



**2025 Faculty, Staff, and Students  
Research Poster Session**

**April 24, 2025**

**Book of Abstracts**

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## **HIGH-FIVES AND GOOD VIBES: CONNECTING INSIDE AND OUTSIDE THE CLASSROOM**

KateLynn Albers and Kelly Hendershot

*Department of Business*

This poster will focus on the importance of connecting with students and building relationships. Specifically, this poster will include categories relating to building rapport, encouraging open dialogue, providing mentorship, and celebrating successes.

Most faculty have a common goal of creating and sustaining authentic, impactful relationships with students. This topic relates directly to that common goal and provides specific strategies faculty of any subject matter can incorporate. Connecting with students also increases student engagement. The strategies to be discussed in the poster include:

Strategy 1: Build rapport with students and encourage open dialogue – several strategies will be outlined that will increase rapport and dialogue.

Strategy 2: Provide mentorship – faculty can give support to students, model behavior, and provide guidance.

Strategy 3: Celebrate successes – students feel appreciated and valued when their hard work is acknowledged.

The success of these strategies has been demonstrated by increased engagement in classes, stronger relationships between students and faculty, and higher student satisfaction with courses. These successes have been evidenced by responses and comments in various Student Perceptions of Learning – Course Evaluations (SPLs). Students have evaluated the Instructor section of the SPLs relatively high when these techniques were implemented. Students have also provided positive SPL comments related to these approaches for “What things in this course were done particularly well to enhance your learning?”. Specifically, students have positively recognized and valued faculty initiatives to increase dialogue in class, provide mentorship, and celebrate students’ learning and success. The strategies have led to overall comradery inside and outside of the classroom between faculty and students.

## **NEW YORK IN FRAME**

Micah Bloom, Ryan Stander, Charlese Bell, Eva Bloom, Dyana Decoteau-Dyess, Kubsam Daniel, Sadie Weninger,  
*Department of Fine and Performing Arts*

### Overview:

New York in Frame was a study tour led by professors Micah Bloom and Ryan Stander to New York City in March of 2025. Emphasizing artistic exposure, research, and creative photographic production, students explored the New York art world.

### Methods:

Students met with working artists, photographic conservators, art librarians, fine art printers, and the director of a historic print studio. The group gained special access to the New York Public Library's Art and Architecture reading room and collections, attended an exhibition opening, and enjoyed numerous art galleries. Primary research sites included: ULAE (Universal Limited Art Editions), the Whitney Museum of American Art, Metropolitan Museum of Art, Museum of Modern Art, Poster House, International Center for Photography, and The Jewish Museum. Students produced photographic work influenced by their interests in street photography, portraiture, and architecture using multiple capture methods including 35mm, digital SLR's, and their smartphones.

### Project Results:

Students are currently curating their works and focusing on post-production edits. As a culmination of the study tour, students will print and present their work through a fall exhibition in the Hartnett Hall Gallery and produce an art magazine as a record of their research.

## **IN PARENTS' VOICES: TO WHAT EXTENT DO PRACTITIONERS NEED TO TREAT STEREOTYPICAL AND REPETITIVE BEHAVIOR OF CHILDREN DIAGNOSED WITH AUTISM SPECTRUM DISORDER?**

Evan D. Borisinkoff, Ph.D., BCBA, LBA

*Department of Education and Inclusive Services*

The ability to lead an independent and self-determined life for children on the autism spectrum may be affected by core diagnostic characteristics, including stereotypy (restricted and repetitive behaviors). Little is known about the perspectives of parents on stereotypical behavior and its treatment for children with autism. This qualitative study aimed to improve our understanding of parents' perceptions and whether it's necessary to provide intervention for stereotypical behaviors and what types of interventions are currently being utilized. This qualitative study used thematic analysis to analyze interview transcripts obtained from 9 parents of children on the autism spectrum who participated in this study. Four themes, including the type and topography of stereotypy; people's reactions to the child (parent, sibling, teacher, peer and community responses); need for treatment; and behavioral treatment used in the home were identified. Stereotypy included vocal and motor behaviors and repetitive manipulation of objects. Parents perceived stereotypy as both problematic and beneficial to their child's overall level of functioning. Parents overwhelmingly stated their child's stereotypy did not necessitate treatment.

