

Runner Up

ELECTRONIC SUPPLY CHAIN MANAGEMENT RESEARCH: 1989 – 1998

Candace C. Klein (Diane Parente and Michael Ishman [Niagara University]), Penn State Behrend, School of Business - Operations Management

MARKETING

CUSTOMER SATISFACTION WITH FINANCIAL SYSTEMS

Keri Bieliski and Cynthia Sanner (Syed Andaleeb), Penn State Behrend, School of Business - Marketing

Winner

EMPLOYEE AND CUSTOMER SATISFACTION OF THE RED APPLE/KWIK FILL CONVENIENCE STORE CHAIN

Carolyn J. Conway (Syed Andaleeb), Penn State Behrend, School of Business - Marketing

PHYSICS

THE FABRICATION OF THIN FILM LUMINESCENT SOLAR CONCENTRATORS

(Contains proprietary information - no abstract included)

Gregg T. Beaumont, Dustin R. Broussard, and James Gormley (Bruce Wittmershaus), Penn State Behrend, School of Science - Physics

Runner Up

PSYCHOLOGY

A PRELIMINARY ANALYSIS OF EXERCISE AND ITS EFFECTS ON STRESS IN COLLEGE STUDENTS

Garrett Arndt, Tiffany Buck, and Kristine DiMarzo (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Runner Up

EFFECTS OF NEUTRAL, EROTIC, AND VIOLENT VIDEO STIMULI ON MEMORY

Carrie L. Kish, Sara A. Lawrence, and Mary H. Pietrzak (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Runner Up

POSTERS

BIOLOGY

SWIMMING PERFORMANCE OF NORTH AMERICAN MINNOWS

Eric J. Billman (Mark Pyron), Penn State Behrend, School of Science - Biology

Runner Up

PHENOTYPIC CHARACTERIZATION OF NEURAL DEVELOPMENT GENES IN *Drosophila*

Star Dunham and Dan Mong (Lauren Yaich), University of Pittsburgh at Bradford, Division of Natural Sciences - Biology

Winner

SEQUENCE ANALYSIS OF THE COI GENE OF *Bombus nr. borealis*

Jeremy Hasseman (Stephen Jenkins and Durwood Ray), Grove City College, Department of Biology

EFFECTIVENESS OF A COMBINED VERTICAL FLOW SYSTEM AND CONSTRUCTED WETLAND IN AMELIORATING ACID MINE DRAINAGE

Kimberly D. Kosick and Corrie A. Gardner (Frederic Brenner), Grove City College, Department of Biology

Runner Up

UPTAKE OF AMINO ACID TAURINE IN PROSTATE CANCER CELLS

Jon Vanderweel (Melissa Barranger Mathys and Julian Mesina), Mercyhurst College, Department of Chemistry - Biochemistry and Physics and Lake Erie College of Osteopathic Medicine

CHEMISTRY

THE MODERNIZATION OF ANALOG INSTRUMENTS (CATCHING UP WITH SOCIETY)

Brent W. Blood (Thomas Spudich and Tracy Halmi), Penn State Behrend, School of Science - Chemistry

Winner

ANALYSIS OF THE MAJOR ODORANTS FOUND IN THE JUICE AND PEEL OILS OF *Citrus clementine* HORT

Dean M. Cass, Jr. and Jason A. Jell (Mary Chisholm), Penn State Behrend, School of Science - Chemistry

WHAT PUT THE "PAP" IN PAPRIKA?

Jenifer D'Annibale and KaraLee Parsons (Tracy Halmi), Penn State Behrend, School of Science - Chemistry

SYNTHESIS AND CHARACTERIZATION OF A MACROCYCLIC LIGAND: TETRAAZA[1,6,11,16][b,g,l,j]TETRABENZOCYCLOEICOSINE

Gina M. Gaskey (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Runner Up

STUDIES OF PHOTOCHROMIC PT(II) COMPOUNDS OF *o*-AMINO BENZ-ALDEHYDE AND ITS DERIVATIVES

Jeremy A. Jackson (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Runner Up

