



RESEARCH SYMPOSIUM ON MENTAL HEALTH

FRIDAY, SEPT. 24, 2021

Welcome to the Research Symposium on Mental Health

Welcome to the first annual research symposium organized and sponsored by the NDSU President's Council for Campus Well-being (PCCW) and the Office of Research and Creative Activity (RCA). As we were thinking about a theme for the research symposium and discussing the different aspects of campus well-being, we kept coming back to the idea of mental health and how important it is to facilitate conversation about the various aspects that comprise a comprehensive understanding of mental health. We were aware that researchers from across campus were already exploring different facets of mental health from both academic and clinical perspectives and we set out to bring them together to spark new collaborations and connections.

The scholars participating in today's symposium reflect some of the diverse and innovative approaches to research that are occurring on our campus. We are very excited to have them here today to share their work and initiate dialogue with all of you. Our hope for today is to spark conversations and connections with others to foster more research collaborations.

The PCCW was formed to support the academic mission of the university by taking a holistic approach to increase and sustain all aspects of campus well-being. The PCCW is a multi-disciplinary group of NDSU faculty, staff, students, and community partners brought together to address a range of social and environmental factors with the goal of strengthening the health and well-being of our campus community. This includes supporting a vibrant and productive research community, which led to today's symposium.

We want to thank our colleagues on the PCCW for all of their support of this symposium and also acknowledge the invaluable assistance we received from the Research Development Team within RCA. We are particularly grateful to Sheri Anderson, Cassie Johnson, and Fred Hudson.

Finally, thank you for attending the Research Symposium on Mental Health. We hope that you will find ways to engage in these conversations, as well as enjoy the energy and company of all who are in attendance today.

Christina Weber, PhD
Professor, Department Chair
Sociology and Anthropology



Christi McGeorge, PhD
Professor
Human Development and
Family Science



SYMPOSIUM SCHEDULE

12:00 pm - Panel Presentations

1:15 pm - Table Discussions and Poster Session

2:30 pm - Symposium Ends

Horses as Partners in Mental Health Treatment

ERIKA BERG, PHD
Associate Professor, Animal Sciences

Erika Berg is an Associate Professor of Animal Sciences. Dr. Berg teaches courses in equine physiology, research and issues in animal science, and courses in equine assisted services which is where her passion lies. She has been involved in the field of equine assisted services since 1995, working in the areas of adapted therapeutic horsemanship, equine assisted learning, physical and occupational therapy incorporating equine movement, and psychotherapy incorporating equine. Her research interests are understanding the impact of partnering horses and people on both equine and human participants. Dr. Berg also oversees NDSU's Bison Strides Equine Assisted Services program. Bison Strides is accredited by the Professional Association of Therapeutic Horsemanship International (PATH Intl.) and is currently the only PATH Intl. Premier Accredited Center in the state of North Dakota. Just 31% of the over 800 PATH Intl. centers worldwide have earned this status. In addition, NDSU is one of only 15 PATH Intl. Higher Education Members in the U.S. and embodies the land-grant ideals of NDSU through innovative education, research and outreach.



Connecting Teens at Risk to Mental Health Care: The Student Wellness Facilitator Program

JOEL HEKTNER, PHD
Professor and Head, Human Development and Family Science

Joel Hektner is Professor and Head of the Department of Human Development and Family Science. His research interests include interventions and training programs that promote well-being and prevent problems in youth and families as well as family and school conditions that facilitate optimal development. Dr. Hektner teaches courses in quantitative research methods, parent-child relations, and well-being promotion. He is the primary coauthor of a 2007 book on the Experience Sampling Method, as well as 50 journal articles and book chapters.



Sleep-Related Decisions and their Impact on Health and Well-Being

LEAH IRISH, PHD
Associate Professor, Psychology

Leah A. Irish is an Associate Professor of Psychology and an Adjunct Scientist at the Sanford Center for Biobehavioral Research. Prior to joining the faculty at NDSU, she earned a Ph.D. in Experimental Health Psychology from Kent State University and completed a postdoctoral fellowship in sleep and circadian science at the University of Pittsburgh School of Medicine. Dr. Irish's research considers the complex interplay between sleep and waking health behaviors, with a particular emphasis on eating behavior, and investigates strategies for sleep health improvement for the general population.



