRUITING AND RETAINING INTERNATIONAL STUDENTS ON U.S. CAMPUSES

Osman Ozturgut, Ph.D., and Tereza Korousova, Doctoral Student

Purpose of Study

The purpose of this study is to identify the best practices for recruiting and retaining international students on U.S. campuses as part of the internalization process.

Rationale and Significance

The number of international students on U.S. campuses has been steadily increasing. According to the Department of Commerce, international students contribute approximately \$20 billion dollars to the U.S. economy. International students are sought after for their financial contributions without much effort to having a plan in regards to how the educational institutions would make sure that the both sides would benefit from this educational exchange. This research intends to identify the best practices to recruit international students and retain them.

Description of Methodology

Qualitative research is used to gather and analyze data. Hundred and sixty (160) U.S. institutions hosting international students with the most number of international students on their campuses in 2010 are selected for this study (Institute of International Education, 2010). Top Forty (40) institutions in regards to the number of international students on their campuses from each Associate's, Baccalaureate, Master's, and Doctoral institutions (Carnegie Classification, 2005) are surveyed. Each of the 160 institutions are emailed with a link (SurveyMonkey™) asking to fill in a survey consisting of 6 questions seeking for the best practices in international students recruitment and retaining.

Findings and Conclusion

The preliminary findings revealed similar trends in surveyed categories (focused on internationalization and international student recruitment and retaining best practices) among U.S. universities hosting the highest numbers of international students on their campuses (Institute of International Education, 2010). Study/research abroad programs for students and faculty, globalizing the curriculum, and increased number of international students at the U.S. campuses serve as best practices in majority surveyed institutions. To promote internationalization on their campuses, institutions promoted workshops develop intercultural skills, raise the international knowledge, and support international/intercultural perspectives. Best practices for student recruitment include various forms of advertising, attendance at international fairs abroad, visits of faculty abroad, networking, setting partnerships between U.S. and foreign institution and engaging international alumni in recruitment process. For retaining students almost all institution put emphasis on professional student services, and their international offices. Another common best practice is supporting programs, events and activities for international students on and off campus, and creating environment where international students interact strongly with local community.

USING THE NATIONAL SURVEY OF STUDENT ENGAGEMENT (NSSE) IN OUTCOMES ASSESSMENT

Michael Schulte, MAA, Doctoral Student

Purpose of Study

To investigate how chief academic officers at five private Hispanic-Serving Institutions (HSIs) accredited in the Southern Association of Colleges and Schools (SACS) use the National Survey of Student Engagement (NSSE) results to improve institutional effectiveness and promote undergraduate student success.

The following two questions guide the qualitative research:

1. How do chief academic officers disseminate NSSE results to facilitate institutional effectiveness?
2. How do chief academic officers promote undergraduate student success using NSSE results?

Rationale and Significance

Despite significant increases of respective students, Hispanic graduation rates remain well below White graduation rates at the undergraduate level (Santiago, 2010). Green, Creswell, Shope, and Plano Clark (2007) note that seminal higher education theories and models on student development, retention, and college choice were based on the majority group, not diverse populations. Researching how institutions of higher education become more effective in promoting undergraduate success in diverse populations can provide insights on how to acclimate, integrate, and retain the emerging Hispanic population in higher education. Understanding how the National Survey of Student Engagement is being used in outcomes assessment, institutional effectiveness, and student success is important in determining the effects of the survey and assessment, benefitting on how engagement is perceived at HSIs and other institutions with growing Hispanic populations.

Description of Methodology

Using grounded theory methodology, qualitative interviews and constant comparison analyses are used in data collected from the purposeful sample of five chief academic officers, further delimited to NSSE institutional participation from 2009-2011. Each participant is interviewed twice, each phase being transcribed, coded until saturation, member checked, and analyzed. First phase collection occurred in August 2011. Second phase collection began December 2011 and is to be completed January 2012.

Findings and Conclusion

Research in progress. From the phase I coding—initial, axial, and selective—and analyses, actioning (strategizing & prioritizing), culturing (institutionalizing, integrating, & participating) and evidencing (documenting, tracking, & benchmarking) emerged. In three of the institutions, the NSSE results were integrated into the Quality Enhancement Plan as part of SACS accreditation, with accreditation remaining linked to outcomes assessment (Research question 1). Courses—new and revised—were products at one institution from using NSSE results to promote student success (Research question 2). Findings related to both research questions: Undergraduate faculty development was integral at one institution to increase both student engagement and retention; Institutional effectiveness and student success were defined as one in the same at two institutions; and How to incentivize and increase survey participation for best results is problematic at all institutions. Second phase focuses on NSSE construct/validity, institutional content and analysis, meaning of Hispanic-serving, and survey participation rates.

THE COMPLEXITY OF INTRODUCING NEW TECHNOLOGIES TO RURAL WOMEN IN AFRICA

James D. Simpson, Doctoral Student, and Gerald K. Sseruwagi, Doctoral Student

Purpose of Study

The purpose of the study was to assess whether Information and Communication Technologies (ICT) could effectively be introduced and sustained in a manner that promotes micro-enterprises and human development in a women's empowerment group in Kagera Region, Bukoba, Tanzania.

Rationale and Significance

While much of the world benefits and profits from the daily use of ICT, it was unclear if ICT could provide the same benefits in rural Tanzania. While the introduction of ICT seems sound, when taken out of a Western paradigm, could ICT provide the same benefits to grass-roots women who may or may not have ever used a computer? While ICT does exist in Bukoba, Tanzania, the significance of this ICT Project lies in its openness to develop in a manner that is in alignment with the women's needs, e.g. providing information on health, agriculture, nutrition, and other important physical, social, and economic topics. Unlike other ICT Projects that promote human development in rural regions, this ICT Project was developed with rural Tanzanian women in mind. Some of the characteristics of the ICT Project include: 1) the ICT Project has a self-sustaining power supply that utilizes solar technology, 2) the ICT Project is based on open-source computing software and 16 small SmartBook computers, 3) the ICT Project is completely mobile allowing the women to develop a rural learning center as well as to take the SmartBook computers out into the villages for training workshops, and 4) the ICT Project has a LAN network that will allow for multiple learning centers in the future.

Description of Methodology

A heuristic analytical approach was used for this research. Six questions based Rogers (as cited in Richardson, 2010) were also used within the heuristic analysis. The questions are: 1) Is the ICT project a good idea?, 2) Is the ICT project needed?, 3) Were the computers easy/difficult to use? (Including set up/learning to set the ICT up), 4) What kind of results did you get from using the computers? Are there any results?, 5) How and Have you been able to practice?, 6) How do you hope to continue when the ICT trainer leaves? An in-field researcher assessed the on-going progress of the ICT Project with copious daily notes, weekly ICT notes, discussion groups, Skype calls, email, and interviews. In San Antonio, a second researcher sought out materials in Kiswahili that could be used by the women for training purposes. The sample size was 8 women. Of the 8 women, 5 women had never used a computer. For this research, three themes were identified within the heuristic data. They are: 1) The collectivist incorporation of ICT into the women's daily lives, 2) The diminishing importance of ICT in the in-field researcher's daily life, and 3) Stratified leadership based on different aspects of the ICT Project.

Findings and Conclusion

It was found that ICT is beneficial to the development of the women's micro-enterprises and their human development. The ICT Project in Bukoba, Tanzania has been restructured from its initial form into a set of Phases. For the purposes of this research, Phase I, the introduction of ICT and basic computer literacy, was a success with 8 women receiving an average of 40.6 hours of ICT training with a range of 3-53 hours. Phase I is still in underway until April 2012 and is monitored weekly through email correspondence and Skype calls. Phase II will begin in June 2012 with the expansion of the LAN network. The restructuring of the ICT Project into phases allows the women and the researcher to assess how and where to better enhance ICT for the women.

A PROCESS MODEL FOR TEACHING AND UNDERSTANDING CULTURE

Norman S. St. Clair, Ph.D., and Vidya Ananthanarayanan, Doctoral Student

Purpose of Study

The purpose of this critical review of literature was to investigate the effectiveness of existing models for teaching culture, to ascertain potential deficiencies in those models, and to develop an alternative model that addresses those identified needs.

Rationale and Significance

Literature indicates that culture is often taught within the context of study abroad and foreign language programs with acculturation and assimilation as the desired outcome. Further, there is no consensus on best practices or core cultural elements to be included when teaching culture. This new model for teaching and understanding culture is intended to address the disparity in the literature between what is/should be taught and how it is taught, which limits insight, and prevents effective dialogue between cultural entities. Further, the researchers hope that this new model will expand the scope of application and understanding of culture beyond acculturation and assimilation.

Description of Methodology

A critical analysis of literature was conducted to identify limitations and gaps in current and existing teaching culture processes, resulting in the proposed model. The next phase will be to implement and test the prototype using grounded theory methodology.

Findings and Conclusion

Preliminary literature review findings described in the Rationale and Significance section above suggest that in teaching culture, there are deficits in terms of context, outcomes, and focus, application of learning theories, and scope of discourse. The researchers hope to address these shortcomings through the debut, test, and discussion of this newly developed process model. It is also their goal to provide practitioners and educators with a holistic framework that enables them to teach culture as a purposeful, conscious process that results in new insights and understanding for students.

GRADUATE FACULTY PERCEPTIONS OF EXPERIENTIAL LEARNING IN MULTICULTURAL CLASSROOMS: THE BENEFITS OF USING EXPERIENTIAL LEARNING ACTIVITIES IN MULTICULTURAL CLASSROOM SETTINGS FROM THE PERCEPTIONS OF GRADUATE FACULTY AT A SOUTHWEST TEXAS PRIVATE UNIVERSITY

Yu Han Su, Doctoral Student

Purpose of Study

This study intends to understand how professors view using hands-on activities, cooperative learning, critical thinking, and group discussion, to be effective in students' interactions in multicultural classroom settings. This study addresses these questions: How can experiential learning activities be implemented successfully in a multicultural classroom in master degree programs? In what ways can experiential learning in class activity methods help adult learners learn effectively in multicultural classroom settings?

Rationale and Significance

This study takes a broad view of experiential learning in-class activities (Jackson & Cafferella, 1994), and higher education in multicultural classroom settings. Current graduate programs employ many effective teaching methods. One of these methods, experiential learning in-class activities, is a form of learner-centered teaching approach associated with more active instructional aspects: learning by doing, cooperative learning, critical thinking, and visual aid learning. While these methods are commonly used, not much scholarly literature has examined the perceptions of master degree programs' faculty regarding the methods' usefulness. These teaching strategies can potentially enhance the learning process, not only replacing the traditional teacher-centered methods in which the professors lecture and students listen and take notes which still appear in college and university classrooms today (Millis, 2010). Therefore, it is significant to study educators' concepts of effective teaching methods in current higher educational trends in multicultural classroom settings to understand different higher education teaching methods to enhance today's multicultural classroom settings.

Description of Methodology

This study is a basic interpretive and descriptive qualitative research design. Merriam (2002) stated that "a basic interpretive and descriptive qualitative study exemplifies all the characteristics of qualitative research discussed ..." (p. 6). This qualitative study mainly used class "observation", "analyzing texts and documents", "interviews", and "audio recording" (Silverman, 2006, p. 18). The researcher observed and interviewed eight professors currently teaching in master degree programs at a private university in Texas. The researcher asked tailored, well-designed, and specific questions using Jackson & Cafferella's (1994) experiential learning in class activities as a principle. Documentation, such as professors' syllabus or teaching lesson plans is another instrument used in this research. One limitation of this study is the researcher taught at several universities in Taiwan as an adjunct professor for seven years, but with less experience in multicultural classroom instruction since most students are Taiwanese in her country. Trustworthiness is built up by following Cresswell's (2005) description that "triangulation is the process of corroborating evidence from different individuals, types of data, or methods of data collection in descriptions and themes in qualitative research" (p. 600).

Findings and Conclusion

The findings of this study aim to contribute to the educational field in two folds. First, understanding professors' perceptions of effective teaching practices in the multicultural classroom could provide motivation for others to adapt their teaching practices. Secondly, the researcher used professors' experiences to discover if using experiential learning in class activities as teaching techniques can lead to noticeable progress in learning and increase positive class participation in multicultural classroom settings.

A PILOT STUDY OF AN ALTERNATIVE OF STUDENT'S EVALUATION OF TEACHING

Kuan-Chen Tsai, Doctoral Student, and Kate Lin, Doctoral Student

Purpose of Study

The purpose of this study is to stress the measurement of classroom dynamics in light of the conceptualization of transformational leadership. In order to picture more accuracy of the teaching evaluation procedure, it is argued that teacher leadership behaviors could be a potential component for examining teaching evaluations.

Rationale and Significance

In the field of higher education, student evaluation of teaching (SET) is the most common strategy to evaluate teachers' teaching quality in the classroom. However, there is a gap between SET scores and students' achievement. The key issue found by researchers is that it lacks strong correlation between these two variables (Pounder, 2008). Some scholars (Bolkan & Goodboy, 2009, 2010; Pounder, 2008b) evidenced that student engagement and satisfaction have a positive relationship with instructor transformational leadership behaviors. Accordingly, for this pilot study, the focus is to investigate the utility of notion that teaching evaluations are with reference to the merits of transformational leadership in the education context. The idea that teacher leadership behavior is related to students' engagement and satisfaction, if confirmed, would be of considerable theoretical and practical significance. The empirical data from this study may also provide teachers and administration with a deeper understanding of the potential impact of teacher leadership style, and most important design a more accurate teaching evaluation.

Description of Methodology

This study was utilized a cross-sectional survey design. The participants completed the questionnaire at one point in time. The focus was to examine the relationship between instructors' transformational leadership behaviors and students' engagement and students' satisfactions. Because of time constraints in conducting this research design, convenient sampling was used for this study. Participants were 30 college students, recruited from a business class at the University of the Incarnate Word. This study employed descriptive statistics, inferential statistics, reliability coefficients (Cronbach's Alpha), correlation coefficients, and especially one-way ANOVA analysis, to determine the level of support for each hypothesis.

Findings and Conclusion

Overall, the results from the correlation analysis revealed significantly moderate positive relationships between the components of instructor's transformational leadership and student satisfaction and student engagement. In particular, the study indicates the potential of transformational classroom leadership for producing students' extra engagement that should be of direct educational value in terms of student achievement. Instructors have the opportunity to demonstrate these behaviors via the syllabus, communication, feedback, and office hours. The study suggests that instructor leadership behavior has association with student satisfaction and engagement, which is one of the elements of evaluation. Accordingly, it is conducive to include teacher leadership in the component of students' teaching evaluation. Nevertheless, a caveat is called that the purpose of this study is not to supplant the conventional teaching evaluations; instead, these evaluations should supplement classroom behaviors as criteria for a holistic landscape of success in teaching.