RADIATION CHARACTERIZATION OF PHOTOCROMIC Pt(II) COMPOUNDS OF o-AMINOBENZALDEHYDE AND DERIVATIVES

Bryan C. Katzenmeyer (Thomas Spudich and Alan Jircitano), Penn State Behrend, School of Science - Chemistry

SYNTHESIS OF METAL COMPLEXES USING DI-2-PYRIDYL KETONE ANALOGUES

Ian K. Moon (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

THE DEVELOPMENT OF A GRAPHITE FURNACE ATOMIC ABSORPTION LAB FOR INSTRUMENTAL ANALYSIS

Adrian V. Psuty and Jennifer K. Herrmann (Thomas Spudich), Penn State Behrend, School of Science - Chemistry

SYNTHESIS AND CHARACTERIZATION OF A POTENTIAL MAGNETIC RESONANCE IMAGING CONTRAST AGENT

James E. Sarson (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Runner Up

THE CHARACTERIZATION AND USE OF AN ACOUSTO-OPTIC BACKGROUND CORRECTION SYSTEM FOR ATOMIC EMISSION SPECTROMETRY

Jeffrey R. Uhal and Bryan Katzenmeyer (Thomas Spudich), Penn State Behrend, School of Science - Chemistry

THE DESIGN, CHARACTERIZATION AND USE OF REVERSE OSMOSIS AS A METHOD OF ON-LINE PRECONCENTRATION

Christopher K. Won (Thomas Spudich), Penn State Behrend, School of Science - Chemistry ...

ENGINEERING

THE APPLICATION OF RANS SIMULATION TO THE PREDICTION OF BLOCKAGE EFFECTS ON LIFT AND DRAG

Eric J. Dolak (William Lasher), Penn State Behrend, School of Engineering and Engineering Technology - Mechanical Engineering

Runner Up

LINK MARGIN EFFECTS FOR AN S-BAND COMMUNICATION SYSTEM DUE TO LOSSY MEDIA

Eric Kiss, Luke Onachila, and Mark Zeigler (Robert Gray), Penn State Behrend, School of Engineering and Engineering Technology - Electrical Engineering

PHYSICS

LIGHT DETECTION SYSTEM FOR ASSESSMENT OF LUMINESCENT SOLAR CONCENTRATORS (*Contains proprietary information - no abstract included*)

Dustin R. Broussard and Gregg T. Beaumont (Bruce Wittmershaus), Penn State Behrend, School of Science - Physics

PSYCHOLOGY

ARE GENDER ROLES AND ACHIEVEMENT GOALS OF COLLEGE STUDENTS REFLECTED IN THEIR DREAM CONTENT?

Trisha Baird, Jennifer Reidel, and Amanda Will (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

THE EFFECTS OF PRINT MEDIA ON THE “IDEAL” BODY IMAGE OF COLLEGE WOMEN

Kristy Bender and Jennifer Huston (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

THE EFFECT OF DISTINCTIVENESS ON THE RECOGNITION OF FACES IN A LINEUP

Andrew D. Bissell and Brock J. Bovaird (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

ATTRIBUTIONAL STYLE, STRESS, AND FIRST-YEAR SEMINARS AS PREDICTORS OF FIRST-YEAR ADJUSTMENT AND COLLEGE SUCCESS

Amy S. Brown and Elizabeth M. Henry (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

THE ROLE OF WORKING MEMORY CAPACITY IN TEST ANXIETY

Nathan Childs, John Learn, and Bob Wittman (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

ERP INDICES OF INTERFERENCE IN A STROOP-LIKE SPATIAL TASK

Athena Farantzou, Banchiamlack Dessalegn, and Shannon Lenze (Victoria Kazmerski and Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

DOES FAMILY SIZE RELATE TO OBSERVED AND SELF-REPORTED LEVELS OF SHYNESS?