## RAPID SYNTHESIS OF N-ETHYL-N-[1-(3-PYRIDYL)ETHYL]FORMAMIDE

Katyrie V. Brown, Lioudmila I. Bobyleva and Mikhail M. Bobylev

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-ethyl-(1-phenylethyl)formamides.

Depending on the type of the substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 40 to 100 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work the hypothesis was tested in the reaction between 3-acetylpyridine and N-ethylformamide.

**Methods:** The reaction was conducted on a 5 mmol scale at 180°C - 198°C. Extraction and column chromatography were used for the isolation of the product. NMR-spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 30 minutes. The isolated yield of N-ethyl-N-[1-(3-pyridyl)ethyl]formamide was 70%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 3-acetylpyridine was faster than the reaction time of 4-iodoacetophenone, the fastest reaction among the substituted acetophenones. N-ethyl-N-[1-(3-pyridyl)ethyl]-formamide is a new compound.



## **DEVELOPMENT OF AN IDENTIFICATION GUIDE FOR FOSSILS RECOVERED FROM THE MEDORA SITE (PALEOCENE: SENTINEL BUTTE FORMATION), BILLINGS COUNTY, NORTH DAKOTA**

J.A. Brumbaugh, M.R. Cardinal III, K. Fuller, H.J. Hahn, J. Hamm, I. Keller, H.T. Lematta, C. Meiers, L.M. Nelson, C. Opp, B.Y. Toro, and K. McCarville

*Department of Science*

**Background.** The North Dakota Geological Survey (NDGS) initiated a Fossil Resource Management program in 1983 to promote public understanding and awareness of North Dakota's fossil resources. The NDGS paleontology section runs summer paleontology "digs" open to the public in several locations across the state, including the Medora site, which preserves animals and plants from 55 million to 60 million years ago. Fossil material from the Medora site is collected during the summer programs and then screen-washed. Volunteers and paleontology staff sort the screen-washed concentrated material, separating fossils from non-fossil materials.

**Purpose.** The Spring 2025 MSU GEOL 106 Historical Geology and GEOL 499 Vertebrate Paleontology classes volunteered to process approximately 3 lb of fossil concentrate and to develop an identification guide for Medora fossils. Use of such a guide by volunteers can reduce the need for professional staff time spent on identification of common fossils from the site, allowing them to spend more time on unusual or new finds.

**Methods.** A list of fossil organisms that might be expected at the Medora site was compiled from a literature review. The fossils recovered during this project were used to create a list of the organisms most commonly found in fossil concentrate from the Medora site.

**Result:** An illustrated identification guide has been developed, including descriptions, photographs, and/or sketches of the most common fossils. The identification guide will be used in the future by volunteers working with fossils from the Medora site.

## **STUDENT PERCEPTIONS OF COPING SELF-EFFICACY**

Alex Engel & Krystal St. Peter

*Department of Behavioral Sciences and Criminal Justice*

In a world full of stress, it is important to find strategies to regulate one's stress. The self-efficacy that one has in oneself to be able to react to their environment is another important aspect in the coping process. This study specifically investigated possible differences between students and student athletes and their self-efficacy they have to deal with stressors in their lives. In this study there were 107 total participants (36 student athletes and 71 students) between the age ranges of 18-54. Participants were asked to take the Coping and Self-Efficacy Scale (26 items), and Student-Life Stress Inventory (52 items). These measures specifically examined how confident participants were to dealing with stressors in their life, coping styles, and potential sources of stress from finances, school, work, as well as other stressors in one's life. Preliminary results indicated that perceptions of coping self-efficacy were not significantly different for athletes and non-athletes. There was a trend towards significance ( $p = .051$ ) indicating that non-athletes may experience more student-life stressors than athletes. Possible future directions of research could look specifically into coping style differences, as well as trying to broaden the sample to include the general population and people with athletic backgrounds.