TRAITS OF CHILD ABUSE: VICTIM, PERPETRATOR, HOME

Karen M. Walker, Doctoral Student

Purpose of Study

The National Data Archive on Child Abuse and Neglect (NDACAN) provides datasets for secondary analysis. The NDACAN dataset Number 84 is archived data from a comparative study evaluating the use and effectiveness of different risk assessment models used by child protective services. Permission was obtained in February 2010 to use this. The purpose of this study is to determine if the dataset's population has similar high risk traits as those identified in the literature and examine the differences and relationships between variables.

Rationale and Significance

Child abuse is the leading cause of death among children between the ages of one and four years (Child Maltreatment at a Glance, 2008). Certain perpetrator, victim, and household traits have been identified as abuse risk factors (Stiffman, Schnitzer, Adam, Kruse, & Ewigman, 2002). Annual cost to US economy estimated to be \$103.8 billion (Wang, C., & Holton, J., 2007). Sadly reports of abuse have increased 10% each year since 1976 (Westby, C., 2007). Child prevention strategies are most effective when targeted with specificity to a problem (Fujiwara, et al., 2002).

Description of Methodology

The research design was quantitative. Frequency testing of variables pertaining to traits of interest was completed. Variables included child gender & race; primary caretaker's gender; relation to victim; & age and times moved; homelessness; & removal from the home. Principle component analysis of seven variables with varimax rotation method was completed. The variables examined were aid to families with dependent children; food stamps; Medicaid; homeless; and times moved. The variable labeled Michigan Risk Level Code (MRLC) measures risk of future abuse. It was dichotomized as "low risk or "high risk" for binary logistic regression. Independent variables examined with MRLC were prior child protective services investigation; petitions for termination of parental rights; age of caretaker; harmful relationship; substance abuse; and number of children in the home.

Findings and Conclusion

The dataset population does share traits associated with those described in the literature. The primary caretaker is most often a white female. Victims are closely distributed between male & female and White or Black. Household traits of low socioeconomic factors and unstable home situation strongly resemble traits described in literature. Principle component analysis of seven variables yielded KMO value of 0.743, Bartlett's test of sphericity significant @ .000. Two components with Eigenvalues greater than one explain 74% of the variance. These two components were renamed as "socioeconomic status" and "home situation". Binary Logistic Regression testing shows odds predicting the Michigan Risk Level Score will be "high risk" 74.4% of the time when adding the independent variables. The variables with strongest predictive values are known primary caretaker's substance abuse; >3 children in the home & the perpetrator is the victim's parent.

FEIK SCHOOL OF PHARMACY

CHRONIC COMORBIDITY IN PATIENTS ADMITTED TO UNITED STATES HOSPITALS WITH LUNG, BREAST, PROSTATE, AND COLORECTAL CANCER

Bradi L. Frei, Pharm.D., and Christopher Frei, Pharm.D.

Purpose of Study

To describe the annual prevalence of cardiovascular and endocrine comorbidities in adults admitted to U.S. hospitals from 1996 to 2008 with lung, breast, prostate, or colorectal cancer.

Rationale and Significance

There is minimal data available about the rate of cardiovascular and endocrine comorbidities in adults with cancer diagnosis. These comorbidities can influence the choice of chemotherapy regimen and aggravate the toxicities associated with chemotherapy.

Description of Methodology

We analyzed data in the National Hospital Discharge Surveys; conducted annually by the U.S. Centers for Disease Control and Prevention. ICD-9-CM codes were used to identify hospital visits with a principal discharge diagnosis of lung (162), breast (174), prostate (185), or colorectal (153) cancer. This analysis was limited to patients at least 18 years of age. Five chronic comorbidities were quantified: diabetes (250), ischemic heart disease (410-414), heart failure (428), cerebrovascular disease (430-438), and lipid disorders (272). We divided patients into groups based on cancer type and calculated the prevalence of each comorbidity for each survey year.

Findings and Conclusion

These data represent 5.7 million hospital visits for lung (1.9), breast (1.2), prostate (1.2), and colorectal (1.4) cancer. Comorbidity rates are depicted in the four figures to the right. Lung cancer patients experienced an increase in diabetes (3%) and lipid disorders (8%) while breast cancer patients experienced increases in ischemic heart disease (4%) and lipid disorders (9%). Prostate and colorectal cancer patients also experienced an increase in lipid disorders (18% and 9%, respectively).

Rates of five chronic comorbidities are on the rise in patients admitted to United States hospitals with lung, breast, prostate, and colon cancer.

PHARMACIST PRECEPTORS' VIEW ON THE USEFULNESS OF FIVE DRUG INFORMATION RESOURCES

Carissa L. Garza, Pharm.D. Candidate, and Tina C. Lopez, Pharm.D., MS Phr

Purpose of Study

The purpose of this study was to identify which drug information resources pharmacist preceptors find very useful based on their practice site.

Rationale and Significance

Access to drug information resources for pharmacist preceptors is often based on practice site. Pharmacists frequently request subscriptions to resources as a reward for precepting students on rotation.

Description of Methodology

Pharmacist preceptors affiliated with the University of the Incarnate Word Feik School of Pharmacy were requested, via email, to participate in an online survey on drug information resources. Preceptors had approximately 4 weeks to complete the survey assessing the degree of usefulness of 5 electronic drug information resources including Clinical Pharmacology, Lexicomp Online, Micromedex, UpToDate, and Facts and Comparisons eAnswers. The study design was approved by the institutional review board, and the data collected were void of personal identifiers. The data were analyzed using the chi-square test with an alpha of 0.05.

Findings and Conclusion

Ninety-five of approximately 400 pharmacist preceptors completed the survey. Practice sites for the preceptors who answered the survey included the following: hospital/acute care/general medicine (45 percent), community (24 percent), and ambulatory/other (31 percent). Each preceptor category reported similar proportions of the 5 drug information resources available at their practice sites. However, more community pharmacist preceptors found Clinical Pharmacology very useful (94.1 percent) as compared to hospital/acute care/general medicine pharmacist preceptors (58.6 percent) and ambulatory/other pharmacist preceptors (50.0 percent, p equals 0.014). There were no significant differences among the pharmacist preceptor categories in the usefulness of the remaining drug information resources. Significantly more community pharmacist preceptors find Clinical Pharmacology very useful as compared to pharmacist preceptors of other practice sites. Providing subscriptions to this resource may serve as an incentive to precept pharmacy students.

CO-LOCALIZATION OF DYNORPHIN WITH INDUCIBLE CAMP ELEMENT REPRESSOR (ICER) IN THE SUPRAOPTIC NUCLEUS

Helmut Gottlieb, Ph.D., Heather Bengs, Student UTHSCSA, Cynthia Franklin, Yolanda Rangel, Ph.D., and Glenn Toney, Ph.D.

Purpose of Study

To examine central κ -mediated changes in ICER expression in SON neurons expressing Dynorphin.

Rationale and Significance

The endogenous kappa (κ) opioid agonist, Dynorphin, and its receptors have been shown to be present at the supraoptic nucleus (SON) as well as co-localized within vasopressin secretory vesicles. Central administration of U50, κ agonist, increases ICER expression at the level of the SON, which may play a role in modulating vasopressin release and affecting water and sodium excretion.

Description of Methodology

Rats were implanted with an ICV cannula for microinjection of drug/vehicle, and each was acclimated to a metabolic cage for collection of urine during the experimental protocol. Tissue sections through SON were processed for ICER using commercially available polyclonal anti-ICER and Dynorphin antibodies. U50 (1 μ g/5 μ l) significantly increased water free diuresis and ICER staining in the SON as compared to control (all $P < 0.05$). ICER-ir staining significantly increased in Dynorphin positive cells of SON.

Findings and Conclusion

These results raise the possibility that ICER activation could be an important substrate through which κ opioids mediate magnocellular neuron inhibition to suppress vasopressin secretion. Understanding the role of the ICER transcription factor in regulating SON neuronal activity could provide new and potentially important insight into mechanisms of water and electrolyte homeostasis in health and disease. *Supported by 1SC2 HL104639 (HBG).*

INTERMEDIATES AND TARGET LIGANDS FOR NEURODEGENERATIVE CNS DISORDERS – ALZHEIMER'S

Kacey McQuiston, RPhT, Tuyet Pham, Pharm.D. Candidate, and Donald Sikazwe, Ph.D.

Purpose of Study

To generate a small library intermediates or synthons to be used in the eventual synthesis of target multi-functional ligands possessing neuro-protective and palliative activities against such neurodegenerative diseases as Alzheimer's.

Rationale and Significance

Alzheimer's disease (AD) cases are expected to triple to about 16 million by 2050, from the current 5 - 6 million. The disease has no known cure and only five palliative drugs are clinically available. Among these drugs is donepezil (the most widely prescribed drug for mild, moderate and severe AD). Although donepezil provides some relief against cognitive deficits due to cholinergic hypo-function in AD brains, like the other clinically available drugs, it does not slow disease progression. As such, there is an urgent need for novel drugs capable of alleviating symptoms and slowing or halting disease progression, with the ultimate goal of prevention. Due to the multifaceted involvement of free radicals in AD pathology, antioxidants have been suggested as potential treatment alternatives. The *objective of this project* is to synthesize and characterize intermediates and eventual multi-functional target ligands using donepezil as a lead. Our *central hypothesis* is that ligands endowed with acetylcholinesterase inhibitory and antioxidant activities can improve cognition due to cholinergic deficits and prevent neurodegeneration (by decreasing free radical and β -amyloid oligomer burdens) in AD brains.

Description of Methodology

Intermediates for the target ligands will be synthesized and partially characterized (via TLC, ¹HNMR, melting points). Target ligands will be designed using *ligand-based drug design* and donepezil as the *lead* molecule. Target ligands will then be synthesized (using *established* as well as *de-novo* synthetic procedures) from the intermediates generated above, and fully characterized (by TLC, ¹HNMR, melting point, and elemental analysis). Data from the above experiments will be analyzed (statistical inferences will be drawn, if any)/organized and submitted for publication in peer reviewed science journals.

Findings and Conclusion

1. Several benzylamine intermediates have been synthesized.
2. Currently, thirty two target ligands have been designed.
3. Computer modeling studies indicate that all the thirty two target ligands designed mimic donepezil's favorable interactions with acetylcholinesterase (*data not published*).
4. Representative target ligand(s) have been synthesized.

IMPACT OF TEAM-BASED LEARNING IN A SELF-CARE ELECTIVE

G. Blair Sarbacker, Pharm.D., and Helen E. Smith, RPh, MS, Ph.D.

Purpose of Study

This study will evaluate whether course material taught using team-based learning (TBL) methods are better retained by students compared to course material taught using self-directed learning (SDL) methods in a self-care elective. Based on data found in the pharmacy education literature, the hypothesis of this study was that TBL methods would improve knowledge retention compared to SDL methods of instruction.

Rationale and Significance

Team-based learning (TBL) consists of self-directed learning (SDL) assignments before class designed to prepare students for team discussions, the application of knowledge acquired from the before-class assignments to in-class SDL or team activities, and assessment of student mastery of course materials by examination at the end of the course. Data have shown there are benefits to using TBL in pharmacy curriculum. These benefits include higher course grades with the use of TBL compared to lecture-based teaching strategies alone, students learning to teach each other, and an increase in student responsibility for learning, professionalism, and problem-solving. TBL methods also have been found to reduce the spread of course grades. It is not known, however, if TBL methods improve students' long-term retention of course material compared lecture-based teaching methods.

Description of Methodology

Course topics were randomized into those taught using SDL methods and those taught using TBL methods. Students were given before-class reading assignments. A quiz, either independent or team-based, was given during the first 30 minutes of class over the material covered in the reading assignment. For topics taught using TBL, students completed the assessment in teams, facilitating their understanding of the reading assignments with guided discussion amongst themselves. After the independent and team-based quizzes, the instructor led a discussion of the materials assessed in the quiz. A final exam was administered at the conclusion of the course to assess student mastery of all course materials. A survey was administered to the students to determine student satisfaction with the course. The class average of the final exam scores for topics taught using SDL was compared with the class average of the final exam scores for topics taught using TBL methods. These exam scores were evaluated to determine if materials taught by SDL or TBL instruction methods were better retained.

Findings and Conclusion

Students had significantly better individual scores than team scores, suggesting that the individual instruction format yielded better learning outcomes. Scores did not indicate team based learning improved retention compared to individual learning. Students who study more tend to score the same for both individual and team efforts. Similarly, those who study less tend to do the same for individual and team efforts. Student's instructional method preferences generally don't align with their learning outcomes. Students generally favored the team based approach, but it yielded less desirable learning outcomes.

ASSOCIATION BETWEEN ANTIPLATELET MEDICATION RESISTANCE AND PLATELET RECEPTOR POLYMORPHISMS

Helen E. Smith, Ph.D., Daniel Akers, BS; Olive Botor, BS, MS, Brittany Curry, BA, Melissa DeLeon, Pharm.D., Tia Krause, Kevin C. Lord, Ph.D., Jessica Simpson, BS, Lisa Williams, BS, and William D. Linn, Pharm.D.

Purpose of Study

This study is investigating the association between resistance to the antiplatelet medications aspirin and clopidogrel and genetic polymorphisms (PMs) in platelet receptors, stratified by race and Type II Diabetes (T2DM). Central hypothesis: The GPIa C807T variant, the GPIIIa T1565C variant, and the P2Y12 C34T and G52T variants are associated with antiplatelet drug resistance. Secondary hypothesis: These variants increase the risk of resistance in Hispanic cardiovascular (CV) patients compared to Caucasian patients and increase the risk of resistance in patients with T2DM compared to those without T2DM. The following specific aims will be addressed: 1.) Determine the associations (relative risks) between the variants and drug resistance for each PM for each drug in the study population. 2.) Stratify the relative risks by ethnicity. 3.) Stratify the relative risks by T2DM.

Rationale and Significance

Antiplatelet therapy is important in preventing CV events. Aspirin and clopidogrel are commonly used antiplatelet medications. Unfortunately, they are not always effective and patients may suffer CV events even when taking them. This medication resistance may be due to genetic variants in platelet receptors involved in thrombi formation. Data indicate the GPIa C807T variant increases platelet receptor density and adhesion, the GPIIIa T1565C variant increases platelet reactivity and adhesion, and the G52T and C34T P2Y12 variants increase platelet aggregation. In this study, CV patients on aspirin and/or clopidogrel are genotyped for these GPIa, GPIIIa, and P2Y12 variants. The efficacy of subjects' antiplatelet therapy is determined by measuring platelet aggregation in blood. The significance of the association between the variants and drug resistance will be calculated. A significant association may identify a PM useful as a biomarker of patients at risk for clopidogrel and aspirin failure and help explain the mechanisms of resistance to these medications. The association between the variants and drug resistance will be stratified by ethnicity and T2DM to evaluate the influence of Hispanic ethnicity and T2DM on drug resistance.