Amy L. Hardesty and Christy E. Taylor (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

THE JUSTIFICATION OF RELATIONAL AGGRESSIVE ACTIONS

Elizabeth Oslak, Ashley Newhouse, and Penny Przybylski (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

GENDER DIFFERENCES IN RESPONSE TO DIFFERENT TYPES OF EROTIC VIDEOS

Staci Shawgo, Jonna Zizak, and Kristy Olson (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Winner

Runner Up

Runner Up

IMPROVING MENTAL ROTATION: INFLUENCE OF COLOR AND PERSPECTIVE

Jessica Turos and Amanda Ervin (Dawn Blasko and Kathy Holliday-Darr), Penn State Behrend, Schools of Humanities and Social Science and Engineering and Engineering Technology - Psychology

THE ATMOSPHERICS OF ONLINE MARKETING

Anna M. Zielinski and Edyta I. Stadnik (Dawn Blasko and Mary Beth Pinto), Penn State Behrend, Schools of Humanities and Social Sciences and Business - Psychology and Marketing

MITOCHONDRIAL DNA SEQUENCE POLYMORPHISMS BETWEEN TWO MIGRATORY AMERICAN WOODCOCK (*Scolopax minor*) POPULATIONS

Alyson R. Baker (Frederic Brenner and Durwood Ray), Grove City College, Department of Biology

The use of mitochondrial DNA (mtDNA) sequences to differentiate between animal populations has greatly increased over the past decade. Conservation biologists welcome new mtDNA sequence data in their effort to identify unique subpopulations within a single animal species. These scientists question whether animal populations that are separated geographically could be unique genetically as well. Our current study addresses this question concerning American woodcock populations of North America. MtDNA was extracted from the feathers of migratory American woodcock from two separate flyways. Portions of the Ribosomal RNA (rRNA) and Cytochrome b (cyt. b) genes were amplified using Polymerase Chain Reaction (PCR) technology. Current project efforts seek to isolate the hyperpolymorphic D-loop region of the mitochondrial genome, which is believed to lie between the rRNA and cyt. b genes. Determination of the exact location and complete nucleotide sequence of this region will allow for D-loop sequence comparisons between birds of each flyway.

THE EFFECTS OF STRESS ON THE IMMUNE SYSTEM AND HOW THIS AFFECTS COLLEGE STUDENTS

Amy Brown (Donald McKinstry), Penn State Behrend, School of Science - Biology

Recent research has shown that psychological stress has a negative impact on the immune system. The purpose of this literary review was to compare the results of several studies to determine what the impacts of psychological stress are on the immune system and how this may have an impact on college students and their success. Many studies have been conducted on college student success and retention using psychological measures, but the combination of physiological and psychological interactions may lead to a better understanding of college success and retention. This literary review will discuss the combination of the physiological and psychological effects of stress and how they relate to college students. Several areas of research will be reviewed including benzodiazepines, cardiovascular reactivity, lymphocyte subset redistribution, and immune responsiveness.

SEQUENCING AND CHARACTERIZATION OF ZEBRAFISH ORNITHINE DECARBOXYLASE

MaryJo C. Fontana and (James Warren, Jr.), Penn State Behrend, School of Science - Biology

A random cDNA clone was isolated from a zebrafish (*Danio rerio*) twenty-four hour cDNA library. Initial sequence information was aligned to GenBank using various computer programs including Blastn, Blastx, and GCG pileup, suggesting the identity of the clone isolated is ornithine decarboxylase. Ornithine decarboxylase is an enzyme found in developing stages of cells and oocyte tissue (Showalter, 1992). It catalyzes the first and key step in the biosynthesis of polyamines, which are essential for maintaining cell viability and active macromolecular synthesis by interacting with nucleic acids, proteins, and cellular membranes (Medina, 1999). Ornithine decarboxylase helps to initiate the synthesis of the three amino acid derivatives of polyamines; putrescine, spermidine, and spermine (Moran, 1994). Although their mechanism is not well known, it is firmly established that polyamines play a key role in cell proliferation. In fact, one of the first events in proliferating cells is the induction of polyamine biosynthesis, preceding both nucleic acid and protein synthesis (Medina, 1999). The zebrafish ornithine decarboxylase clone will be fully sequenced and characterized. The location of this clone will be mapped in zebrafish via radiation hybrid mapping (Hukriede, 1999). The sequencing and characterization of zebrafish ornithine decarboxylase will lay the foundation for analyzing this gene in normal development and in developmental mutants.