## **HEADSETS AND HEADSPACE: THE ROLE OF VIRTUAL REALITY IN LEARNING STRESS COPING TECHNIQUES AMONG STUDENT-ATHLETES**

Alexander Engel, Sara Van Wickler, & Ethan P. Valentine

*Department of Behavioral Sciences & Criminal Justice*

We live, work, and play in an increasingly digital world. Virtual reality (VR) is no exception to this trend, with more affordable consumer options than ever before and a growing body of research and investment into the promise of virtual reality. Recent evidence suggests that athletes' physiological reactions in VR simulations are nearly identical to real sporting events and that VR-based training may improve their performance in real-world contexts. In addition, research in sport psychology has shown that techniques such as controlled breathing, the use of mental imagery, and positive self-talk can help reduce stress and improve athletes' performance. The present research seeks to combine these two – as yet distinct – lines of research by exploring the role of VR simulations in teaching three stress coping techniques (controlled breathing, mental imagery, and positive self-talk) to collegiate student-athletes. Data collection for a between-subjects experimental design is underway, with student-athletes from baseball and softball teams randomized to an individual technique for VR simulation practice, teaching of the assigned technique, and use of the technique within the VR simulation. Both performance within the simulation and participants' perceptions of the technique and simulation are being measured. The poster will present initial findings for this research, the implications of those findings for both psychology and sport and explore areas for future research within this space.

## RAPID SYNTHESIS OF N-[1-(3-PYRIDYL)ETHYL]FORMAMIDE

Annika E. Henjum, Lioudmila I. Bobyleva, MS, and Mikhail M. Bobylev, PhD

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-(1-phenylethyl)formamides. Depending on the type of the substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 10 to 20 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work, the hypothesis was tested in the reaction between 3-acetylpyridine and formamide.

**Methods:** The reaction was conducted on a 10 mmol scale at 180-194°C. Extraction and column chromatography were used for the isolation of the product of the reaction. NMR spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 10 minutes. The isolated yield N-[1-(3-pyridyl)ethyl]formamide was 0.8520g (56%).

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 3-acetylpyridine was equal to that of acetophenones with electron-withdrawing substituents. N-[1-(3-pyridyl)ethyl]formamide is a new compound.

## RAPID SYNTHESIS OF N-ETHYL-N-[1-(2-PYRIDYL)ETHYL]FORMAMIDE

Kellie A. Izydorek, Lioudmila I. Bobyleva, MS, and Mikhail M. Bobylev, PhD\*

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-ethyl-(1-phenylethyl)formamides. Depending on the type of the substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 40 to 100 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work the hypothesis was tested in the reaction between 2-acetylpyridine and N-ethylformamide.

**Methods:** The reaction was conducted on a 5 mmol scale at 180°C - 198°C. Extraction and column chromatography were used for the isolation of the product. NMR-spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 20 minutes. The isolated yield of N-ethyl-N-[1-(2-pyridyl)ethyl]formamide was 70%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 2-acetylpyridene was faster than the reaction time of 4-iodoacetophenone, the fastest reaction among the substituted acetophenones. N-ethyl-N-[1-(2-pyridyl)ethyl]-formamide is a new compound.

## **SOCIAL MEDIA AND SELF-PERCEPTION: EXPLORING THE IMPACT OF TIKTOK USE ON SELF-ESTEEM**

Orion Keplin, Addison Sorenson, Morgan Layton, & Krystal St. Peter

*Department of Behavioral Sciences and Criminal Justice*

Self-perception has evolved and has been redefined through socialization, with social media now playing a more prevalent role than ever before. Whether that be through comparison, following content creators who influence and impact us daily, or absorbing curated feeds that shape our views and behaviors, social media may play an intricate role in our self-perception. The current study aimed to investigate how self-reported use of TikTok affected self-esteem scores in college students. As part of this study, participants completed several questionnaires, including the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), the Test of Instagram Addiction (TIA; D'Souza et al., 2018), and a modified version of the TIA for TikTok. An initial regression analysis was conducted to examine the effects of Instagram and TikTok addiction on self-esteem; results indicated that TikTok addiction scores, but not Instagram addiction scores, predicted self-esteem ratings. A follow-up analysis aimed to examine whether specific components of TikTok addiction (lack of control, disengagement, escapism, health and interpersonal troubles, excessive use, and obsession) better predicted self-esteem scores. Results indicated that using TikTok as a source of escape from reality predicted self-esteem scores for participants. The current findings add to the growing body of literature surrounding the use of social media and mental health and highlight nuances that require further study.

## **RAPID SYNTHESIS OF N-[1-(2-PYRIDYL)ETHYL]FORMAMIDE**

Mason M. Lemer, Lioudmila I. Bobyleva, MS, and Mikhail M. Bobylev, PhD

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-(1-phenylethyl)formamides. Depending on the type of substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 10 to 20 minutes, which is much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similarly to an electron-withdrawing substituent on the benzene ring; this electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Thus, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work, the hypothesis was tested in the reaction between 2-acetylpyridine and formamide.