Description of Methodology

A case-control study design is used, with drug resistance defining cases and variant genotypes the risk factors. Clopidogrel and aspirin resistance are measured in blood using the Verify Now P2Y12 Platelet Function Test and Verify Now Aspirin Platelet Function Test, respectively. DNA is genotyped using restriction fragment length polymorphism assays.

Findings and Conclusion

Recruitment into the study is ongoing. Subjects to date include six Caucasians, two diabetic Caucasians, seven Hispanics, and four diabetic Hispanics. Genotype and platelet aggregation data are currently available for seventeen subjects. Five subjects were taking clopidogrel; four were resistant. Of those clopidogrel resistant, one is Caucasian diabetic (no PMs present), one is Hispanic (GPIa 807T and P2Y12 34T), and two are Hispanic diabetics (GPIa 807T with GPIIIa 1565C and P2Y12 52T). All subjects were taking aspirin, with two resistant. Of those aspirin resistant, one is Hispanic (GPIa 807T) and the other Hispanic diabetic (GPIa 807T and P2Y12 G52T). There appears to be a trend that a higher percentage of aspirin resistant subjects carry the GPIa 807T genotype compared to non-resistant controls. At this time, subject numbers are too small to make further conclusions.

GRACE (GROWING RESPECT AND CARE FOR THE ELDERLY) PROGRAM: AN INTRODUCTORY PHARMACY PRACTICE EXPERIENCE (IPPE)

Cynthia Stanley (Villarreal), Pharm.D., Jeffrey Copeland, Pharm.D., and David Maize, Ph.D.

Purpose of Study

The Accreditation Council for Pharmacy Education (ACPE) requires Introductory Pharmacy Practice Experience (IPPE) as part of the pharmacy curriculum. IPPE provides students the opportunity to apply classroom knowledge in a pharmacy setting to prepare them for future practice. The opportunity to review patient charts, discuss and resolve medication issues, write a pharmacy related patient medical assessment and plan of therapy, and patient presentation was absent from the experiential education program before the GRACE Program. The purpose of this study was to evaluate student perceptions of the growth of their clinical skills.

Rationale and Significance

The rationale for the GRACE Program was that the students' clinical pharmacy skills would be developed by exposing them to chart reviews, medication interventions, documentation, and patient case presentation skills under the guidance of a clinical pharmacist. The introductory experience was significant because it exposed the pharmacy students to real patients and not just textbook examples. The study should demonstrate that the student's clinical capabilities are enhanced by the conclusion of the program.

Description of Methodology

Eighty-three third year pharmacy students completed an anonymous 10-question online survey. The response rate was 93%. Statistics were calculated by SPSS.

Findings and Conclusion

The students were asked to rate their abilities in seven areas before and after the program. The areas rated were: resident interaction, performing drug utilization reviews, pharmacist interaction, using a resident monitoring form, reviewing residents' charts, preparing and presenting a subjective, objective, assessment and plan (SOAP) note. Statistically, the students believed their skills improved ($p < .0001$) in all seven areas following their experience. Initially, students reported that their skills were average (2.96, average = 3). Upon completion of the six week period, students reported that their skills had significantly improved by 20% (3.74, above average = 4) to nearly above average ($p < .0001$). Students reported that the clinical skills learned in the classroom were clearly enhanced by the GRACE IPPE nursing home experience. The implementation of the GRACE IPPE Program: 1) provided students, for the first time, with clinical experience in a geriatric population and 2) was rated by students to be a successful practice experience that increased their clinical skills. In a separate but parallel study, nursing home administrators assessed the GRACE IPPE to be of considerable value to them and they would like to continue the collaboration with the school.

H-E-B SCHOOL OF BUSINESS AND ADMINISTRATION

ADVERTISING TO CHILDREN IN AMERICA

Lindsey J. Cox, Honors Student

Purpose of Study

The study examines the factors that determine a child's knowledge about advertising, techniques used in advertising to get children's attention, and the ethical implications involved. Research questions include: a) At what age do children understand the intent of ads; b) Which advertising techniques if any should not be allowed to be shown to children because they are deceptive; c) Are there certain age groups which should not be exposed to commercials; d) Should the government intervene?

Rationale and Significance

Advertisers spend more than \$12 billion per year on advertisements aimed at children. Children 12 years old and under are seen as a rich and influential market because they both directly and indirectly influence over \$600 billion in household spending. Advertising to children has been seen as an economic, social, and psychological issue. Ads aimed at children are trying to persuade children to spend money that they either do not have or is not entirely theirs, (i.e., their parents' money), foster consumerism, and a child's naiveté does not allow them to fully understand the tactics and symbolism used in advertising. Also, certain aspects of cognitive development prevent children from understanding the persuasive intent of ads. As a marketing major this research is important to me because I want to be certain not to manipulate, take advantage of, or deceive consumers.

Description of Methodology

The researcher conducted a meta analysis encompassing 4 decades of information regarding the topic. A total of more than 20 articles were investigated. The results of each article were combined and overlaid to prevent bias and provide accurate information.

Findings and Conclusion

There should be more regulation on advertisements aimed at children because it is not ethical to take advantage of a child's inability to understand the persuasive intent of ads and the symbolic nature of ads. Advertising to children should be viewed and regulated differently than advertising to adults because the factors that determine a child's knowledge of advertising are mainly based on cognitive abilities. These are things that cannot be rushed or learned because they are a natural part of brain development and directly affect perception. This is why persuasive intent and symbolism cannot be understood by children of a certain age group.

STUDENT ATHLETES' ORGANIZATIONAL CITIZENSHIP BEHAVIOR: DOES IT EXTEND FROM THE FIELD TO THE CLASSROOM?

Decima Chris Garcia Ph.D., and Shih Yung Chou, Ph.D.

Purpose of Study

This study introduces organizational citizenship behavior (OCB) to the study of a student athlete's athletic behavior and academic behavior. OCB has been suggested to be a critical factor for attaining high task performance in various settings (e.g., Aoyagi, Cox, & McGuire, 2008; Sun, Aryee, & Law, 2007). The main purpose of this study is to investigate the degree of the consistency of OCB exhibited by student athletes on and off the field. Specifically, the working hypothesis is there is no difference between student athletes displaying OCB in the athletic field and in the academic classroom.

Rationale and Significance

Understanding the consistency of OCB exhibited by student athletes on and off the field is particularly important as it provides educational practitioners opportunities to structure educational settings that facilitate student athletes' OCB in academic environments, which in turn could lead to better academic achievements.

Description of Methodology

The investigators collected data from both athlete and non-athlete students enrolled in graduate and undergraduate UIW businesses courses. Courses were included in the sample if students were required to work on a group project and the class contained athletes. Students evaluated each other's OCB based upon their experience in the group projects. The OCB was measured by adapting the 13-item scale developed by Podsakoff, Ahearne, and MacKenzie (1997). OCB consists of three sub-constructs including helping behavior, sportsmanship, and civic virtue. The 13 items that measure OCB was scored on a seven-point Likert scale ranging from 1 (never) to 7 (always). Data was collected from two main sources, students (as described above) and coaches. The investigators asked coaches to fill out a questionnaire regarding student athletes' OCB on the field. After obtaining data from these two source types, paired sample t-test analysis technique was performed.

Findings and Conclusion

The research findings did not provide support for the stated hypothesis. On the contrary, the paired sample of coach and student OCB mean ratings, 4.97 and 5.71, respectively, were significantly different with a t-value of 3.527 ($p < .001$). This indicates that student athletes display greater OCB in the classroom as compared to the athletic field. Based upon these results, it would appear that classroom group projects do stimulate greater OCB activity in student athletes and as such, provides greater support for academic instructors to develop course activities around similar group work modalities for those classes with higher numbers of student athlete enrollment.

A TYPOLOGY OF INFORMATION FOR ADDRESSING MEDICAL TOURISTS' RISK CONCERNS AND CREATING TRUST AT ASIAN MEDICAL TOURISM HOSPITAL WEBSITES

Salyna Guanajuato, MBA student, and Michael Guiry, Ph.D.

Purpose of Study

The purpose of this ongoing study is to determine the types of information leading Asian medical tourism (MT) hospitals are providing via their websites to address medical tourists' risk concerns and create trust.

Rationale and Significance

Despite the increasing number of consumers traveling abroad for medical care (KPMG International, 2011), receiving safe and quality care remains the primary concern for potential medical tourists (Timmons, 2009). In a recent study, Crooks et al., (2010) identified three categories of risk for medical tourists: 1) risks to medical tourists' health, 2) risks of travel, and 3) risks pre- and post-operatively in the medical tourists' home country. Given the potential risks medical tourists face and the propensity for medical tourists to use the Internet to search for information about MT providers (Lunt, Hardey & Mannion, 2010), it is important to understand the types of information MT hospitals are providing at their Websites to lessen medical tourists' perceived risks and create trust. We have not identified any studies in the MT literature that have examined these issues.

Description of Methodology

Content analysis of 18 leading Asian MT hospital Websites, across six countries, was used to determine the major categories of information provided at the hospitals' International Patient (IP) sections. Content analysis is commonly used in MT research (e.g., Cormany & Baloglu, 2011; Crooks et al., 2011; Frederick & Gan, 2011). Leading Asian MT hospital Websites were sampled because of the strong growth rate of the Asian MT industry and concerted efforts to target U.S. medical tourists (Laurence, 2011). Frequency distributions were calculated to determine the most common types of information provided within the hospital IP sections. Chi-Square tests and one-way ANOVA were used to compare the types and amount of information provided within the hospital IP sections among the six countries.

Findings and Conclusion

The five most common types of information provided within the IP section of the hospital Websites are: Types of Clinics/Centers (100%), Make an Appointment (100%), Types of Hospital Services (94%), International Patient Overview (89%), and Meet Our Doctors (89%). Significant differences were found among the six countries for the percentage of hospitals providing patient testimonials ($\chi^2 = 15.20$, $p = .01$), different language options for viewing the IP section ($\chi^2 = 13.33$, $p = .03$), and trauma/emergency services information ($\chi^2 = 12.33$, $p = .03$). Indian, Malaysian, Singaporean, and Thai hospital are more likely to provide patient testimonials, South Korean and Thai hospitals are more likely to have different language options, and Filipino, South Korean and Thai hospitals are more likely to have trauma/emergency services information. The number of clinics/centers listed within the IP section differs significantly across the six countries ($F = 3.69$, $p = .03$). Post-hoc comparisons indicated that Thai hospitals have a significantly higher number of clinics/centers listed within their IP sections than, in descending order, Singaporean, Indian, South Korean, and Malaysian hospitals. There is not a significant difference in the number of clinics/centers between Thai and Filipino hospitals. Our preliminary results suggest that Asian MT hospitals are primarily communicating credibility based trust (Kantsperger & Kunz, 2010) to address medical tourists' perceived risk concerns.

PROSPECTIVE MEDICAL TOURISTS' EXPECTATIONS OF OVERSEAS HEALTHCARE FACILITY SERVICE QUALITY: DO PERSONAL VALUES MATTER?

Michael Guiry, Ph.D., Salyna Guanajuato, MBA student, and David G. Vequist, Ph.D.

Purpose of Study

The purpose of this study was to determine if prospective medical tourists' expectations of overseas healthcare facility service quality (SQ) were influenced by their personal values.

Rationale and Significance

Given the increasing number of medical tourists (Keckley & Underwood, 2009), as well as the importance of delivering high quality service from both a consumer point of view and a competitive perspective (Jyothis & Janardhanan, 2009; Lee & Spisto, 2007; Mueller & Kaufmann, 2001), it is important to investigate factors that may influence medical tourists' evaluation of medical tourism SQ. Past research on product and service expectations (e.g., Luk et al., 1993; Prakash & Munson, 1985; Zeithaml, Bitner, & Gremler, 2009) suggests that important factors to examine are medical tourists' personal values and their expectations of overseas healthcare facility SQ. We have not identified any studies that have investigated if prospective medical tourists' personal values influence their expectations of SQ.

Description of Methodology

Data were collected via an online survey of a convenience sample of consumers, residing in the U.S., with an expressed interest in engaging in medical tourism. Based on an initial screening question, 1369 of the respondents (86.2%) were eligible to participate in the survey since they had not traveled abroad (outside the United States) for medical care. Hence, they were classified as prospective medical tourists. The expectations section of Babakus and Mangold's (1992) hospital services SERVQUAL scale ($\alpha = .97$), which consists of 15 expectation items representing all five dimensions of SQ, i.e., tangibles, reliability, responsiveness, assurance, and empathy, was used to measure prospective medical tourists' expectations of medical tourism SQ. Personal values were measured via Kahle's (1983) List of Values scale ($\alpha = .93$). One-way ANOVA was used to compare the medical tourism SQ expectations of nine personal values groups, along the SQ dimensions.

Findings and Conclusion

SQ expectations differed significantly across the nine groups for three of the five dimensions, i.e., reliability ($F = 3.26, p = .001$), assurance ($F = 2.66, p = .007$), and empathy ($F = 2.11, p = .03$.) Post-hoc comparisons of the nine groups indicated that the Being Well Respected group and the Sense of Accomplishment group have significantly higher reliability expectations than the Sense of Belonging group and the Excitement group while the Sense of Belonging group has significantly higher expectations than the Excitement group. For assurance, the Sense of Accomplishment group has significantly higher expectations than the Sense of Belonging group and the Excitement group while the Sense of Belonging group has higher expectations than the Excitement group. Lastly, for the empathy dimension, the Fun and Enjoyment group has significantly higher expectations than the Excitement group and significantly lower expectations than, in descending order, the Sense of Accomplishment, Warm Relationships With Others, Being Well Respected, Self-Respect, Security, and Self-Fulfillment groups. Given the increasing number of medical tourism consumers and growing competition in the medical tourism industry, it is important for overseas medical tourism providers to not only understand medical tourists' SQ expectations, but also to manage their expectations when developing and implementing marketing strategy (Zeithaml et al., 2009). Our results suggest that managing medical tourists' SQ expectations requires understanding their personal values.

DOES WORLD BANK TAX ADVICE FOSTER INCLUSIVE DEVELOPMENT? NEW EMPIRICAL EVIDENCE FROM LATIN AMERICA

J. Michael McGuire, Ph.D.

Purpose of Study

Present new empirical evidence from Latin America that evaluates the effect of World Bank tax advice on generating an inclusive development process that benefits the poor as well as the rich.