SEQUENCING AND CHARACTERIZATION OF THYMIDYLATE SYNTHASE (TS) IN ZEBRAFISH (*Danio rerio*)

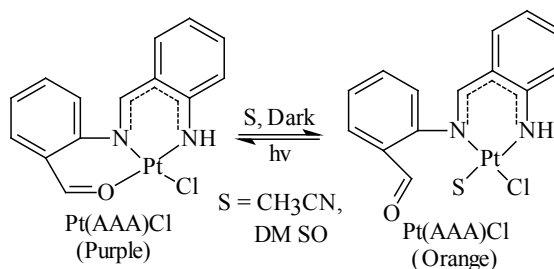
Richard L. Gill, Jr. (James Warren, Jr.), Penn State Behrend, School of Science - Biology

Thymidylate Synthase (TS) (E.C.2.1.1.45) catalyzes the methylation of dUMP to dTMP with the participation of the coenzyme 5,10-methylenetetrahydrofolate (folic acid derivative). Inhibition of thymidylate synthase leads to a lack of dTMP which in turn inhibits DNA synthesis in proliferating cells. The inhibition of TS has been the target of many antibacterial and chemotherapeutic drugs. The cloning and characterization of TS has been reported in many organisms but not in the zebrafish (*Danio rerio*). Recently, a cDNA clone representing zebrafish thymidylate synthase has been isolated and sequenced. The cDNA sequence consisted of 1191 bp with an open reading frame of 960 bp which encodes a protein of 319 amino acids. Physical mapping of zebrafish TS by radiation hybrid mapping is currently being undertaken to further characterize TS in zebrafish.

RADIATION CHARACTERIZATION OF PHOTOCHROMIC Pt(II) COMPOUNDS OF *o*-AMINOBENZALDEHYDE AND DERIVATIVES

Bryan C. Katzenmeyer (Thomas Spudich and Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Work has been done focusing on the synthesis of platinum (II) compounds of *o*-aminobenzaldehyde and derivatives. It was noted that the synthesized compound, *cis*-[N-(*o*-aminobenzylidene)anthranilaldehydato-O,N,N']-chloroplatinum(II), Pt(AAA)Cl, undergoes a color change while being in the dark or not being exposed to visible radiation. The reaction observed is dependent on the radiation being present, or is a photochromic reaction. The synthesis of the Pt(AAA)Cl can be done by reacting *o*-aminobenzaldehyde (oab) with potassium tetrachloroplatinate with water as the solvent. It has been found that the compound, Pt(AAA)Cl, when in a solvent such as acetonitrile, reacts with the solvent when the solution is in the absence of radiation. The compound reacts to form the product below:

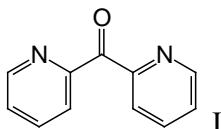


The solution was traversed by radiation (h ν) generated by a Spectrophotometer-20 at defined wavelengths. This wavelength range is from 400 nm to 700 nm in 50 nm increments. The reaction was characterized using a UV-VIS spectrophotometer (PC-2000, Ocean Optics, Dunedin, FL) measuring the absorbance of the solution over time. The results obtained will give conclusions whether or not photon-specific or wavelength-specific.

SYNTHESIS OF METAL COMPLEXES USING DI-2-PYRIDYL KETONE ANALOGUES

Ian K. Moon (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Metal complexes of di-2-pyridyl ketone (**I** - DPK) and its analogues have exhibited interesting chemical properties and yielded unique crystal structures. These complexes may prove useful in extended systems as organometallic conducting polymers. The objective of the research is to synthesize a series of different DPK analogues, coordinate them to metals, and investigate their metal coordination properties and examine their unique crystalline structures. Several variables have been investigated including ring size (5 or 6 membered), coordinating element (O, N, and S all coordinate to different types of metals), and the different type of metals themselves. Derivatives synthesized and the crystal structure of a copper complex will be discussed.