POSTER ABSTRACTS

Amy Werremeyer, PhD
Associate Professor and
Chair
Pharmacy Practice

In collaboration with
Elizabeth Skoy, PhD

The Concept of Medication Experience with Psychotropics

Background Information: Patients who are prescribed psychotropic medications may or may not take them. Many factors influence whether a medication is accepted, taken and persisted with. The collective whole of those factors is important to consider.

Purpose: To describe the concept of medication experience with psychotropic medications, based on a series of qualitative analyses and the known literature.

Methods: Qualitative analyses from patient experience studies focused on psychotropic medication use and individual participant quotations were coupled with the authors' collective 25 years of pharmacy practice experience and concepts from the literature regarding illness experience, medication adherence and meanings of medications in individuals' lives.

Results: Medication experience with psychotropics can be defined as an individual's lived experience of contemplating, being prescribed, and/or taking a medication for a mental health reason. The concept of medication experience with psychotropics is represented by a model of complex interactions between the individual's experience of their illness, their experience of benefit and/or burden from their medication, and the adequacy of information they receive about the medication. Medication acceptance is highly influenced by the aspects of the individual's medication experience.

Conclusion: The medication experience with psychotropics concept represents a new and comprehensive way to examine the factors associated with the medications in an individual's life. This concept has implications for illness experience, patient education, patient-provider relationships, and medication adherence.

**Becky McDaniel, PhD, MSN,
RN, BC**

Assistant Professor of
Practice
Nursing

In collaboration with

**Patricia Daly, Janice Crist,
Christy Pacheco, and
Pamela Reed**

The purpose of this study was to describe suicide loss survivors' experiences and barriers to accessing support and mental health care. The aims were to (1) explore suicide loss survivors' experiences related to suicide, and (2) identify potential barriers to accessing support and mental health care. Qualitative description methodology was used. Twenty-eight participants (21 women, 7 men) were recruited for in-depth, semi-structured phone interviews surrounding participants' loss by suicide experiences. Three categories emerged: Life before Suicide, Life after Suicide, and Meaning of Life. By including experiences of male and rural participants' suicide loss, findings fill previously identified research gaps.

Survivorship of Loss by Suicide

Brad Strand, PhD

Professor

Health, Nutrition & Exercise
Science

Overtraining and Burnout in Sports

Physical and mental burnout is common in all aspects of life, but overtraining and burnout in sports are more common than meets the eye. The term 'burnout' is defined as a condition of psychological, emotional, and sometimes physical withdrawal from sport participation as a result of chronic stress. Burnout can cause athletes to drop out of sports at an early age thus hindering them from reaching their full potential as well as lead to mental health concerns. Athletes can burn out both physically and mentally. Most people are only aware of being physically burned out, such as being fatigued and sore. Mental burnout is a major problem that is much more difficult to overcome, but not many coaches, parents, or athletes are aware of it until it is too late. Mental burnout is principally caused by stress. Ironically, that stress mostly comes from the coaches and the parents of the athletes. In addition to stress, other factors that cause mental burnout include a negative sports environment, feeling of failing parents, and routinely doing the same activities in practices daily.

The purpose of this action research project was to investigate athlete overtraining and burnout among former high school and current collegiate athletes. More specifically, we sought to determine the common factors related to athletic burnout, when burnout happened, how athletes felt physically and psychologically at the time of burnout, and how long burnout lasted. Sixty-two students (35 females, 27 were males) completed the assignment. All of the subjects had participated in high school sports while eight were or had been collegiate athletes. Eighty-four percent of the students had participated in at least two sports in middle or high school while, 51% had participated in three or more different sports during that time frame. It was learned that all athletes reported some aspect of overtraining and burnout during their school sport experience. The three most frequently cited causes of burnout were self-criticism, fatigue, and high expectations of oneself.

Kelly Parker
 Graduate Student
 Health, Nutrition & Exercise
 Science

In collaboration with
Kerrie Honrath and **Yeong
 Rhee, PhD**

***Was there a
 relationship between
 fruit and vegetable
 intake and mental
 health of college
 students during
 COVID-19?***

Was there a relationship between fruit and vegetable intake and mental health of college students during COVID-19? Objective: The objective of this study was to determine whether a relationship exists between average daily intake of fruits and vegetables and mental health in college students as measured by the Depression, Anxiety, and Stress Scale-21 (DASS-21).