Rationale and Significance

Approximately one in five Latin Americans live on less than \$2 per day, and Latin America is the most unequal region of the world. The best solution includes an inclusive development process in which the poor participate fully. This requires satisfying basic needs for education, health and other goods and services that enhance their productivity.

Progressive taxation plays a crucial role in this enterprise by speeding the satisfaction of basic needs. For example, taxing an extremely poor family in order to build a new school tends to leave the children of that family hungrier and less able to learn. The more effective approach is to use progressive taxes to pay for the school and to enroll well-nourished children.

In the 1980s, the World Bank (WB) began giving advice on taxation and making that advice a condition for receiving development loans. The aim was to remedy the Latin American debt crisis that began in 1982 with Mexico's default. World Bank economists concluded that one key to solving the crisis was to eliminate the fiscal deficits that were forcing governments to borrow. One way to do this was to increase tax revenues by imposing more regressive taxes that fall heavily on the poor.

Description of Methodology

Two new fixed effects regressions test first the effect of progressive taxation on the satisfaction of basic needs and second the effect of satisfying basic needs on the level of production. Then, in order to account for feedback effects between the satisfaction of basic needs and production (income), a new Two-Stage Least Squares regression adds robustness to the analysis. Tax data is collected for 14 Latin American countries over 1980-2005 from the International Monetary Fund's *Government Finance Statistics*. Basic needs data and control variables are collected from the World Bank's *World Development Indicators*.

Findings and Conclusion

The new empirical evidence indicates that progressive taxation contributes to the satisfaction of basic needs of the poor, and that the consequent enhancement of productivity contributes to a development process that benefits all economic classes. The World Bank is advised to emphasize progressive wealth and income taxes in order to foster inclusive development.

WHO BENEFITS FROM MEDICAL TOURISM? ECONOMIC DEVELOPMENT AND THE CROWDING OUT EFFECT IN ASIAN MEDICAL TOURISM DESTINATION COUNTRIES

Shishu Zhang Ph.D., and Michael Guiry, Ph.D.

Purpose of Study

The purpose of the research, which is an ongoing project, was to analyze the impact of medical tourism on destination countries in Asia that are at different stages of economic development.

Rationale and Significance

Medical tourism is a rapidly growing industry catering to patients who travel across national borders to receive medical treatment (Yap, Chen & Nones, 2008). While medical tourism has presumed positive benefits for destination countries such as raised standards of healthcare through competitive market practices, and creating equity in healthcare access by enabling more of the country's population to have access to private care, some contend that the trade in health services via medical tourists traveling abroad could also result in a dual market structure, by creating a higher-quality, expensive segment that caters to wealthy nationals and foreigners, and a much lower quality, resource-constrained segment catering to the low income and poor (Bookman & Bookman, 2007; Chanda, 2002). The proposed study will shed more light on possible negative implications of medical tourism, i.e., dual market structure and crowding out effect, in destination countries by taking into account a destination country's level of economic development.

Description of Methodology

The data was collected from World Health Organization (WHO) 2000-2009 data, an open source dataset, the costs (total and average) and medical expenses (both government and private) of each country were compared. The ANOVA method and statistical plotting are applied to analyze the data. There are around one hundred countries, however, some of the countries have lots of missing data, and as a result, we use data for about 20 countries with few missing data. As for China, the data is collected through government website, the analysis method applied is cost and benefit analysis. The quantities of demand and supply of medical services were calculated, and the demand and supply curves were derived to obtain the equilibrium quantity and price in the Chinese market.

Findings and Conclusion

We found the following results of medical tourism on destination countries in Asia that are at different stages of economics development. The ANOVA shows that there is no significant difference among medical costs of each country. However, statistical plotting shows the following results: Vietnam has the highest private health expenditures as a percentage of total expenditures while Japan has the lowest. For government expenditures as a percentage of total expenditures, the results are in the opposite direction as Japan ranks the highest while Vietnam ranks the lowest. For total health expenditures as a percentage of GDP, Japan ranks the highest while Indonesia ranks the lowest. For out-of-pocket expenditures as a percentage of private health expenditures, Singapore ranks the highest while Indonesia ranks the lowest. Our initial results suggest that privatized health systems are more developed in countries with more developed medical tourism industries. In China, from 1990 to 2003, the number of hospital beds was very stable. However, since 2003, there has been a sharp increase presumably because of increased domestic demand and possibly because of China's developing medical tourism industry. Medical costs as a percentage of GDP show an overall increasing trend for the years 1997-2005. Yet, during this period, there were years of decreasing costs following years of increasing costs possibly indicating government intervention to try to suppress rising medical costs as not only consumers but also China's economic growth would be hurt by increasing medical costs. However, it should be noted that the relationship between medical tourism and medical spending and medical costs is not causal.

**ILA FAYE MILLER SCHOOL OF NURSING AND
HEALTH PROFESSIONS**

WILL BODY WEIGHT SUPPORTED TREADMILL TRAINING ON AN INCLINE VERSUS TASK SPECIFIC TRAINING OVER GROUND IMPROVE LOCOMOTION IN A PERSON AFTER A STROKE?

Michael Auer, SDPT, Larissa Thompson, SDPT, and Ann Newstead, PT, Ph.D., GCS, NCS

Purpose of Study

The objective this study is to determine if body weight supported treadmill training (BWSTT) on an incline will improve impairments and gait measures, versus task specific training over ground with a patient after a stroke.

Rationale and Significance

BWSTT is an efficient way to perform gait training and is cost effective in most settings. The concept of task specific circuit training (TST) has been more population recently. The addition of the incline to our protocol challenges the individual.

Description of Methodology

A 52-year-old Caucasian male with right-sided hemiplegia due to a left sided hemorrhagic stroke ten years prior. The patient's personal goal following the intervention was to normalize his gait and to be able to run. This case report study was conducted in two parts. The first part included body weight support and the second part included task specific training. Each portion of the study lasted 4 weeks and included pre-testing (T1), followed by post-testing after the BWSTT (T2) and final testing after TST (T3). Outcome measures included: 3-minute walk test (3MWT), Timed up and go (TUG), Berg Balance Scale (BBS), Tinetti, Berg Balance Scale, and walking speed. Data were analyzed using percentage of change scores from T1 to T2 and T2 to T3.

Findings and Conclusion

Walking on the treadmill ranged from 0.67 m/s (week 1; T1) to 1.43 m/s (week 4, T2) and incline ranged from 0 [T1] to 10% [T2]. Overground walking increased in distance and intensity [T3]. Upon initial evaluation, the patient walked 564' (T1; 3MWT; 50% of normal) and increased to 600' [T2], and to 700' (T3). Performance outcome measures all improved to include: the TUG (11.0 s [T1], 8.6s [T2], 8.0s [T3]), BBS (55/56 [T1], 56/56 [T2 & T3]), and Tinetti (20/28 [T1], 23/28 [T2], 24/28 [T3]). Walking speed increased by 14.1% [T1 to T2] and 10.3% [T2 to T3].

The outcome measures at both T2 and T3 improved especially in measures of walking and balance suggesting that both BWSTT on an incline and Task Specific Training over ground were beneficial for this individual. The increased walking speed of 0.12 m/s was deemed more than a minimally significant change score, and has relevance for clinicians who work with patients with a chronic stroke.

A UNIVERSITY DIMENSION OF WELLNESS CLASS IMPACT ON BEHAVIORAL REGULATION IN EXERCISE

Heather Barton-Weston, MA, Timothy W. Henrich, Ph.D., Gregory J. Soukup, Ph.D., Bill Carleton, Ed.D., and David S. Fike, Ph.D.

Purpose of Study

This study measured the impact a university wellness class had on the behavioral regulation of exercise as measured by the Behavioral Regulation of Exercise questionnaire (BREQ-2) scores.

Rationale and Significance

According to the Center of Disease Control (CDC) and The American College of Sport Medicine (ACSM) many of the necessary health benefits of physical activity can be gained by engaging in 30 minutes of moderate intensity physical activity per day. However, only 38% of college students reported participating in regular vigorous activity, and only 20% reported participating in regular moderate activity (Douglas et al, 1995). In 2005 Racette et al found that upon enrolling in a college or university roughly 7% of students discontinued physical activity between their freshmen and sophomore years. Literature supports that participants in physical-activity interventions show better general and health-related quality of life, better functional capacity, and better mood states (Penedo & Dahn, 2005). KilPatrick et al stated “adherence was most likely to occur when motivations are intrinsic rather than extrinsic in nature” (2005). The CDC has suggested that there are three determinates to physical activity participation: physiological, behavioral, and psychological. The Behavioral Regulation in Exercise Questionnaire (BREQ-2) measures five different behavioral variables that influence exercise participation. All students at the University of the Incarnate Word must meet the requirement of successfully completing a Dimension of Wellness Course. Students receive classroom instruction on the importance of and how to enhance 6 dimensions of wellness including physical wellness. Students are required to participate in two structured 30 minute aerobic exercise sessions per week in class and 30 minutes per week outside of class.

Description of Methodology

Permission for the study was obtained from the University of the Incarnate Word Institutional Review Board. Data was collected from the university wellness students at the beginning (PRE) and end of the wellness class (POST). All students voluntarily participated in the study and informed consent forms were obtained prior to data collection. There were 151 participants (f=100, m=51) with a mean age of 19.6 years. Ethnicity differentiations were not considered for this study.

Findings and Conclusion

For all variables the Kolmogorov-Smirnov tests of normality were performed and these data were not normally distributed. Therefore, nonparametric tests were used. The One-Sample Wilcoxon Signed Rank Test showed a statistically significant increase in Identify Regulation ($p=.002$) and Intrinsic Regulation ($p=.007$) among students following wellness class participation. Students obtained higher scores in identified and intrinsic regulation of exercise following the wellness class. This study suggests that significant increases in students’ intrinsic and identified regulation (KilPatrick et al 2005) could be attributed to wellness class participation.

A UNIVERSITY DIMENSION OF WELLNESS CLASS IMPACT ON COLLEGIATE FITNESS LEVELS

Heather Barton-Weston, MA, Timothy W. Henrich, Ph.D., Gregory J. Soukup, Ph.D., Bill Carleton, Ed.D., and David S. Fike, Ph.D.

Purpose of Study

This study measured the impact that university wellness class had on fitness level improvements in college students.

Rationale and Significance

According to the Center of Disease Control and The American College of Sport Medicine (ACSM) health benefits of physical activity can be gained in 30 minutes of accumulative moderate insensitive activity per day. In 2005 Racette et al found that upon entering a university setting 7% of students will discontinue physical activity. Rates of overweight and obesity are increasing among young adults having some college education (10.6% to 17.8%) (Mokdad et al., 1999). The average freshmen gains 7.75lbs within the first semester and can continue to gain up to 15.4lbs during their college career. (Llyod-Richardson et al., 2009). All students at the University of the Incarnate Word must successfully complete a 16 week Dimension of Wellness Course. Students receive classroom instruction on 6 dimensions of wellness including physical wellness and are required to participate in two 30 minutes in class and 30 minutes outside of class aerobic exercise sessions per week. Prior to aerobic session's student prepare for ACSM muscular testing: 1.5 mile run, partial curl-up, and push-up.

Description of Methodology

Based off the University of the Incarnate Word approved curriculum for Dimensions of Wellness physical fitness data is collected and submitted by each student. Prior to engaging in any type of physical activity students submit a Heath History Questionnaire. Data were collected at the beginning (PRE) and end (POST) of the course for 1.5 mile run, 1 minute push-up, and 1 minute partial curl-up tests. All students voluntarily participated and informed consent forms were obtained prior to data collection. There were 85 participants with a mean age of 19.6 years. All 85 participants completed the 1.5 mile run pre and post-test and only 39 completed the pre and post-test for curl-ups and pushups

Findings and Conclusion

For all variables the Kolmogorov-Smirnov tests of normality were performed and the data were found to be normally distributed. Therefore we selected parametric statistical tests (dependent measures t-test) to analyze the data. There was an average improvement of 2.05 minutes with a standard error of the difference of 24 seconds (N=85 : $p < .0001$ 2 tailed) There was an average improvement in the one minute push up test of 9.72 push-ups with the standard error of difference being 1.1 pushups. (N=39: $p < .0001$). For the 1 minute partial curl up test the improvement was 10.85 curl ups with a standard error of the difference being 1.4 curl ups (N=39: $p < .0001$). Students obtained significantly higher scores in all three areas of fitness testing following the 16 week wellness class. This study suggests that significant increases in fitness levels could be attributed to wellness class participation.

PARENT IDENTITY AND YOUTH SPORT VOLUNTEERISM

Randall J. Griffiths, M.Ed.

Purpose of Study

This study investigated the impact of parent identity on the volunteer experience of parent-volunteer-coaches in youth sport. Specifically it sought to answer the questions of (1) what roles are being played by parents during their volunteer coaching and (2) what contextual or interactional situations lead to these role portrayals while volunteer coaching?

Rationale and Significance

Volunteers are essential to most youth sport programs. Parents are the predominant source of current and future volunteers for these programs. However, the volunteer behaviors of parents in youth sport do not follow current theories of volunteerism. The common notion that parents are volunteering as part of their lives as parents has not been the subject of a volunteer research study. Through a greater understanding of the connection between the parents' identities and their volunteer behavior more effective and satisfying volunteer recruitment and retention efforts could be conducted by youth sport organizations.

Description of Methodology

Purposive sampling was used in this study and continued until saturation of resulting theoretical grouping was achieved. The current parent-volunteer-coaches within a local youth soccer program (N=146) were contacted to participate in interviews about their experiences. Semi-structured interviews sought a storied version of the respondent's volunteer experience. The respondents (N=18) were all married and included both Hispanics (n=6) and Caucasians (n=12). Respondents chose to conduct the interviews at either the competition fields or at a third party location such as a local restaurant. Each interview was transcribed and analysis begun immediately upon completion. Completed interviews were analyzed using two methods; inductive analysis and narrative analysis. Inductive analysis was used to identify the roles played by parents during their volunteer experience. The contextual, narrative analysis examined the connected, temporally arranged story of each respondent via its movement through four pre-determined story elements: beginning status quo, disruption, action and resolution, and finally, new status quo.

Findings and Conclusion

The inductive analysis resulted in two groups of archetypical adult roles. One group, aspirational roles, contained roles which the parents wished to emulate including involved parent, provider parent, protector parent, and humanistic coach. The other group, avoided roles, contained roles which served as negative labels the parents did not want to attain including hyper-competitive adult, biased adult, critical adult and incompetent coach. The contextual, narrative analysis resulted in five groups of stories including History, Prior Arrangements, Crucible, Right Role, and System. These groups were formed based on the similarities in the disruptions, role adoption or change, and timing of volunteer service in each story. These results suggest that parents' volunteer experiences are highly dynamic. The roles they play are not easily assumed but instead almost unattainable standards. The youth sport experience is also less about service to the organization and more about their continuing lives as parents to their children. Parents' relationships with their children are changing as children grow and extend into the social system of youth sport. The parents are forced to adapt as well in the name of the parent-child relationship.