THE DEVELOPMENT OF A GRAPHITE FURNACE ATOMIC ABSORPTION LAB FOR INSTRUMENTAL ANALYSIS

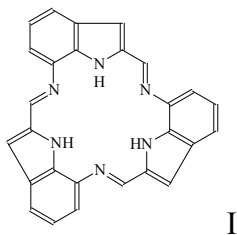
Adrian V. Psuty and Jennifer K. Herrmann (Thomas Spudich), Penn State Behrend, School of Science - Chemistry

This research project was conducted to develop a method (or procedure) for trace metal analysis of animal products using graphite furnace atomic absorption spectroscopy. The development of this sample preparation involves a variation of EPA methods in the analysis of lead concentrations in Bovine sample (Bovine Muscle Powder, Reference Material 814, NIST). The procedure that was designed for the undergraduate instrumental analysis courses offered at Penn State Erie. The development of this procedure has led to the development of other procedures for trace metal analysis of soil and sediment samples. These procedures will provide a base from which future students can build in the development of new procedures that fulfill the course requirements and are tailored to student's interests.

SYNTHESIS AND CHARACTERIZATION OF A POTENTIAL MAGNETIC RESONANCE IMAGING CONTRAST AGENT

James E. Sarson (Alan Jircitano), Penn State Behrend, School of Science - Chemistry

Magnetic resonance imaging (MRI) is a technique used primarily to produce high-quality images of the inside of the human body. MRI contrast agents are compounds that are introduced to enhance the contrast between healthy and diseased tissues and aid in diagnosing physiological disorders. Complexes of lanthanide(III) ions are effective as MRI contrast agents because of the dispersive effect of their unpaired *f*-electrons on the absorption peaks of water molecules bonded to the metal ion. This research involves a ligand (I) that has been designed as a neutral (when coordinated to 3+ metal ions), macrocyclic complex. The ligand can be made through a template, Schiff-base self-condensation reaction of three molecules of 7-amino-2-indole-carboxaldehyde. The first step in making the ligand precursor is the synthesis of a nitro-phenylhydrazone through a diazonium salt intermediate, known as the Japp-Klingemann reaction. Next the hydrazone undergoes a Fischer Indolization forming a nitroindolecarboxylate. This is followed by the reduction of the nitro group to an amine, the reduction of the carboxylate to an alcohol and the oxidation of the resultant alcohol to an aldehyde. The ligand precursor has been made, along with the 5-methyl derivative. The synthesis, characterization, and progress towards making macrocyclic complexes will be discussed.



THE CHARACTERIZATION AND USE OF AN ACOUSTO-OPTIC BACKGROUND CORRECTION SYSTEM FOR ATOMIC EMISSION SPECTROMETRY

Jeffrey R. Uhal and Bryan Katzenmeyer (Thomas Spudich), Penn State Behrend, School of Science - Chemistry

An acousto-optic device has been successfully integrated into an atomic emission system for use with background correction in the 400-700nm region of the spectrum (ref. 1). A second acousto-optic background correction system has been built and will focus on the 200-400 region where more useful atomic emissions are found. By using acousto-optic diffraction, it is possible to increase the signal-to-noise ratio by reducing 1/f noise (ref. 2). The AO diffraction can be used to monitor the analytical and background signal in a near simultaneous fashion by using a square wave to turn the AOD on and off very quickly. Subtracting the background signal from the analytical signal allows for more accurate data. The system has already been used to successfully achieve diffraction with a helium-neon laser (632.8nm) and a mercury lamp (546.1 and 360nm). Once the system has been set for optimum diffraction efficiency, it will be used with an excitation source (such as an MIP) and will focus on analysis of metals such as iron, chromium, and zinc.

THE DESIGN, CHARACTERIZATION AND USE OF REVERSE OSMOSIS AS A METHOD OF ON-LINE PRECONCENTRATION

Christopher K. Won (Thomas Spudich), Penn State Behrend, School of Science - Chemistry