Methods: A survey was developed to assess college students' fruit and vegetable intake and recent mental health using the Eating at America's Table Food Frequency Questionnaire (EAT) and the DASS-21. The survey was administered via Qualtrics in the initial three months after lockdown began due to COVID-19 in the area. Trained researchers coded the DASS-21 for the presence and level of depression, anxiety, and stress. The EAT was used to calculate the average number of fruits and vegetables consumed daily by each student by calculating the total number of cups of each fruit and vegetable as counted by the USDA MyPlate tool. Pearson's correlations were run between the average daily number of fruits and vegetables consumed and the severity score for depression, anxiety, and stress to determine whether relationships existed between the variables of interest.

Results: One hundred ninety-six students responded to the survey. Students were an average of 21.7 years of age (std dev. 4.4 years), mostly female (54.7%), freshmen (30.1%), who were enrolled full-time (69.3%). Most students identified as single (65.2%), and not in a relationship (35.6%), and as living off-campus (34.8%). Pearson's correlations revealed a slight relationship between average daily number of fruits and average daily number of vegetables consumed ($r = 0.374$, $p < 0.01$). There was no significant relationship between either fruit or vegetable consumption and any of the mental health variables. There was, however, a moderate to strong relationship between depression and anxiety ($r = 0.480$, $p < 0.01$) or stress ($r = 0.686$, $p < 0.01$) and anxiety and stress ($r = 0.627$, $p < 0.01$).

Conclusion: College students' mental health at the beginning of the COVID-19 pandemic lockdown was not related to their daily fruit and vegetable intake.

POSTER ABSTRACTS

Jenna Hershberger
Graduate student
Counselor Education and
Supervision

In collaboration with
Erika Berg, PhD and **Jodi
Tangen, PhD**

***An Interpretive
Phenomenological
Analysis (IPA) of the
Lived Experiences of
Survivors of
Commercial Sexual
Exploitation of
Children (CSEC) in a
Residential Equine
Assisted
Psychotherapy (EAP)
Program***

Human sex trafficking is a grave human rights violation that impacts the dignity of millions both globally and in the United States. The International Labor Organization estimates 4.5 million children are trafficked around the globe at any given time (International Labour Organization [ILO], 2017). Within the United States, approximately two in five human trafficking offenses reported to federally funded human trafficking task forces from 2008 to 2010 involved the sex trafficking of minors (Banks & Kyckelhahn, 2011). Fedina et al., (2019) found that child traumas including childhood sexual abuse and rape, emotional abuse, running away from home, and having family members engaged in sex work or friends who bought sex, significantly associated individuals with sex trafficking victimization.

Although research related to sex trafficking has grown significantly over the past several decades (Haney et al., 2020), there is a dearth of literature regarding effective therapeutic interventions for the healing of survivors.

An Interpretive Phenomenological Analysis (IPA) will be utilized to capture the unique and shared experiences of survivors of Commercial Sexual Exploitation (CSEC) in an Equine Assisted Psychotherapy (EAP) program at a therapeutic working ranch (TWR) in the mid-western United States. Six participants, ranging in ages between 12 – 18 years will participate in individual interviews and reflective journaling. In addition, field observations of the EAP Rhythmic Riding group sessions will be conducted on five separate occasions over a period of four months. In addition to individual participant thematic experiences, an evaluation of patterns and connections across themes from the data as a whole will be evaluated. A discussion of the relationship with existing literature regarding CSEC and EAP as well as implications for counseling will be addressed.

Lisa Richter

Director of Experiential
Outreach Assessment
Pharmacy Practice

In collaboration with
Daniel Kenzie, PhD

Student created well-being initiatives to develop research skills in the PharmD didactic curriculum

Objectives: The primary objective for students was to gain research skills by designing, implementing, and reporting results of an initiative to increase well-being in NDSU Pharmacy students.

Methods: Students in the required PHRM 570 performance improvement course were assigned to groups of 6-7 students. Students were introduced to well-being topics and the project early in the semester. Groups developed a well-being initiative suitable for their peers including an assessment using a previously validated scale. Students were required to participate in one other group's initiative. After receiving feedback from the instructor and IRB approval, students recruited other pharmacy students to their study. Once students completed data analysis, they wrote an abstract of their findings, which they were encouraged to submit to a professional conference. Students completed an optional 21-question survey in Qualtrics about the course.