HIGH- FIDELITY SIMULATION TO TEACH END OF LIFE CARE AND INTERDISCIPLINARY TEAM SKILLS TO PHARMACY STUDENTS

Monica Marquez, BSN, RN, CNS Student, Antonio F. Torres, BSN, RN, CNS Student, Irene Gilliland, Ph.D. RN, CNS, ACHPN, and Jeanette McNeill, DrPH, RN, AOCNS, CNE

Purpose of Study

To assess the effect of a high-fidelity simulation (HFS) scenario on attitudes, competencies, and interdisciplinary collaboration of students enrolled in an interdisciplinary palliative care course.

Rationale and Significance

Nurses and physicians have been thought of as the only participants in the end of life (EOL) care process; however, there has been a call for more research associated with EOL care in regards to a collaborative effort from an interdisciplinary team. It is vital for all health care workers to be educated on how to effectively and sensitively interact with angry, anxious, or overly optimistic family members and how to help them cope with the prognosis of their dying family member. The use of HFS as a teaching strategy in the education of pharmacy, nursing, and other health care provider students is important because learning to deal with death and the dying process is a skill not easily acquired and can only be developed with exposure to the dying process.

Description of Methodology

A mixed methods design was used to examine student perceptions of a simulated death experience and its effect on student attitudes and competencies regarding EOL care and interdisciplinary collaboration. A pre-written HFS scenario utilizing a high fidelity computer-controlled mannequin with human-like features and physiologic functions was conducted in a highly realistic, simulated hospital environment. Students enrolled in the *Interdisciplinary Approaches to Palliative and End of Life Care* graduate level course were eligible to participate in this study. They were asked to participate in taking a pre and a post test both consisting of 17 Likert scale type questions with seven open-ended reflection questions added on the post-test to analyze qualitative data and identify common themes.

Findings and Conclusion

The sample consisted of 12 students enrolled in an interdisciplinary palliative care elective course. Two students (17%) were nurses and the others (83%) were pharmacy students. There were equal numbers of Hispanic (3; 25%), Caucasian (3; 25%), and Asian (3; 25%) students. Most were female (10; 83%) and Christian (8; 67%) with a mean age of 33 (SD=10; range 25-54). The majority of students (11; 92%) reported having had a previous experience with death and dying; 1 professional experience (8%) and 10 personal experiences (84%). A non-parametric Wilcoxon Signed Rank Test found no significant difference on EOL care attitudes, competencies, and interdisciplinary collaboration as a result of the simulation. Analysis of qualitative data showed that students had an improved understanding of their roles in EOL care. Common themes identified included: Maintaining comfort for the patient and family, increased communication between patient, family, and the interdisciplinary team, increased comfort of the professional during the death and dying process, and maintaining a calm and soothing demeanor. Students stated that this simulation positively impacted their views about death and dying. Qualitative findings suggest that utilizing a HFS scenario experience as a teaching strategy improves students' outlooks on the death and dying process and improves their interdisciplinary skills. A limitation of this study is the small sample size making it difficult to measure small changes. Further research is needed.

IS A NEWLY MODIFIED CYCLE ERGOMETER RELIABLE TO MEASURE MAXIMAL POWER (P_{MAX}), OPTIMAL CADENCE (V_{OPT}), AND INSTANTANEOUS POWER (IP) OVER A 3-4 DAY PERIOD?

Eduardo Mendoza, PT, DPT, Paul Molina, PT, DPT, and Ann Newstead, PT, Ph.D., GCS, NCS

Purpose of Study

The objective of this study was to modify an existing Monarch 818E cycle ergometer into an instrument capable of rendering reliable measures of maximal power (P_{max}), optimal cadence (V_{opt}) and instantaneous power (IP). We hypothesized that the young adults would have consistent performance on the power cycle (CV<3%).

Rationale and Significance

In recent years, researchers have found power output to be a good indicator of functional ability in people across the lifespan. Due to the significance of this discovery, further research into the nature of power output should be pursued. Modified cycle ergometers have been found to be safe, reliable, and valid instruments to measure maximal power in all populations. Consequently, a reliable ergometer is a valuable tool for use to testing protocols in the clinical setting.

Description of Methodology

A convenience sample included 3 females and 4 males with at least 2 years of ongoing cycling experience. Cyclists were preferentially selected for this reliability study in order to control for the potential effects of motor learning on the outcome measures.

A Monarch 818E ergometer was modified using the Inertial-Load method of ergometer testing, where the flywheel served as the resistance. A sensor mounted 3 mm from the flywheel recorded the angular displacement, velocity and acceleration of the flywheel in order to calculate P_{max}, V_{opt}, and IP. Subjects were tested over a period of 3 days and a minimum of 7-8 bouts of all-out exertion for 3 seconds. A standard protocol was constructed and applied to each participant in order to maintain data reliability.

A coefficient of variation (CV) was applied to both individual and group results to ascertain reliability of the modified ergometer to measure P_{max}, V_{opt}, and IP.

Findings and Conclusion

The subjects (age 25-41y; Mean/SD 32.8y (5.6); Wt = 67.1 kg; Ht = 1.6 m; BMI = 24.4; MET-hours per day = 41.5) completed testing over two weeks. Overall average CV was found for: P_{max} (CV = 3.4%), V_{opt} (CV = 4.2%) and IP (CV = 6.6%). The CV was less for men (CV = 2.1%) than women (CV = 4.4%) and decreased during each subsequent testing session. The modified ergometer was deemed to be reliable to measure P_{max} over a 3-4 day period in young adults. Further testing to determine validity of the modified ergometer is needed.

RESPONSES OF SUCCESSFUL LATINA STUDENTS TO ACADEMIC CHALLENGES OF PREREQUISITE NURSING COURSES

Julie W. Nadeau, Ed.D., RN, CNE

Purpose of Study

The purpose of this phenomenological study was to explore and describe how successful Latina students experience and respond to the academic challenges of prerequisite nursing courses. The following question guided the research: What are the lived experiences of successful Latina students as they encounter academic challenges in prerequisite nursing courses? Four subquestions guided the development of the study.

Rationale and Significance

Nursing schools struggle to prepare enough nurses to meet the health care needs of a diverse and aging population in the United States. Many students do not complete their degrees, contributing to the problem. More than 100 freshman students designated their major as prenursing in the fall of 2008, with plans to earn a bachelor of science in nursing (BSN) degree, but many withdrew from or earned failing grades in prerequisite courses. These difficulties occurred despite the presence of a first-year engagement program that offered multiple avenues for campus integration, academic counseling, and support, as well as student enrollment in a weekly nursing seminar designed to introduce students to the profession and to promote their academic success.

The study took place in a Hispanic serving liberal arts university in Texas, against the background of escalating costs of education, economic repercussions of low educational attainment by Hispanics, burgeoning health care needs of a growing Hispanic population, and the Hispanic RN shortage within an overall nursing shortage. Implications for social change include enhanced faculty ability to support the academic endeavors of Latina nursing students. Improved graduation rates in this student population will help to address the nursing shortage and the need for a health care workforce that mirrors the population.

Description of Methodology

The qualitative study used a phenomenological approach. Six successful Latina prenursing students completed three or four semistructured private interviews, two of which were audiotaped and transcribed. A broad descriptive question followed by structural questions guided the interviews. Participants were 19 or 20 years of age, were second or higher generation U.S. citizens, and had completed at least two semesters of prerequisites with a minimum GPA of 3.0. They had not withdrawn from courses to maintain GPA. Audiotaped interview time was 13.7 hours. Interpretative phenomenological analysis guided consideration of data: reading and rereading, initial noting, developing emergent themes, searching for connections across emergent themes, moving to the next case, and searching for patterns across cases. Use of gerunds for coding data kept the analysis close to each participant's perspective. Microsoft Word tables, graphic representations, and Microsoft Access facilitated organization and analysis of data.

Findings and Conclusion

Seven superordinate themes emerged from approximately 500 coded items of data and 37 themes: (a) facing academic challenges, (b) recognizing emotional response, (c) seeking help, (d) transcending academic challenges, (e) owning knowledge, (f) persevering, and (g) living out values and beliefs. The hermeneutic approach allowed participants to describe the transition from avoiding and hesitating to reaching out for academic help. Conclusions and recommendations include the need for faculty to recognize and respond to the importance of family, relationships, values, and beliefs to academic success in Latina prenursing students.

FUNCTIONAL FITNESS IN AGING: A PILOT INTERVENTION STUDY

Ann Newstead, PT, Ph.D., GCS, NCS, Jacquis Lagura, BS, SDPT, and Mary “Kelly” Dunn, Ph.D., APRN

Purpose of Study

The purpose of this pilot study was to determine the effects of an 8-week intervention program, either cycling or walking, on measures of function and maximal power in sedentary older adults.

Rationale and Significance

Adults 65+ generally do not partake in recommended dosage of exercise and maximal leg power decreases with age. Exercise interventions such as cycling can be designed to affect strength or power; however studies about walking are limited.

Description of Methodology

Sedentary older adults ages 65-74 (n=9; 3 per group) were recruited from the community. In this study “sedentary” was defined as someone who spent more than 60% of their day in less energy consuming activities as measured by the Actical ®. The pilot intervention study was a repeated-measures within-subjects design with a between-group comparison. There was a baseline pretest (-3 to 0 weeks; T1), intervention (8 weeks; T2), and posttest phase (week 9; T3). Sedentary older adults were randomly assigned into three different groups: “cycling” or “walking” or “control” group. Both exercise groups met 3 times a week for 30 minutes of exercise for a total of 8 weeks. Maximal Power, and functional measures of Five Time Sit to Stand (5STS), Timed up and Go (TUG), Timed Stair Climb (TSC) and Walking speed. Mean and standard deviation (SD) were computed for each group. The Coefficient of Variation ($[CV = (T_2 - T_1)/T_1]$) was used to determine percent change. The Coefficients of Determination (R^2) were also calculated to show the relationship between the outcome measures.

Findings and Conclusion

The cycling group improved P_{MAX} over 8 weeks by 7.1%. In comparison, the walking group improved P_{MAX} by 0.6%. For 5STS, the cycling group improved 7.1%, whereas the walking group decreased performance by 15%. For the TUG, the cycling group improved 6%, and the walking group improved by 3%. Both groups improved the TSC - the cycling group improved by 11% and the walking group improved by 16%. Moderate to high correlations were found between power and 5STS, between power and TUG, and between power and TSC for all groups combined. Cycling may be a more effective than walking as a mode of exercise to improve leg power production. Both modes of exercise, cycling and walking, improved overall power and functional task performance. Older adults who are sedentary will benefit from regular exercise. Health professionals are encouraged to provide exercise prescriptions for their patients.

EVALUATING LEARNING IN SIMULATION AND IN TRADITIONAL CLINICAL IN A CHILD HEALTH COURSE

Ramona Ann Parker, PhD, RN, Jeanette McNeill DrPh, RN, Joyce Howard, MSN, RN

Purpose of Study

State of the art simulation laboratories and centers are built to modernize existing lab space and allow students to have standardized clinical experiences. It has been assumed that these experiences will further meet the demand by the discipline and by the public to graduate students who have the clinical reasoning skills to handle the intricacies of current health care practices. However, few studies in nursing have compared a simulation experience with the traditional clinical setting.

Rationale and Significance

While simulation gained ground in healthcare education, asking faculty to buy-in to the integration of simulation as part of student clinical experience is for many a leap of faith. Integration of new teaching modalities can be intimidating and elicit restraint by individual faculty (Curl, et. al., 2007). Therefore the purpose of this study was to compare baccalaureate student's experiences and learning outcomes in simulation and in a traditional clinical setting.

Description of Methodology

For sample size calculations, we based our assumption on our previous study (Parker, et. al, 2011). Using Cohen's d to calculate the effect size, these estimates represent a moderate effect of $d = .4375$. Sample size calculations were prepared using G* Power 3.1. To achieve a power of 80%, a minimum sample size of 45 was needed.

Utilizing a quasi-experimental, post-test design, 63 undergraduate baccalaureate nursing students enrolled in a Child Health course (24 hours of clinical simulation experiences and 88 hours of traditional clinical experience) were asked to participate in this study.

Findings and Conclusion

Students in simulation and traditional clinical experiences reported similar learning experiences of best educational practices, design characteristics and their satisfaction and self-confidence. Three areas of comparison showed significant differences: Students rated the simulation experience higher in opportunities for collaboration, traditional clinical experience had more opportunities for problem solving and perceived self-confidence.

Planning and implementing simulation experiences with attention to clearer objectives and increased opportunities for problem solving would add to a realistic environment. Continued clinical simulation faculty/staff development is essential. Also, working with course/traditional clinical faculty in developing meaningful experiences for students will assist students to transfer knowledge and transform how they think and care safely for patients. Students in simulation and traditional clinical experiences reported similar learning experiences of best educational practices, design characteristics and their satisfaction and self confidence.

THE EFFECTIVENESS OF A CULTURE-TAILORED DIABETES PROGRAM ON POST-TEACHING A1C

Evelyn Peralta, BSN, RN, MSN Student, and Kathleen Canty, BSN, RN, MSN Student

Purpose of Study

The purpose of the study is to determine the pre and post differences in HgBA1C levels in a sample of Hispanic patients who have undergone a culture tailored diabetes program at a local San Antonio hospital.

1. What are the differences in pre and post HgbA1c of Hispanic patients who have undergone a culture tailored diabetes program at a local hospital?
2. What is the relationship of the number of attended sessions and post HgbA1C at baseline and at 6 months?

Rationale and Significance

Diabetes is widespread in the Hispanic population. According to the CDC (2011), diabetes is the seventh leading cause of death in the US and the major cause of heart disease and stroke. Diabetes is the leading cause of kidney failure, amputation (non-traumatic) and blindness in the US. Estimated total direct and indirect medical cost in 2008 for diabetics was \$174 billion. In 2008, the estimated number of adults diagnosed with diabetes and living in Bexar county was 90,390 (CDC, 2011). There are numerous guidelines and standardized protocols in addressing diabetes. However, there is still a need for a standardized culturally oriented /culture tailored clinical care, education, outreach and research programs. The guidelines recommend using HgbA1c levels, which measures glucose levels over the previous 3 months.

Description of Methodology

The study will use a convenience sample using retrospective chart review with a continuous nominal measure of HgbA1c. The study will be conducted at a local hospital. A convenience sample of 50 patients will be drawn from the list of all Hispanic patients who participated in the diabetic education program from Aug 01,2010 to Aug 31,2011.