**Methods:** The reaction was conducted on a 10 mmol scale at 180-196° centigrade. Extraction and column chromatography were used for the isolation of the product of the reaction. NMR spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 5 minutes. The isolated yield of N-[1-(2-pyridyl)ethyl]formamide was 66%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 2-acetylpyridene was equal to the reaction time of 4-nitroacetophenone, the fastest reaction among the substituted acetophenones. N-[1-(2-pyridyl)ethyl]formamide is a new compound.

## RAPID SYNTHESIS OF N-METHYL-N-[1-(4-PYRIDYL)ETHYL]FORMAMIDE

Cody S. Leonard, Lioudmila I. Bobyleva, MS, and Mikhail M. Bobylev, PhD

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-methyl-(1-phenylethyl)formamides. Depending on the type of substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 30 to 50 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work the hypothesis was tested in the reaction between 4-acetylpyridine and N-methylformamide.

**Methods:** The reaction was conducted on a 10 mmol scale at 180 - 186° centigrade. Extraction and column chromatography were used for the isolation of the product. NMR-spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 20 minutes. The isolated yield of N-methyl-N-[1-(4-pyridyl)ethyl]formamide was 84%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 4-acetylpyridine was faster than the reaction time of 4-nitroacetophenone, the fastest reaction among the substituted acetophenones. N-methyl-N-[1-(4-pyridyl)ethyl]formamide is a new compound.



## **ALTERG ANTI-GRAVITY TREADMILL OR TRADITIONAL GAIT TRAINING AND STRENGTHENING EFFECT IN LOWER EXTREMITY OSTEOARTHRITIS**

Beth Marschner and Cassie Stokowski

*Department of Science*

The purpose of this study was to examine the effect of gait training and strengthening using an anti-gravity treadmill versus traditional gait training and strengthening on pain, range of motion, speed of gait, and lower extremity endurance. The study utilized a convenience sample consisting of 30 volunteer participants from the local community using a snowball effect in recruiting. Each participant was randomly assigned to either the anti-gravity treadmill group or the traditional hallway walking group. Participants completed a medical history questionnaire, PAR-Q+, painful joint range of motion testing, 20-meter walk test, and a 30-second sit to stand test. Those measures were repeated at the end of their 12th session. Data was analyzed using SPSS to determine the descriptive and parametric statistics. Independent Samples T Test was used to see if groups differed at the beginning of the study. The results indicated that there was no significant difference between the treatment groups at baseline. Paired Samples T Test was used to determine if either treatment made a difference. The results indicated there was a significant difference in pre-test and post-test measures for pain, 20-meter walk test, and 30-second sit to stand test for both groups,  $p < 0.001$ . Results support that an AlterG treadmill is as effective as traditional physical therapy. Further research with a shorter treatment period would be appropriate.

## **RAPID SYNTHESIS OF N-METHYL-N-[1-(3-PYRIDYL)ETHYL]FORMAMIDE**

Zoefia Kiehl E. Mojica, Lioudmila I. Bobyleva, MS, and Mikhail M. Bobylev, PhD

*Division of Science – Chemistry*

**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-methyl-(1-phenylethyl)formamides. Depending on the type of the substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 30 to 50 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work the hypothesis was tested in the reaction between 3-acetylpyridine and N-methylformamide.

**Methods:** The reaction was conducted on a 10 mmol scale at 180°C - 184°C. Extraction and column chromatography were used for the isolation of the product. NMR-spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 25 minutes. The isolated yield of N-methyl-N-[1-(3-pyridyl)ethyl]formamide was 84%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 3-acetylpyridine was faster than the reaction time of 4-nitroacetophenone, the fastest reaction among the substituted acetophenones. N-methyl-N-[1-(3-pyridyl)ethyl]formamide is a new compound.