Results: All students (N=69) received IRB approval or exemption and submitted an abstract of their findings to the instructor within the semester long course. Most students (96%) completed the survey. Prior to the course, 91% of students had not submitted an IRB proposal. Eighty one percent of students agreed that the well-being project increased their technical writing ability and 65% agreed that the project increased their ability to select current literature. Students disagreed (63%) that they would prefer to take extra exams instead of completing the project. Many students (54%) affirmed that participating in the well-being projects provided them with valuable well-being skills.

Conclusions: The semester-long project offered opportunities for NDSU pharmacy students to create and participate in well-being initiatives without the need for additional funding or faculty. Students in the class reported their participation in well-being initiatives provided them with valuable well-being skills, and by designing these initiatives students gained valuable research experience.

POSTER ABSTRACTS

Alyssa Hodges

Graduate student
Public Health

In collaboration with

**Anna Skarphol, Alli Bushaw,
Mark Strand, PhD, Elizabeth
Skoy, PhD, Jayme Steig,
Heidi Eukel, PhD Amy
Werremeyer, PhD, and
Oliver Frenzel, MPH**

Preventing Opioid Misuse and Overdose in Populations at the Age of University Attendance

Background and Methods: In recent decades, the United States has seen an increase in the misuse of prescription opioids among the general population contributing to associated harms, such as opioid use disorder and opioid overdose. University students are no exception to this increase (Weyandt et al, J Am Coll Health. 2020 Aug 11:1-19.), but less emphasis has been put on the prevention and management of opioid misuse on college campuses. The NDSU ONE Program provides pharmacists and technicians in North Dakota with the tools and training they need to screen and educate patients who receive prescribed opioid medications. Data was collected from Oct 2018 to July 2021. The researchers extracted data on 765 ONE Program individuals who were in the age category typical for university students (18-25) in North Dakota. A literature review was also conducted to determine the prevalence of opioid misuse among university students and create a summary of current trends in opioid misuse among university students. The advantages of opioid safety education among this population were also investigated.

Results: ONE program findings among the 765 persons aged 18-25 picking up an opioid prescription showed that 4.31% were at risk of opioid misuse and 9.54% were at risk of an opioid overdose. This data also aligns with current literature which suggests that the lifetime estimate of prescription opioid misuse among university students ranges from 4% to 19.7%. Providing education to university students has been shown to assist in primary opioid prevention and reduce the stigma surrounding opioids.

Conclusion: This research has shown that opioid misuse occurs among university students similarly to the general population. Implementation of campus opioid safety education is necessary to increase safe opioid use among university students, and thereby combat the opioid epidemic. Expansion of the ONE Program to campuses could include opioid and naloxone education for university students as well as an on-campus opioid take back program. Universities should also reconsider their current opioid storage policies to further combat the misuse of prescription opioids on campus.

Laurynn Lauer

Undergraduate student
Health, Nutrition & Exercise
Science

In collaboration with
**Bradford Strand, PhD, and
Morgan Paige, University of
Kansas**

Failure Response and Coping Skills of Collegiate Female Athletes

The purpose of this project was to investigate failure and coping skills of female collegiate athletes. Participants were 37 female athletes (8 basketball, 3 cross country/track and field, 4 soccer, 5 softball, 9 track and field only, 6 volleyball, 2 golf) enrolled in a Division 1 University located in the midwest of the United States.

Data were collected via two separate inventories. The Performance Failure Appraisal Inventory was employed to measure dimensions and levels of fear of failure among the players. The Athletic Coping Skills Inventory was also used to capture information. The ACSI-28 scale measures the coping skills level among athletes.

Descriptive statistics for the five subscales of the Performance Failure Appraisal Inventory for the entire sample showed that fear of experiencing shame and embarrassment was the highest fear ($M = 3.27$, $SD = .80$), followed by fear of upsetting important others ($M = 2.77$, $SD = .89$), fear of devaluing self-estimate ($M = 2.71$, $SD = .83$), fear of important others losing interest ($M = 2.58$, $SD = .91$), fear of devaluing one's self-esteem ($M = 2.71$, $SD = .83$), and fear of having an uncertain future ($M = 1.01$, $SD = .90$). The general fear of failure score, which tabulated all five subscales, indicated a $M = 2.44$, $SD = .67$. Descriptive statistics for the seven subscales of the Athletic Coping Skills Inventory for the entire sample showed that coachability had the highest score ($M = 10.06$, $SD = 1.51$), followed by confidence and achievement motivation ($M = 8.63$, $SD = 1.74$), goal setting and mental preparation ($M = 7.54$, $SD = 2.98$), concentration ($M = 7.09$, $SD = 1.75$), coping with adversity ($M = 6.9$, $SD = 1.82$) and peaking under pressure ($M = 6.9$, $SD = 2.62$), and freedom from worry ($M = 5.6$, $SD = 3.02$). The overall athletic coping skills score was ($M = 52.06$, $SD = 9.39$).