Findings and Conclusion

The 53 participants in this study were primarily female (53; 66%) with a mean age of 48 (SD=13:range18-71). Thirty- eight percent were married, 42% were single, 13% were divorced and 4% were unknown marital status. The majority of patients had private insurance (59%) while 25 % had Medicaid and 17% had Medicare.

1. Pre-intervention and post-intervention mean scores for the HgbA1c were 8.99 and 8.20, respectively. Using the paired sample *t* test with a 95% confidence interval, the difference between the groups was statistically significant with $t=2.805$; $p = .0007$, $df = 48$, indicating improved control of glucose levels after the education program.
2. According to the Pearson Correlations there was no relationship between number of sessions and post HgbA1C levels.

The findings indicate that a culturally tailored diabetic education program significantly increases the likelihood of better A1C levels in the Hispanic culture. The limitations of the study are small sample size, use of a convenience sample, and lack of consistency in the number of sessions attended by the participants.

LEVELING EMPOWERMENT AND RESILIENCY FOR NURSES (LEARN): A HORIZONTAL VIOLENCE PREVENTION PILOT PROJECT

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Purpose of Study

The purpose of the pilot intervention project is to determine whether nursing students who participate in simulated training exercises to manage intimidating and disruptive behaviors of others (Project LEARN) have increased perceptions of resiliency, empowerment, and conflict engagement post-training.

1. What are the pre-post differences of perception of resiliency, empowerment, and conflict management skill among a sample of undergraduate nursing students who participate in simulated training exercises to manage intimidating and disruptive behaviors of others (Project LEARN)?
2. What is the relationship between selected attribute characteristics of undergraduate nursing students and perceptions of resiliency, empowerment, and conflict management skill?

Rationale and Significance

Preliminary analysis from a recent pilot study of 166 UIW nursing students found that 39% reported experiencing conflict in the workplace prior to entering nursing, suggesting a need for developing strategies to strengthen student knowledge and skills. While a number of intervention strategies exist to increase empowerment and stress resiliency, few studies document effectiveness within nursing student populations and specifically ethnically diverse population groups.

Description of Methodology

A quasi-experimental pre-post design was used. A convenience sample of 60 nursing student volunteers participated during two consecutive semester upper division courses. The majority of students were female (53; 88%), of Hispanic background (43; 72%), single (40; 67%) with a mean age of 26 years (SD=6; range=21-47 years). Data were collected at the beginning of the semester in the first course and post intervention at the end of the second course using the Conflict Mode Instrument, the Stress Resiliency Profile, the Psychological Empowerment Instrument, and a researcher-designed demographic inventory. Data were analyzed using descriptive statistics, paired t tests and correlational analysis. The project was approved by the University Institutional Review Board for Protection of Human Subjects. The intervention: Students engaged in role-playing and simulation exercises designed to develop and enhance knowledge and skills of perceptions of empowerment, management of stress and negotiation strategies as mechanisms for managing interpersonal conflict.

Findings and Conclusion

Scores on the Conflict Mode Instrument describe five styles of managing conflict; scores at baseline indicated students preferred styles of managing interpersonal conflict were the avoiding (an unassertive approach in difficult situations) and accommodating (an unassertive, cooperative style yielding to another's view). Scores on the Stress Resiliency Profile suggested students tended to focus on their deficiencies and respond to tasks as imperatives putting great demands on themselves with little individual choice. Both perceptions are stress-inducing styles. Scores on the accommodating style decreased significantly ($p=.02$) and compromising scores increased significantly ($p=.006$) post-intervention. The stress-inducing necessitating style decreased significantly ($p<.05$) post intervention. No differences in empowerment scores or male/female differences were found. Findings may have implications for curriculum development.

THE INFLUENCE OF POST-STROKE EDUCATION AND CAREGIVER SUPPORT ON HEALTH-RELATED QUALITY OF LIFE AND POST STROKE DEPRESSION AMONG AFRICAN AMERICANS AND HISPANIC AMERICANS

Emmanuel Quarcoo, RN, BSN, MSN Student

Purpose of Study

To investigate the differences between function-related quality of life and depression at admission and discharge among African American and Hispanic American stroke patients on an acute rehabilitation unit.

Rationale and Significance

Post-stroke depression is consistently associated with worse outcomes for depressed stroke patients in terms of health-related quality of life, early mortality and functional outcomes compared to non-depressed stroke patients (Ellis et al., 2005). Inadequate caregiver support negatively influences quality of life and depression in stroke patients (Toeh, Sims, & Milgrom, 2009). Various types of interventions provided to stroke patients have had little effect in improving their outcomes; research has been limited by small samples in predominantly Caucasian stroke patients (McManus, Craig, McAlpine, Langhorne, Ellis, 2008). Despite the myriad of studies, the most effective way of providing education and caregiver support to stroke patients is lacking and there have been very few studies on the effect of a combination of these two interventions on stroke outcomes (Karla et al., 2004). What has not been examined is whether the dual support makes a difference in functional independence and levels of depression post discharge.

Description of Methodology

A quasi-experimental one-group pretest-post test design was used. A purposive sample of 101 records of patients who stayed at least 14 days on the acute rehab unit in a tertiary hospital between September 1, 2009 and August 31, 2010 was examined using retrospective electronic medical record review. The sample included 91 Hispanics (90.1%), 65 females (64.4%), and 54 married patients (53.5%) with a mean age of 71 years. Post-stroke education and caregiver support was part of the rehabilitation experience. Stroke patients were offered physical and occupational therapy for five days every week. Family or caregivers were trained to acquire skills required in providing assistance to patients to perform activities of daily living (ADL). They learned how to adapt the skills learnt to the home environment when discharge was contemplated. The Functional independence measure (FIM), an 18-item ordinal scale composed of 13 motor tasks and 5 cognitive tasks was used to measure objective function-related quality of life. Horizon expert documentation system was used for measuring depression (states depressed, appears depressed, withdrawn, flat affect). FIM scores and depression measurement were drawn at admission and discharge.

Findings and Conclusion

FIM scores at discharge were significantly higher ($p < 0.001$) than at admission indicating increased independence in ADLs. Depression at discharge was improved ($p < 0.001$) than at admission. Age was negatively correlated to FIM scores at discharge ($p < 0.05$) but days of stay were positively correlated ($p < 0.05$) to depression at discharge. The results of this study indicate that a combination of education and caregiver support was practically beneficial in terms of improving the outcomes (function-related quality of life and depression) of stroke patients. Even though the generalizability of the finding is limited by the absence of random sampling, predominantly Hispanic stroke patients, and the subjective nature of measuring depression, future stroke patients may benefit through improved outcomes in terms of quality of life and decreased depression. Future research with more stringent controls will help to support evidence-based nursing and build on nursing knowledge.

THE EFFECT OF MANIFEST NEEDS ON ORGANIZATIONAL CITIZENSHIP BEHAVIOR IN NURSES

Erlinda Rodriguez, MBA, CNMT, Xiaohu Zhang, MBA Student, and Shih Yung Chou, Ph.D.

Purpose of Study

We investigate the impact of the need for achievement, need for autonomy, need for affiliation, and need for dominance on nurses' organizational citizenship behavior (OCB), which refers to individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the efficient and effective functioning of the organization. Given nurses constantly interact with administrators, peers, and patients, their manifest needs might affect the quality and the quantity of the interactions, which in turn might determine the degree of OCB exhibited by them. Our research hypotheses, therefore, are as follows:

1. The need for achievement will have a significant positive effect on a nurse's organizational citizenship behavior.
2. The need for autonomy will have a significant positive effect on a nurse's organizational citizenship behavior.
3. The need for affiliation will have a significant positive effect on a nurse's organizational citizenship behavior.
4. The need for dominance will have a significant negative effect on a nurse's organizational citizenship behavior.

Rationale and Significance

As nurses are often required to perform various tasks in an increasing complicated environment, one could expect that healthcare quality and effectiveness are largely influenced by whether nurses exhibit OCB. Therefore, it is important for healthcare organizations and administrators to understand what motivates OCB exhibited by nurses. The results of this study may provide useful insight into redesigning nurses' jobs. Specifically, healthcare organizations and administrators may match nurses' needs with their tasks and positions based upon the results of this study, which in turn may allow them to fulfill their personal needs and therefore improve their job satisfaction and performance.

Description of Methodology

We employed an online cross-sectional survey approach and distributed survey questionnaires to registered nurses at the University Health System located in San Antonio, Texas. Prior to responding the questionnaire, prospective participants were informed that this study is approved by the Institutional Research Board at University of the Incarnate Word and the participation in this study is completely voluntary. We obtained a total of 60 responses and used partial least squares (PLS) technique to test the proposed hypotheses because it is considered an appropriate technique under the conditions of small to medium sample sizes. After testing and obtaining measurement validity and reliability, we analyzed and interpreted the standardized path coefficients (b) and t -values obtained from the PLS analysis to determine whether hypotheses were supported using 1.96 as the critical value (i.e., at 0.05 significance level).

Findings and Conclusion

Among the 4 proposed hypotheses, only hypothesis 1 was supported ($b = 0.556$; $t = 4.692$; $p < 0.05$). In other words, a nurse's need for achievement had a statistically significant positive impact on his or her OCB. In addition, our proposed model explained 40.9% of variance in a nurse's OCB. Based on our findings, we recommend healthcare administrators to implement job engagement practices such as involving nurses in goal setting process or patient care quality improvement process. By doing so, healthcare organizations may be able to establish a work environment where nurses' OCB is encouraged.

CARDIOVASCULAR PATIENTS' CARDIAC EVENT AND A CHANGE IN SMOKING STATUS

Indra Thomas, BSN, RN, MSN Student, and Kenisha Marajah, BSN, RN, CNN

Purpose of Study

The study examined the relationship between 50 patients who were smokers diagnosed with coronary heart disease to determine if a cardiac event produces a change in their smoking status.

1. Is there a relationship between cardiovascular patients' experience of a cardiac event and a change in their smoking status?
2. Is there a correlation between types of hospital counseling about smoking cessation and a change in smoking status?

Rationale and Significance

Tobacco smoking decreases the life span of an individual, increases hospital stay, and increases hospital bills. Cigarette smokers have a higher risk of developing several chronic disorders, including fatty buildup in the arteries, several types of cancer and chronic obstructive pulmonary disease (American Heart Association, 2011). A number of studies concluded that cigarette smoking is a major cause of coronary heart disease, which leads to heart attack. Other studies have shown that cardiovascular patients who were discharged from the hospital and received intensive intervention had a higher rate of quitting compared to patients who received minimal intervention (Smith & Burgess 2009).

Description of Methodology

A descriptive correlation study at large hospital system in the southwest United States was carried out using a retrospective medical review. The study was approved by the University of Incarnate Word IRB. Data were analyzed using descriptive statistics and non-parametric analysis using Chi Square and Spearman's rho. Records of 50 patients' who met the criteria were reviewed and data extracted including demographic information, medical history, type of smoking cessation therapy received and smoking status at each hospital readmission between January 2008 to December 2010.

Findings and Conclusion

The mean age was 59 (SD= 5.727; Range: 45-65); the majority were married (33; 66 %), Hispanic (33; 66 %) and most smoked for over ten years (49; 98%). Most had hypertension (39; 78 %), dyslipidemia (27; 54%), and diabetes (27; 54 %). In regards to the research questions, the findings showed that there was no relationship between cardiovascular patients' experience of a cardiac event and change in their smoking behavior. There was no statistical significance between face to face counseling and pamphlets in changing smoking habits however, in more than 50% of charts the methods were not documented. Age was significantly related to number of years smoked ($r=.40$; $p<.01$) and number of hospital readmissions ($r=.33$; $p<.05$). Equal numbers of female compared to males quit on each readmission. The major limitations of this study were the small homogenous sample and omitted documentation which limits generalizability. Therefore, it cannot be determined whether a significant relationship exists between cardiovascular patients' cardiac event and a change in smoking status. There is need for continued research on patients' relationship between cardiovascular event and a change in their smoking status.

ROSENBERG SCHOOL OF OPTOMETRY

BENEFICIAL EFFECTS OF ESTROGEN THERAPY ON CARDIOVASCULAR AND RENAL PARAMETERS IN OLD “NORMOTENSIVE” FEMALE RATS

Lourdes Fortepiani, MD, Ph.D.

Purpose of Study

This study tested the hypothesis that long-term estrogen supplementation or replacement does not have detrimental effects on cardiovascular and renal parameters, in aged rats when they are normotensive.

Rationale and Significance

Decreases in estrogen levels have been associated with increased cardiovascular and renal risk during aging, such as in menopause. However, randomized clinical trials and animal studies have documented increased cardiovascular disease with hormone replacement therapy after menopause.

Description of Methodology

Twelve month old female rats were implanted with silastic pellets, empty or containing 5mg of 17 beta estradiol (ES) and allowed to age for 11 weeks. After 11 weeks, arterial catheters were implanted and following 4 days of stabilization, blood pressure (BP) and heart rate (HR) were continuously monitored during 4 hours in conscious unrestrained rats. Changes in renal function were assessed by collecting urine samples before and after the implants every 2 weeks and by inulin clearance in anesthetized animals after BP recording.

Findings and Conclusion

Estrogen supplementation decreased BP (102 +/- 3.5 vs 112 +/- 3.2 mmHg) and HR (355.6 +/- 6.6 vs 370 +/- 7.6 bpm). In addition, estrogens decreased food intake and adiposity index, mainly visceral fat (5.38 +/- 0.7 vs 9.79 +/- 0.9 per 100g body weight), parameters that may contribute to the decrease on BP and HR. However it did not modify renal function or hemodynamics measured as glomerular filtration rate (1.00 +/- 0.1 vs 1.03 +/- 0.3 ml/min/g), renal plasma flow (5.55 +/- 0.8 vs 4.25 +/- 0.55 ml/min/g) and renal vascular resistance (12.7 +/- 2.5 vs 12.7 +/- 2.4 mmHg/ml) respectively. Contrarily to the effects observed in “hypertensive” rats, these results suggest that estrogen supplementation exerts a beneficial effect on cardiovascular parameters in the absence of changes in renal function in “normotensive” aged rats.

CONE CONTRAST TEST: STANDARD VS. STAIRCASE METHODS OF TESTING

Jeff Rabin, OD, MS, Ph.D., Jonathan Boster, BS, Madison Ruelle, BS, Brandi Stewart, BS, Thien Tran, BS, and Veronica Wong, BM

Purpose of Study

Our purpose was to determine if the staircase Cone Contrast Test yields scores equal to those obtained with the standard test.