A transparent plexiglass block has been designed, housing two semi-permeable steel membranes along with a cellulose acetate membrane, to act as the reverse osmosis (RO) block for this project as well as providing the added option of video capture of the RO process. Reverse osmosis is carried out via an applied pressure greater than the osmotic pressure, which opposes the favorable concentration gradient. Stainless steel tubing, capable of withstanding pressures exceeding 800 psi, was used to connect the Gilson pump to the RO block and from the block to the exit valves and pressure gauge. The pressure produced from the Gilson pump supplied the drive to selectively separate the ions present in the solutions. The respective flow rates were documented for the drain and concentrate valves. These data supplied evidence to determine the reproducibility of the RO apparatus as well as the concentration factors relative to both valves. The first solution introduced into the RO apparatus was a 1 ppm (part per million) Na⁺ solution, in which drain and concentrated samples were collected and analyzed by emission spectrometry. This first trial yielded results that were not consistent with the flow rate data. To test the overall hypothesis, a larger K⁺ ion was used as a second trial solution at a more dilute concentration of 500 ppb (parts per billion). This project shows promising results and feasibility in real world applications such as in food administrations and purification companies. A successful conclusion to this project can lead to a novel, complementary device in which ultra-trace elements are can be detected in the ppb range.

THE APPLICATION OF RANS SIMULATION TO THE PREDICTION OF BLOCKAGE EFFECTS ON LIFT AND DRAG

Eric J. Dolak (William Lasher), Penn State Behrend, School of Engineering and Engineering Technology - Mechanical Engineering

This research was designed to test the ability of a numerical RANS (Reynolds Averaged Navier Stokes) computer simulation to predict the effects of blockage (the effect of the wind tunnel's walls on flow patterns) on lift and drag coefficients. A quarter cylinder arc was modeled in FIDAP (a RANS computer code), and the results were compared with experimental data collected from wind tunnel testing. Four blockage ratios (the ratio of the arc radius to the distance between the top and bottom walls of the wind tunnel) were modeled: 0.27586, 0.2, 0.1, and 0.041667. Two approaches of RANS simulation were investigated: transient and quasi-steady. In addition to running four different blockage ratios, three different mesh schemes were also used: a base mesh, a halved mesh, and a doubled mesh. Using Richardson Extrapolation, mathematical truncation error due to mesh density was estimated to be on the order of 1% when comparing the base and double meshes, and on the order of about 5% when comparing the base mesh and the half mesh. The quasi-steady models consistently under-predicted values found experimentally by a percentage between 36-37% and 40-50% for the drag and lift coefficients, respectively. The large difference in the force coefficients is believed to be due to the fact that quasi-steady models do not predict the existence of vortex shedding, which is expected physically. At this time, the transient computations have not been completed. It is expected that these transient calculations will be more accurate based on their ability to detect vortex shedding.

LINK MARGIN EFFECTS FOR AN S-BAND COMMUNICATION SYSTEM DUE TO LOSSY MEDIA

Eric Kiss, Luke Onachila, and Mark Zeigler (Robert Gray) Penn State Behrend, School of Engineering and Engineering Technology – Electrical Engineering

The link margin effects due to various lossy materials (snow, water, coal, etc.) were determined for an S-band communication system. Mathematical models were developed, depicting bit error rate and signal-to-noise ratios for uniform heights of matter positioned on a transmitting antenna.

ARE GENDER ROLES AND ACHIEVEMENT GOALS OF COLLEGE STUDENTS REFLECTED IN THEIR DREAM CONTENT?

Trisha Baird, Jennifer Reidel, and Amanda Will (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Dream research (Cartwright, 1974) demonstrates that most dreams are about events that happen in our daily activities. The purpose of our research was to investigate whether achievement motivation is reflected in upper and lower class students' dream content. Students kept a journal of their dreams for a period of two weeks. Our dependent measure was the proportion of dreams for each participant that showed a key behavior (e.g. taking a test), and the independent measures were sex and semester standing. We found that most students in college tended to dream about similar events regardless of their semester standing.

THE EFFECTS OF PRINT MEDIA ON THE "IDEAL" BODY IMAGE OF COLLEGE WOMEN

Kristy Bender and Jennifer Huston (Victoria Kazmerski), Penn State Behrend, School Of Humanities And Social Sciences - Psychology

The impact of media on body image has been consistently debated in literature. Most researchers have found that even brief exposure to the "ideal" body image in the media affects women's views of themselves. We tested the hypothesis that women portrayed in print media negatively affect body images of female viewers. Female college students were shown pictures of either thin or obese models. They then completed the Body Image Identification Test to represent their ideal body image. We then measured height and weight to obtain their true image. We will present data to test the hypothesis that those students who saw the thin models should rate themselves as more obese than the students who saw the obese models. Thus, our hypothesis would be supported if the viewing of selected magazine media affects the way college women view themselves, physically and emotionally.