## RELIGION AND MENTAL HEALTH PERCEPTIONS

Shanaye A. Picard and Krystal St. Peter

*Department of Behavioral Sciences and Criminal Justice*

Mental health perception is important to an individual's wellbeing but has a stigma attached to the topic (Aurelius et al., 2024). This includes all parts of wellness which can include physical, mental, emotional, and spiritual health. Integration of an individual's faith into their everyday life can have an impact on their mental health and wellbeing (Grim and Grim, 2019). Participants completed questionnaires including the View of Mental Health Questionnaire (Puspitasari et al., 2020) and the Religious Coping (RCOPE) Questionnaire (Pargament et al., 2008). The current study aimed to compare individuals who identify as Christian to people who do not identify as Christian to determine if either group had a difference in mental health perception and religious coping. It is expected that individuals who identify as Christian will have a more positive perception of mental health than those who are not Christian. Results indicated that individuals who identify as Christian ( $n = 103$ ,  $M = 2.88$ ,  $SD = .39$ ) and those who do not identify as Christian ( $n = 54$ ,  $M = 2.90$ ,  $SD = .35$ ) perceive mental health similarly and there was no significant difference between groups  $t(155) = -.26$ ,  $p = .795$ . Results also indicated that individuals who identify as Christian ( $n = 103$ ,  $M = 2.84$ ,  $SD = .35$ ) and those who do not identify as Christian ( $n = 54$ ,  $M = 2.87$ ,  $SD = .26$ ) have similar attitudes towards mental health and there was no significant difference between groups  $t(155) = -.563$ ,  $p = .574$ . Results also indicate that individuals who identify as Christian ( $n = 103$ ,  $M = 2.87$ ,  $SD = .78$ ) and those who do not identify as Christian ( $n = 54$ ,  $M = 1.78$ ,  $SD = .63$ ) have similar attitudes towards mental health and there was no significant difference between groups  $t(155) = 8.93$ ,  $p < .001$ . Further research is necessary to determine where different religions lie on this scale and to see if there is any difference between them.

## **THE ROUTE TO RICHES: THE RISE OF TRADE AND CONQUEST AMONGST THE NORSE**

Gabriel Plummer

*Department of Humanities, Social Sciences, and Interdisciplinary Studies*

The Viking Age typically is viewed as different from the Vendel period that immediately preceded it, and the pre-Viking Age Norse often are seen as a people detached from the affairs of mainland Europe. However, archeological finds show that the Norse were engaging in Viking-style raiding and trading as early as the sixth century, long before what is usually seen as the start of the Viking Age in the late eighth century. This study examines the patterns of behavior that characterized the Viking Age to show that rather than the period witnessing an explosion of Norse piracy and North Sea dominance, the age rather was a time during which the Norse greatly benefitted from raiding and trading practices which already served them well in the Vendel period. This work is based upon archeological reports, finds cataloged within museums, and secondary source review. Eastern trade routes fed a system by which the Norse could capture slaves along the Volga and provide them to Arabia responding to that region's rising demand for laborers. Likewise, the power gap left in the west by the fall of the Frisians, who had fulfilled the role of North Sea merchants and pirates during the Vendel period, prompted innovations in Norse shipbuilding that enabled them to gain control of the North Sea. The Norse-controlled North Sea drove trade along the old Roman routes to produce what could be considered a second Silk Road, creating enough riches to sustain and revitalize the economy of post-Roman Northern Europe.

## **NO ONE ON BASS: AN INVESTIGATION INTO FACTORS THAT DETER NORTH DAKOTA STUDENTS FROM CHOOSING TO PLAY THE TUBA**

David M. Rolandson, PhD and Dianna Anderson, D.M.A.

*Department of Fine and Performing Arts*

The purpose of this study was to investigate the factors that influenced North Dakota band students' musical instrument selection and to determine whether a live solo performance by a professional tubist could influence their attitudes toward the tuba. We collected questionnaire data from concert band students in grades 7-12 during school visits where we also performed a short tuba recital. Established instrument-gender stereotypes and societal biases against the tuba, the size and perceived difficulty of the tuba, and an accepted hierarchy where students viewed tuba as less important than other instruments because it is rarely given the melody were all significant factors deterring student from choosing to play the tuba in schools. Practical implications include recommendations on ways that practicing music educators can encourage more students to pursue the tuba.

## **DIFFERENT STUDY LOCATIONS AND PERCEPTION OF PRODUCTIVITY**

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Being able to study effectively is an important skill for college students to acquire – and one's environment could be extremely important to those studying efforts. Existing evidence indicates that authentic learning environments where students feel they can focus the most widely improve student learning (Herrington et al., 2014; Kolb & Kolb, 2005). Thus, the current study aimed to look at student perceptions of productivity while studying across a variety of locations to determine if there are any specific trends in effective-study locations among Minot State University students, or if perceptions of authentic learning environments are unique/individual. Participants completed an online survey regarding perceptions of learning, preferences in learning environments, and demographics. Data collection is still ongoing; preliminary data analyses will be completed by mid-April.