Rationale and Significance

Color vision deficiency (CVD), which affects 8% of males and 1 in 200 females, can limit performance and compromise safety on real-world tasks. Most color tests detect the presence of CVD but few reveal type (red, green, blue) or severity. The computer-based Cone Contrast Test (CCT) stimulates individual retinal cones to diagnose type and severity of CVD. The standard CCT proceeds from highest to lowest color contrast while the new staircase CCT uses a response-driven algorithm to rapidly reach color threshold.

Description of Methodology

The CCT displays a series of colored letters visible only to red, green or blue cones. During testing a single colored letter appears on the screen and the observer uses a mouse to select the letter seen from a matching display. Letter visibility (contrast) gradually decreases to determine the lowest contrast visible for each cone type. In the standard CCT contrast decreases sequentially from highest to lowest levels; in the staircase contrast changes up and down according to correct or incorrect responses reaching an endpoint in half the time taken by the standard CCT. Standard and staircase CCTs were conducted on 20 color vision normal (CVN) and on 10 CVD subjects confirmed as CVD on a battery of screening tests.

Findings and Conclusion

All CVD subjects (5 red deficient, 5 green deficient) had CCT scores significantly below the lower limit of normal (lower limit = 75; CVD mean \pm SD = 40 ± 15 ; $p < 0.00001$). However, in both CVN and CVD subjects there was no significant difference between CCT scores obtained with standard and staircase methods for right and left eyes (CVN: $F = 0.21$, $p > 0.64$; CVD: $F = 0.11$, $p > 0.74$). Moreover, there was no difference between staircase and standard CCT in CVN even when CCT contrast was decreased to lower values to ensure that all CVN subjects achieved a true contrast threshold (standard vs. staircase: $F = 0.66$, $p > 0.43$). In conclusion, both CVN and CVD subjects achieve comparable scores on standard and staircase CCT with no loss of test sensitivity or specificity. Since the staircase CCT requires only half the time to administer (3 vs. 6 min) it is the preferred method for clinical application.

A FAMILIAL EVALUATION OF PROTAN COLOR DEFICIENCY

Jeff Rabin, OD, MS, Ph.D., Jonathan Boster, BS, Madison Ruelle, BS, Brandi Stewart, BS, Thien Tran, BS, and Veronica Wong, BM

Purpose of Study

Our purpose was to evaluate color vision findings in an entire family with red (protan) color deficiency and consider how experience and familial environment impact awareness of color perception and performance.

Rationale and Significance

Hereditary color deficiency affects 8% of males and 0.5% of females. Among the 8% with red or green color deficiency, 6% have green (deutan) deficiency of varying severity while 2% have red (protan deficiency) also varying from mild to severe. Hence protan deficiency is uncommon particularly in females. We encountered a rare opportunity to evaluate an entire family with protan color deficiency.

Description of Methodology

A family of Asian descent consisting of the father (age 62), mother (age 59), daughter (age 25) and son (age 19) were evaluated on multiple color vision tests in an approved color vision protocol. All were in good general health and free of eye disease. All were assessed with Dvorine, Ishihara, and HRR pseudo-isochromatic plate (PIP) book tests as well as the Cone Contrast Test (CCT), a computer-based test which diagnoses type and severity of color deficiency. CCT data were collected under multiple test conditions (extended contrast range, binocular, monocular) and included color reaction time data for all subjects.

Findings and Conclusion

All family members failed PIP tests with the HRR indicating protan deficiency in 3 of 4 members (one case undetermined due to a passing score on HRR diagnostic series). All subjects exhibited a selective decrease on the red cone CCT with normal values on green and blue cone tests confirming the diagnosis of protan deficiency. A spectrum of severity was observed among family members indicating different degrees of protanomaly. Reaction time was selectively increased on red CCT tests. In conclusion, protanomalous color deficiency, albeit rare, can manifest in both males and females impacting color perception, brightness sense for long wavelengths, as well as occupational performance and well-being. In unique circumstances where all family members share a common color deficiency, awareness of color choice and confusions may be less pervasive leading to unique adaptation strategies to cope with color deficiency.

RESPONSE TIME ON THE CONE CONTRAST TEST

Jeff Rabin, OD, MS, Ph.D., Jonathan Boster, BS, Madison Ruelle, BS, Brandi Stewart, BS, Thien Tran, BS, and Veronica Wong, BM

Purpose of Study

The purpose of this investigation is to establish normative values for the Cone Contrast Test (CCT) response time and to determine how the response times of color vision deficient compare to normal values.

Rationale and Significance

Color vision deficient (CVD) individuals often require more time to complete color tasks, a fact that could potentially provide an additional metric sensitive to color performance: reaction time.

Description of Methodology

20 color vision normal (CVN) and 10 CVD subjects were tested monocularly on the CCT, a computer-based program which presents letters visible only to red, green or blue cones to diagnose type and severity of CVD. The program recorded response time in seconds from the time of letter presentation to the time of the subject's mouse-click to select the letter seen. Each subject's mean response time for the red, green and blue cone tests were calculated.

Findings and Conclusion

CVN response times showed no difference between right and left eyes ($p > 0.5$) and right eyes were used for normative values. Mean (\pm SD) CVN response times were: Red CCT 1.6 ± 0.5 sec; Green CCT 1.6 ± 0.4 sec; Blue CCT 1.8 ± 0.9 sec. 92% of red deficient (protan) and 38% of green deficient (deutan) eyes showed higher than normal red CCT response times (>2 SD above mean), and 42% of protan and 88% of deutan eyes showed higher than normal green response times. 100% of CVD eyes showed normal blue CCT response times. In conclusion, a majority of CVDs showed increased CCT response times for the color of their deficiency, indicating that response time may serve as an additional sensitive metric of color deficiency.

SCHOOL OF GRADUATE STUDIES & RESEARCH

KELLER'S PERSONALIZED SYSTEM OF INSTRUCTION IN A PHARMACY CALCULATIONS COURSE: A RANDOMIZED CROSSOVER TRIAL EXAMINING LEARNING OUTCOMES

David S. Fike, Ph.D., Kenneth L. McCall, Pharm.D., and Matthew Lacroix, Pharm.D.

Purpose of Study

The purpose of the study was to compare learning outcomes as measured by exam scores in a pharmacy calculations course between students who are randomly assigned to Keller's personalized system of instruction or a control group. Keller's instruction method, grounded in theory, may promote improved learning outcomes as compared to traditional instructional methods.

Rationale and Significance

The major components of Keller's Personalized System of Instruction (PSI) include a self-paced learning process through a series of course modules, a demonstration of mastery on each assessment before proceeding to the next module, immediate feedback with coaching on each assessment, written materials for course content, and the use of lectures for demonstration and motivation. This research study will inform the development of instructional strategies applicable to pharmacy calculations courses.

Description of Methodology

Principles of the Keller method were applied to a two semester-credit-hour Pharmacy Calculations course in the first professional year of a Doctor of Pharmacy program. The Pharmacy Calculations course was designed with 10 learning modules, equally divided before and after the midterm. Ninety-six students were randomly assigned (1:1) at the beginning of the semester to the Keller method or a control group. Students continued in the group they were assigned until the midterm exam at which time they crossed over into the other learning method. Baseline, midterm, and final exam scores were compared between groups using t-tests.

Findings and Conclusion

Baseline ($38.7 \pm 13.2\%$ and $39.9 \pm 13.8\%$), midterm ($90.3 \pm 8.1\%$ and $91.8 \pm 5.9\%$), and final exam ($87.7 \pm 10.4\%$ and $90.5 \pm 7.3\%$) scores were not significantly different between groups. The mean preference on a 10-point scale for the Keller method and the control method was (8.7 vs 4.2, $p < 0.001$). Learning outcomes as measured by exam scores were similar between groups in the calculations course. At the conclusion of the course, students significantly preferred the Keller method of learning compared to the control method.

SCHOOL OF MATH, SCIENCE & ENGINEERING

GROWTH PATTERNS OF ETHNIC GROUPS IN BEXAR COUNTY

Judith Arriaza, McNair Scholar

Purpose of Study

The purpose of this study is to establish a mathematical model that can predict the population growth of the ethnic groups in Bexar County, Texas. Throughout the past decades, Bexar County's population growth has increased rapidly. The majority of the growth in the county has occurred in San Antonio, the seventh largest city in the US. While the city of San Antonio has been known as a "melting pot" because of its rich diversity in cultures, this growth has also changed the population of various ethnic groups, which will have consequences for the county's development.

Rationale and Significance

As the population grows, the demand for organization and services will increase. Growth patterns affect the construction of new homes, schools, highways, and water systems. This study will benefit businesses, households, political systems, city development, and the people in Bexar County. It will help in planning needed services for the future for the people of the county which will be affected by the ethnic composition of the area.

Description of Methodology

This research was a quantitative study. Population data was gathered from the US census and Texas Department of State Health Services (TDSHS) from 1990 to 2010. The population data helped determine the population trends for the four main ethnic groups in Bexar county throughout the past twenty years. The ethnic groups included White, Hispanics, Black, and Other. Three models were considered for this study: the exponential model, the logistic model, and the Leslie model. Each population model has a different function for determining population growth. They are helpful to estimate and project population outcomes. The Leslie model was chosen because it does not assume unlimited grow nor limit growth because of carrying capacity as part of the model. The Leslie model divides the population by age groups and allows one to study the age structure within the population. Birth rates were also collected from the TDSHS and the survival rates were manually fixed. For each of the ethnic groups a Leslie matrix was constructed and multiplied by the initial population vector. Population projections were made for each year up to 2020. To test the accuracy of the model, results were compared to the census of 2000 and 2010. Projections were also made for the next three population election in Bexar county. All of the results and projections for this study were illustrated in bar, line, and pie graphs.

Findings and Conclusion

In conclusion, the Leslie model was able to capture the population trends for all four ethnic groups. According to the Leslie model, Whites seems to be declining while Hispanics, Blacks, and Others are increasing in Bexar County. Despite the fact that the accuracy of the model established in this study may be limited, the Leslie model has proved itself to be a valuable tool in population studies. The fact that it allows one to analyze the internal substructures that transacts from one subgroup to the next group it is a unique feature which other models do not have.

OH, NO! WHERE'S MY HEAD? THE EFFECTS OF A POTASSIUM CHANNEL BLOCKER (SCH-28080) ON BEHAVIOR AND REGENERATION IN *LUMBRICULUS VARIEGATUS*

Christopher M. Diaz, Kathryn Dunne, Paola Mendez, and Veronica G. Martinez-Acosta, Ph.D.

Purpose of Study

Regeneration recapitulates the events of early development in adult tissues. *Lumbriculus variegatus*, an aquatic oligochaete is an ideal model for regenerative studies. One of the major hypotheses in our lab is that regenerative processes are orchestrated in an anterior-posterior fashion beginning with the expression of developmental genes in the newly regenerating head. Recent experiments in our lab have demonstrated that *Lumbriculus variegatus* differentially expresses the early developmental signal β -catenin in regenerating head tissue during regeneration. This data suggests that *L. variegatus* may utilize the head as an organizing center for regeneration. Thus we hypothesize that regenerating head or developing anterior wound blastema is sufficient to induce later regenerative stages or maintain regeneration within the original worm segment.

Rationale and Significance

This proposed study will develop our understanding of the cellular mechanisms involved during Lumbriculid regeneration. Moreover, the genetic programs utilized by Lumbriculus during regeneration are likely those utilized by other invertebrate and vertebrate systems, thus we believe that these experiments will have implications for the development of replacement therapy treatments in vertebrate/human studies.

Description of Methodology

We analyzed regeneration of appropriate behaviors in fragments where head regeneration is blocked. A group of 10 worms were treated with the drug, SCH-28080, a potassium channel blocker that abolishes head regeneration in Planarian flat worms. Worm fragments were removed from the anterior 1/3 and posterior 2/3 regions of the worm. Each fragment was then placed into varying concentrations of SCH-28080 (0nM, 180nM, 320nM, 560nM, 833nM, 1000nM, 1800nM). Effects of the drug on behavior were tested at 1day and 3day post amputation. Behaviors tested included anterior head-withdrawl, body reversal, posterior tail-withdrawl, and helical swimming. The number of segments regenerated was also counted. Data was analyzed using a two-way ANOVA.

Findings and Conclusion

Preliminary data suggests that SCH-28080 is sufficient for blockage of regeneration. As a result worms exhibit varying degrees of behavioral defects.

WHAT CAN JESUS TEACH US ABOUT STUDENT ENGAGEMENT?

Glenn E. James, Ph.D., Elda E. Martinez, Ph.D., and Sharon M. Herbers, Ed.D.

Purpose of Study

This study, conducted by an inter-disciplinary team of three lay faculty, compared and contrasted the teaching strategies and processes of Jesus of Nazareth with contemporary theories of student engagement and the classical approach of Ignatian pedagogy (an Incarnational spirituality). The research questions were: what instructional strategies did Jesus use in direct interactions with learners? What approaches are promoted in modern “student engagement” that Jesus had already demonstrated 2000 years ago? What additional techniques did Jesus employ that we could promote further?

Rationale and Significance

The context of the study is our own university, dedicated to the study and application of principles of Incarnational Spirituality. In the Gospels, Jesus Christ is revealed as a radical leader and educator who sought to transform individuals and society. Since Catholic education is grounded in the Gospels, we returned there to search of ways to inform our teaching practice and actively engage students. As the number of nuns and priest diminish, it is the challenge of lay faculty to deepen our understanding of the teachings of Jesus and to actively engage learners in every context. Jesus is a model in the Catholic tradition and His methods warrant examination to determine if contemporary educators can learn from reexamination of his techniques and processes.

Description of Methodology

The researchers conducted a structured analysis of accounts of Jesus’ teaching in the four Gospels, identifying: setting, audience, lessons, and teaching techniques. Through a constant comparative method of narrative analysis, patterns were identified in Jesus’ approaches to teaching, themes emerged and a learning process was identified. The teaching strategies described in eighty (80) episodes of direct interaction with learners were compared with strategies found in a review of the literature of student engagement. The final step was to analyze the listeners’ learning process in accordance with Transformative Learning Theory.

Findings and Conclusion

Results suggest the strategies employed by Jesus of Nazareth are consistent with contemporary best practices in student engagement, with the exception of collaborative or cooperative learning which are not evident in the canonical Gospels. Jesus’ primary methods of engaging learners were: storytelling, questioning, use of narratives and analogies, contrast and contradiction, integration of visual aids.

Many Gospel narratives included clear steps of Transformative Learning with the following components: listener confusion, twists that challenged learner assumptions, examination of existing beliefs, reflection, and a call to action. This process is consistent with the 5 elements of Ignatian Pedagogy: Context, Experience, Reflection, Action, and Evaluation.