THE EFFECT OF DISTINCTIVENESS ON THE RECOGNITION OF FACES IN A LINEUP

Andrew D. Bissell and Brock J. Bovaird (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Unconscious transference occurs when an eyewitness to a crime misidentifies a familiar but innocent person from a police lineup. In the present study we propose that this effect may be moderated by the distinctiveness of the faces at the crime scene. A distinct perpetrator may be accurately remembered, and a distinct bystander may be misidentified as the perpetrator. Across conditions subjects were shown a picture of a crime scene that consisted of either a distinct perpetrator and a non-distinct bystander or a non-distinct perpetrator and a distinct bystander. Subjects were then given two unrelated tasks that took approximately 30 minutes to complete. After completing these tasks, subjects were shown either a simultaneous or a sequential lineup of 6 faces – two from the crime scene photo and 4 previously unseen faces. The results showed that a distinct perpetrator was, in fact, remembered more accurately than a non-distinct perpetrator. However, a distinct bystander was not misidentified as the perpetrator more often than any other foil. Finally, we did not find a difference in accuracy between the two types of lineups, a finding that contradicts previous research.

ATTRIBUTIONAL STYLE, STRESS, AND FIRST-YEAR SEMINARS AS PREDICTORS OF FIRST-YEAR ADJUSTMENT AND COLLEGE SUCCESS

Amy S. Brown and Elizabeth M. Henry (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

The impact of attributional style, stress, and first-year seminars on adjustment and first-year college success was investigated. The participants completed the Attributional Style Questionnaire, Student Adaptation to College Questionnaire, and the Perceived Stress Scale. Three groups of participants were in the study: students enrolled in a first-year seminar, students enrolled in a first-year interest group, and students not enrolled in either. We hypothesized that optimistic attributional style has a positive impact on adjustment and college success. First-year seminars and especially first-year interest groups may have a positive impact on college success by giving students a support system and someone who can help them when they encounter difficulties during their early college experience

THE ROLE OF WORKING MEMORY CAPACITY IN TEST ANXIETY

Nathan Childs, John Learn, and Bob Wittman (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

We are investigating the ability that working memory capacity has in predicting test anxiety. Test anxiety has been shown to occupy sufficient portions of the working memory (Darke, 1988; Eysenck, 1985; Eysenck & Calvo, 1992; Ikeda, 1996). Previous research has not investigated the role of working memory capacity as a predictor of test anxiety. We measured anxiety levels during a task that occupies increasing levels of the working memory capacity. We theorize that as the amount of reserve working memory capacity decreases, the less able the subject will be to effectively cope with real and perceived stressors, resulting in an anxiety response. Individuals with a low working memory capacity have significantly less processing resources to utilize during an evaluative situation, whereas an individual with a large working memory capacity will have sufficient capacity to devote to the task. We hypothesized that the working memory capacity is a valid predictor of test anxiety, as shown by regression, and that anxiety will increase, as measured by self-reported anxiety and physiological response, as reserve working memory capacity diminishes.

ERP INDICES OF INTERFERENCE IN A STROOP-LIKE SPATIAL TASK

Athena Farantzou, Banchiamlack Dessalegn, and Shannon Lenze (Victoria Kazmerski and Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

The Stroop task (Stroop, 1935) measures response delay that results from the competition between color and word meaning. The present study used a Stroop-like spatial task. In this study, event-related brain potentials (ERPs) were recorded as participants responded either to the position or meaning of the words “above” and “below” when they were placed above or below a centralized plus sign. The behavioral data (accuracy and reaction time) and ERPs from 48 participants were analyzed. We hypothesized that the incongruent condition (when meaning and position did not match) would have slower and less accurate responses than the congruent condition. The results of the ERP analysis will allow us to investigate both the locus and time course of interference effects in the brain.

DOES FAMILY SIZE RELATE TO OBSERVED AND SELF-REPORTED LEVELS OF SHYNESS?