## **EFFECTS OF ADHD CHARACTERISTICS ON METAMEMORY IN COLLEGE STUDENTS**

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Research into adult ADHD is still in its infancy. Much of what we know about ADHD comes from research into children or adolescents. With first-time ADHD diagnoses in adults seemingly on the rise (Abdelnour et al., 2022), it is important to begin to examine what adult ADHD looks like and how these ADHD characteristics may affect other important aspects of one's life. Metamemory is the perception an individual has about their own memory abilities, including effective memory strategies they can rely on, which can be an important factor in college student success. The current study aims to examine whether specific ADHD characteristics (e.g., inattentiveness, hyperactivity) directly influence metamemory perceptions in distinct ways. Participants in this study completed several questionnaires, including the Barkley Adult ADHD Rating Scales-IV (BAARS-IV; Barkley, 2011) – which assesses four domains of ADHD symptoms: (i) inattention, (ii) sluggish cognitive tempo, (iii) hyperactivity, and (iv) impulsivity – the Metamemory in Adulthood (MIA) Questionnaire (Dixon et al., 1988), and the Eyewitness Metamemory Scale (EMS; Saraiva et al., 2019). Data collection is still ongoing; preliminary data analyses indicated that participants' sense of control over their memory skills was negatively correlated with ADHD symptoms of hyperactivity and impulsivity.

## **CORPORATE SOCIAL RESPONSIBILITY AND EMPLOYEE ENGAGEMENT: IMPACTS ON MOTIVATION, PRODUCTIVITY, AND RETENTION**

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This literature review examines the impact of Corporate Social Responsibility (CSR) on employee engagement, focusing on motivation, productivity, and retention. The study uses Carroll's CSR pyramid as the theoretical framework to analyze CSR's role in shaping workplace dynamics. Corporate social responsibility (CSR) is increasingly gaining attention as an essential component of business as people desire more of a social impact from organizations. Businesses may use CSR as a way to gain a competitive advantage through increased customer loyalty and a strong brand reputation. However, the impact of CSR may extend beyond the external stakeholders. Employees are increasingly seeking workplaces that align with their values, and CSR plays a significant role. Findings suggest that businesses may use CSR as a way to create a committed and motivated workforce, which may lead to an improvement in organizational performance. Results indicate that CSR based initiatives are valuable for both business success and the well-being of employees.



## RAPID SYNTHESIS OF N-METHYL-N-[1-(2-PYRIDYL)ETHYL]FORMAMIDE

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**Background:** Earlier, we developed a rapid procedure for the Leuckart reaction and successfully applied it for the synthesis of a series of substituted N-methyl-(1-phenylethyl)formamides. Depending on the type of the substituent on the benzene ring of the starting acetophenone, most of the reactions were completed in 30 to 50 minutes, much faster than the traditional Leuckart reaction that is usually completed within 3 to 6 hours.

**Hypothesis:** Acetylpyridines are close analogs of acetophenones. The nitrogen atom in the pyridine ring works similar to an electron-withdrawing substituent in the benzene ring. The electron-withdrawing action should make the adjacent carbonyl more electrophilic, resulting in a faster reaction. Consequently, the reaction time of acetylpyridines should be close to that of acetophenones with electron-withdrawing substituents. In this work the hypothesis was tested in the reaction between 2-acetylpyridine and N-methylformamide.

**Methods:** The reaction was conducted on a 10 mmol scale at 180°C - 186°C. Extraction and column chromatography were used for the isolation of the product. NMR-spectroscopy and elemental analysis were used to determine the structure of the product.

**Result:** The reaction was completed in 15 minutes. The isolated yield of N-methyl-N-[1-(2-pyridyl)ethyl]formamide was 85%.

**Conclusion:** The results of the reaction support the initial hypothesis. The reaction time of 2-acetylpyridine was faster than the reaction time of 4-nitroacetophenone, the fastest reaction among the substituted acetophenones. N-methyl-N-[1-(2-pyridyl)ethyl]formamide is a new compound.