Implications for practitioners include: tell more stories, ask more questions, give fewer answers. For those leading faculty development: incorporate more ways to teach others how to teach through story telling.

A STATISTICAL ANALYSIS OF LEXILE MEASURE VERSUS MATHEMATICAL ACHIEVEMENT ON THE 9TH GRADE TAKS EXAMINATION IN THE STATE OF TEXAS

Paul F. Messina, Ph.D., and Flor de Maria Garcia-Wukovits, Ph.D.

Purpose of Study

In our paper, we examined student achievement on the 9th grade Texas Assessment of Knowledge and Skill (TAKS) mathematics examination based upon the lexile measure score for each student (n = 81) tested.

Rationale and Significance

This study supports and expands the results of recently published articles, which focus on the relationship between mathematics achievement and lexile measure scores. The data set used for this study was the first available set which included the lexile measure associated with a student's TAKS score. As a result, this study contributes to the body of knowledge which links reading ability to mathematical performance on standardized tests.

Description of Methodology

Multiple class sections taught by the same teacher were utilized in order to keep the possible confounding variables to a minimum. An ex-post facto design and the Spearman Rank – Order Correlation Test (Spearman's Rho) was used.

Findings and Conclusion

The study shows a significant statistical relationship ($p < 0.05$) between the student lexile measures and the score earned on the 9th grade TAKS Mathematics examination. Since the lexile measure is the most widely adopted reading metric, the information provided by this reading measure will likely serve as a guide to improve not only the reading performance, but the mathematical achievement of students.

BEHAVIORAL EFFECTS OF ANDROGEN BLOCKERS IN SIAMESE FIGHTING FISH, *BETTA SPLENDENS*

Ana A. Noriega-Grajeda, and Sara K. Tallarovic, Ph.D.

Purpose of Study

There is a wide variety of micro pollutants in surface water, some of which are endocrine disrupting compounds that may be harmful to aquatic organisms, altering their physiology or behavior. The purpose of this study is to conduct an observational analysis of changes in aggressive behavior in male *Betta splendens* due to exposure to androgen blocking chemicals.

Rationale and Significance

Hormonally active chemicals that are discarded into the water have endocrine disrupting properties which affect reproductive organs and reproductive capabilities. Studies measuring the effects of androgen blockers on fish include observations of male courtship behavior with adult guppies and examination of early sexual development with Qurt strain medaka. *Betta splendens* were used for this study because the highly stereotyped aggressive behavioral display has been extensively studied and the behavior is easily quantified.

Description of Methodology

Flutamide and Finasteride are androgen blockers and are used in hormone therapy and treatment of prostate cancer and hirsutism. Fish were housed individually in 600 ml containers filled with either plain aquarium water or the drug solution. Solutions at 0.32mg/l were used to expose the *Betta splendens* continuously over the course of the experiment. Every week the solutions were refreshed in their respective tanks and videos were recorded to observe behavioral changes. The aggressive behavior was evaluated based on the following: biting, tail beating, dorsal spread display, and gill cover erection. There were seven individuals in each treatment group (control, flutamide, finasteride), and two untreated individuals were used as the stimulus animals to evoke the aggressive response.

Findings and Conclusion

Preliminary results show a slight decrease in aggressive behavior. Study in progress.

COST-EFFICIENT ROOF RENOVATIONS

Shannon N. Samples, McNair Scholar

Purpose of Study

The purpose of this study is to help find affordable green roof renovations for San Antonio families by introducing incentives, tax credits, and rebates. The main question of this study is 'How can I show families that if they renovate now they can save in the future?' The hypothesis is that if incentives, tax credits, and rebates for green roof renovations are introduced then citizens of San Antonio will be more aware and inclined to renovate their roofs.

Rationale and Significance

The main issues with roof renovations are that they are costly and time consuming. This study is significant because, along with other house transformations, roof renovations are an important aspect of the housing industry. This study is also important because housing is the single largest use of land in cities. This information can assist San Antonio's home owners and potential home owners who want to renovate or build a new home. Opportunities exist to make a house more energy efficient within all schedules and budgets both for consumers and for construction project managers.

Description of Methodology

The statistical analysis conducted was crucial to calculating the cost-efficiency of the prices for roof renovations. The roof renovation materials in the study are locally available. The approach was to find the costs of roofs without tax and energy savings and then comparing those costs to the same roofs with tax and energy savings. The costs of the asphalt, cool, and reflective cool roofs were determined by finding the price per square foot and the cost of the solar roof was determined by finding the price per watt. After finding the cost per square foot and the cost per watt, the roofs were compared in price by finding the cost of each type of roof for one variable which in this study was a 3,000 square foot roof.

Findings and Conclusion

For a 3,000 square foot roof without tax and energy savings, an asphalt roof would cost between \$8,250 and \$13,500, a cool roof between \$4,500 and \$9,000, a reflective cool roof between \$4,500 and \$9,000, and a solar roof would cost \$13,514. With tax savings and energy savings, for the same roof, an asphalt roof would cost between \$7,305 and \$11,970, a cool roof between \$3,780 and \$8,040, a reflective cool roof between \$2,640 and \$7,140, and a solar roof would cost \$0. The total savings over 20 years is between \$3,225 and \$4,950 for an asphalt roof, between \$3,000 and \$7,800 for a cool roof, \$10,500 for a reflective cool roof, and between \$12,590 and \$15,710 for a solar roof. Any of the green options would be more cost-efficient than the asphalt roof. Solar roofing yields the largest savings over a 20 year period and costs the least after tax and energy savings. Without tax and energy savings, solar and asphalt roofs are the most expensive. With tax and energy savings, asphalt roofs are the most expensive. Through statistical analysis it was found that green roofs cost less and yield higher savings than asphalt roofs when tax savings and energy savings are applied.

REPLACING WATER MAINS? COST/BENEFIT ANALYSIS

Valerie M. Velez, McNair Scholar

Purpose of Study

The purpose of this study is to analyze water main break data from the San Antonio Water System (SAWS) to determine if replacing water main pipes are cost effective. Research questions include: a) Do not new pipes break more frequently than new pipes? b) Do not new pipes and new pipes exhibit the same frequency of breaks across neighborhoods? c) What other variables, besides age of pipe, influences the pipe break frequency, and d) is it more expensive to keep on repairing not new pipes than to replace them with new pipes despite the replacement cost?

Rationale and Significance

Main breaks happen all over San Antonio throughout the year; these main breaks are costly to repair, they interrupt water service to SAWS customers, and reduce SAWS revenue. In the 1990s, SAWS began replacing the pipes in hope to reduce the number of breaks. There are still breaks in both new and not new pipe, but no previous analysis has been done to see if or by how much the new pipe have reduced the number of breaks, and if installation of new pipes reduces repair costs. By quantifying the frequency of breaks of “not new” and “new” water main pipe SAWS is able to determine what is more cost-effective: replace not new water main pipes with new ones or only repair the breaks in the not new water main pipes. This analysis also helps give a better understanding of water main pipe breaks and their materials. It is believed that this analysis will help SAWS in making better decision in the future to help save money and reduce the water service interruptions to their customers.

Description of Methodology

The data is obtained from SAWS for three neighborhoods in San Antonio, Pecan Valley, Valley Hi, and Terrell Hills. In this study not new pipes will be pipes that have been installed before the twenty years, and new pipes will be pipes that have been installed within the past twenty years with in these neighborhoods. For each neighborhood, a 96% confidence intervals was constructed under the Poisson distribution as an estimation of the frequency of water main breaks.

Findings and Conclusion

The confidence interval for Terrell Hills: (-0.3771, -0.0745).

The confidence interval for Valley Hi: (-0.1190, -0.0061).

The confidence interval for Pecan Valley: (-0.1942, 0.0014).

For both Terrell Hills and Valley Hi, the upper and lower bounds of the confidence are negative, this means that the new pipe breaks more frequent than the not new pipe in all likelihood. For Pecan Valley, since the upper bound is a small but positive value the study is inconclusive. All conclusions are based on data available at the time.

PURIFICATION AND CHARACTERIZATION OF THE S-LAYER PROTEIN FROM *LACTOBACILLUS COLEOHOMINIS*

Jannelly J. Villarreal, McNair Scholar, Adeola O. Grillo, Ph.D., Nicole A. Ayala, BS, and Ana Vallor, Ph.D.

Purpose of Study

The purpose of this study is to identify, investigate and characterize *Lactobacillus coleohominis*, adherence mechanisms, more specifically the adherence factor which has been identified to be involved in other species of these genera, the S-layer protein. Furthermore, to characterize cell surface proteins from selected species of probiotic *Lactobacillus* that may play a role in colonization and adherence to human epithelial cells.

Rationale and Significance

Lactobacillus coleohominis is a newly characterized vaginal species of lactobacilli, which has recently been recovered from women of reproductive age. There has been minimal amount of studies addressing this species' adherence and probiotic properties. In particular, the presence and identification of a homolog to the previously characterized S-layer protein was investigated in the understudied *Lactobacillus iners*, *Lactobacillus crispatus*, and the newly identified *Lactobacillus coleohominis*.

Description of Methodology

Bacterial strains and media were donated from Magee Women's Research Institute; University of Pittsburgh Medical Center by Dr. Sharon Hillier. Species and strains characterized included *Lactobacillus acidophilus* 4356, *Lactobacillus coleohominis* 515-3, 269-1R, 245-3; *Lactobacillus iners* 276-2, and *Lactobacillus crispatus* CTV05. Cells were grown in Man-Rogosa-Sharpe (MRS) broth. All cultures were grown at 37°C for 48 hours in anaerobic conditions. Gram staining and Microscopy were performed to visualize cells and verify their identity. Cell surface extractions of cell surface molecules were conducted according to the method by (Turner et al. 1997) with slight modifications. Briefly, selected strains of lactobacilli were individually grown to stationary phase under anaerobic conditions. Cells were harvested by centrifugation washed. Cell pellets were re-suspended in 5M lithium chloride (LiCl) or 1M of LiCl. Determination of protein concentration was obtained at each step of the cell surface extraction procedure was determined by the Pierce® BCA Protein Assay. SDS-Polyacrylamide Gel Electrophoresis of Proteins (SDS-PAGE) and electroblotting was used to separate and visualize of protein molecules in the cell surface extractions. UV-Vis spectrophotometry (UV-Vis spectra) data was obtained on a Shimadzu UV-2450 Spectrophotometer (Kyoto, Japan). Two hundred-fold dilutions of the supernatants from the *L.coleohominis* 515-3, *L.iners* 276-2, and *L.crispatus* CTV05 lithium chloride (LiCl) extractions were prepared in 5M LiCl. The spectra of the samples were obtained from 300 to 700 nm, after blanking the instrument with 5M LiCl. Additionally, 200-fold dilutions of *L.iners* 276-2 and *L.crispatus* CTV05 LiCl extractions were diluted in water and the UV spectra obtained after blanking the instrument with 0.025M LiCl (200 fold dilution of 5M LiCl in water). Intrinsic Fluorescence Spectrometry data was obtained on a Jasco FP-6500 spectrofluorometer (Easto, MD). Two hundred-fold dilutions of the LiCl extractions were prepared in 5M LiCl and in water. Fluorescence spectra were obtained with excitation at 280 nm and emission monitored from 300 to 700 nm. Fluorescence spectra of 5 and 0.025M LiCl were also obtained and subtracted from the spectra of the proteins in 5M LiCl and water, respectively. Fourier Transform Infrared Spectrophotometry (FTIR) of the LiCl extractions was performed on a Thermo Scientific Nicolet 6700 FTIR (Madison, WI) in attenuated total (ATR) mode. The FTIR spectra of 5M LiCl were also obtained prior to each protein spectrum measurement and subtracted from the spectra of the protein. For each measurement, 256 spectra were collected at 4cm⁻¹ resolution.

Findings and Conclusion

We were able to successfully extract proteins molecules of the cell surface of the organism, quantitate the concentration of protein, visualize them and propose sizes of those proteins seen: approximate sizes

12kD, 30kD, 37kD and 65kD were seen. These protein extracts were subjected to analysis by spectroscopy and the data obtained thus far has coincided with previously published literature on the characterization of S-layers in other lactobacilli species. We identified phenylalanine and tryptophan residues in the protein extracts of *L. coleohominis*. Fourier Transform Infrared Spectroscopy allowed us to determine the initial secondary protein structure which was that these proteins were folded in beta sheets. Future studies will involve, a more in depth analysis of the proteins using Mass Spectroscopy and homology analysis with previously sequenced proteins.

SCHOOL OF MEDIA & DESIGN

SIMPLY NATURAL ELEGANCE

Sarah R. Stevens, Honors Student, and Melinda K. Adams, Ph.D.

Purpose of Study

The purpose of this study is to develop a marketable collection at a bridge price point that is constructed using ethically produced materials such as fair trade fabrics. The fabric that has been selected for this collection has been hand loomed in Cambodia through a fair trade work program. The challenges of creating a collection with these specific aspects are the cost and profit margins. Using fabrics that are hand loomed by laborers who are paid wages exceeding the global average limits the amount of materials that can be used per garment to keep the cost within the specific price point. With this collection I will demonstrate that a collection that is ethically produced can be successfully marketed toward a mass market at a lower price point.

Rationale and Significance

Over the past decade there has been a greater emphasis on businesses to produce products ethically with more awareness of worker's rights as well as the natural environment. Within the fashion world there is a limited selection of materials that fall into this category which increases the costs of producing garments. Due to this, most socially responsible garments are marketed towards a luxury consumer market rather than a mass market. With this study I will demonstrate that garments can be produced ethically and be marketed towards the masses.

Description of Methodology

Through research of companies who are supporting this movement I gained inspiration as well as insight into how to accomplish this goal. When sketching my initial design ideas I focused on silhouettes and design lines that creatively minimized fabric usage. I also wanted to focus on garment cohesiveness to give the customer different outfit options for multiple day to day uses to ensure that the collection is economical for the consumer market. I began with a selection of 100 sketches which were narrowed down to eight by jurors from the Fashion Management faculty and an outside industry professional. Throughout the fall semester of 2011 I have made the patterns and samples of the garments to work out any pattern problems or design issues. I purchased fabrics and other materials for my final collection from sources that are fair trade approved.

Findings and Conclusion

Throughout this process of creating my collection I have found that there are many challenges in ensuring that each production step is in line with the standards I have set for the collection. The biggest challenge that I had to overcome was finding a balance between the cost of production and the price of sourcing fair trade materials. By keeping my design lines simple I was able to maximize fabric usage and thus keep the cost of production in accordance to the set price point that it would eventually be retailed at. Since this project began, the consumer movement of demanding products that are environmentally friendly as well as ethically produced has continued to gain momentum. I believe that a collection designed to these standards will be in high demand especially during these difficult economic times.