Amy L. Hardesty and Christy E. Taylor (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Research has shown that social skills are first developed within the family. Birth order research has long been used to categorize personality traits corresponding with different positions in the family. The subtlety of birth order research findings prompted us to look at the variable of family size as a predictor of shyness. This study was designed to examine the possible relationship between family size and observable shyness and self-report shyness. Participants (N=50) were asked to complete the Revised Cheek and Buss Shyness Scale (1983) and were observed during a social interaction with the experimenter. The purpose of our procedures was to induce a state of arousal, which for some may result in shyness, by requiring participants to initiate conversation with the experimenter. The results showed no statistically significant correlation between the family size variable, the Revised Cheek and Buss Shyness (1983) scores, and observed shyness behaviors.

THE JUSTIFICATION OF RELATIONAL AGGRESSIVE ACTIONS

Elizabeth Oslak, Ashley Newhouse, and Penny Przybylski (Dawn Blasko), Penn State Behrend, School of Humanities and Social Sciences - Psychology

Research dealing with relational aggression has focused on pre-school and school-aged children and found girls to be more aggressive than males. The purpose of the present research was to investigate, in college students, triggering factors of relational aggression with scenarios. Two experiments that varied in circumstances were conducted to find how participants rated a scene of relational aggression. The design of our study was a 2 X 2 between subjects ANOVA. Our independent variables were intimacy of friendship (Experiment 1) and perceived popularity (Experiment 2). In both experiments, the dependent variable was how justified participants found the behavior in the scenario. Control variables included the scene of the situation and the type of relational aggression used. The results yielded no significance of intimacy of friendship or perceived popularity. Consistent results were found in both experiments when participants were asked what they would do in the situation.

GENDER DIFFERENCES IN RESPONSE TO DIFFERENT TYPES OF EROTIC VIDEOS

Staci Shawgo, Jonna Zizak, and Kristy Olson (Victoria Kazmerski), Penn State Behrend, School of Humanities and Social Sciences - Psychology

The purpose of this study was to examine the gender differences in response to two types of erotic videos. The sample consisted of college students from Penn State Erie, The Behrend College. Responses to the videos were measured by a questionnaire that was administered after each of the erotic videos. There were also several pulse rates taken throughout the duration of the sessions to measure the participants' physiological responses to the videos. It was anticipated that the females would be more aroused by the romantic videos, where males would be more aroused by the explicit videos. Another variable examined was the gender differences in the guilt/shame rate of the participants. We believed the more guilt/shame, the less aroused a participant would be. The results were analyzed by ANOVAs and Pearson correlations.

IMPROVING MENTAL ROTATION: INFLUENCE OF COLOR AND PERSPECTIVE

Jessica Turos and Amanda Ervin (Dawn Blasko and Kathy Holliday-Darr), Penn State Behrend, Schools of Humanities and Social Science and Engineering and Engineering Technology - Psychology

Spatial skills are extremely important in many careers including engineering. Research on mental imagery has shown that several of the component spatial skills can be improved by training. Our research is an initial investigation of the conditions that will improve performance of one such spatial skill, mental rotation. There are several tests designed to assess spatial skills. However, we were unable to find any existing software that both assessed and improved specific areas of spatial skill. We are currently programming a series of experiments using the E-Prime system to test and train male and female students' mental rotation ability under four different conditions: 1) image in color, 2) image in black and white, 3) graphics in perspective, 4) no perspective. The data will be used to determine the conditions under which training will produce maximal improvement. The results from this testing will be used in the design of a Web-based training program.

THE ATMOSPHERICS OF ONLINE MARKETING

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This study examined whether the atmospherics of a Web page (e.g. colors, fonts, graphics) are an important factor for online marketing. The participants were 14 males and 28 females. They saw Web pages that varied along three independent variables: page scrolling (yes, no), graphics density (high, low) and background color (white, orange). We used a mixed factorial experimental design. Scrolling and graphic were measured within subjects and background color between subjects. After viewing the pages, subjects were asked to rate the pages on how much they liked the page and if they would return. The results showed that when the page used scrolling and had a high intensity of graphics, participants spend more time on the page and liked it more.