POSTER ABSTRACTS

Rose Yang

Graduate student
Pharmacy Practice

In collaboration with

**Amy Werremeyer, PhD,
Elizabeth Skoy, PhD, Audrey
Long, and Becky McDaniel,
PhD, MSN, RN, BC**

SNAP The Stigma

SNAP the Stigma campaign (SNAP) is an engagement and mental health awareness program developed for the entire NDSU campus community to de-stigmatize and humanize issues related to mental illness. SNAP came alive when Elizabeth Skoy, Amy Werremeyer, and Meghan Kirkwood wanted to work toward increasing comfort speaking about mental illness on campus. Stigmatization of mental illness remains prevalent, as ignorance and fear toward the issue often leads to prejudice and social exclusion. Drs. Skoy and Werremeyer previously applied the process of Photovoice to help students express their experiences with mental illness. Photovoice is a participatory-action method in which participants capture and collectively reflect upon photos of their lived experience. Posting photos and writing personal captions has been said to be therapeutic for people living with mental illness. The use of photos also demonstrates to other students that they are not alone in their struggle. The objective of SNAP is for students to have more open conversations about mental illness and to create a campus atmosphere where students feel comfortable seeking the help they need. SNAP is actively preparing for future research on how to make NDSU a mental-health friendly campus for all students.

Research questions and initiatives that need execution and funding include: 1. How to increase partnership with campus entities and organizations 2. Exploration of what types of activities and engagement platforms (in-person, online, or hybrid) do students prefer for key mental-health-related events (ie. in September (suicide prevention month) and May (mental health awareness month)) 3. Increased mental health trainings with programs such as Applied Suicide Intervention Skills Training class (ASIST) 4. Assessment of the effect of online and in-person interaction with SNAP content and events in relation to change in held stigma on the part of the participant.

Dinema Mate

Graduate student
Communications and Public
Health

This study aims to study the links between Adverse Childhood Experiences and health risk behaviors among university students in a developing setting. The participants were undergraduate students at the Universidade Eduardo Mondlane in Maputo, Mozambique.

The study had an n of 200 students of which; 43.1% were male, 44.6% were female. An anonymous, self-administering-survey was used to collect the data amongst the student population. The paper-based survey was built on the Minnesota's Boynton Health Survey ©.

***Footsteps in
Cement–The Legacy
of Adverse Childhood
Experiences in
University Student in
Maputo,
Mozambique***

The study showed that at least 94.6% of the students have experienced at least one Adverse Childhood Experience in their lifetime; 27.4% reported having lived with someone who was mentally ill or suicidal; 16.6% lived with someone who was a problem drinker or alcoholic; 11.1% lived with a member who used illegal drugs and 0.5% lived with someone who had done jail time. 21.9% reported to have experienced domestic abuse once and 24.6% reported to have been physically abused more than once in their childhood. Almost a quarter of the student population has been molested and 12% of the students reported to have been raped at least once in their childhood by someone at least 5 years older.

POSTER ABSTRACTS

Shirla Wells

Graduate student
Educational Leadership

The Impact of Music-Related Team-Building Activities on Peer Connectedness

The purpose of this action research study was to determine the impact of music-related team-building activities and involvement in extra-curricular activities on peer connectedness of adolescents. The study was important because close peer connection has been identified as a key component of social and emotional wellbeing as it reduces anxiety and depression, which are known contributors to self-harm and suicide in teens.

Study participants included 18 high school band students who engaged in musical activities designed to promote interpersonal connection and 17 non-band high school students who did not participate in the music-related team-building activities, but were involved in similarly social extra-curricular activities. Data collection included pre-assessment surveys, teacher observation, and post-assessment surveys.

Survey results indicated improvement in peer connection among band students who engaged in music-related team-building activities and among non-band students who actively engaged in school extra-curricular activities.

Survey results did not indicate improvement in peer connectedness for students who participated, but were not actively engaged in classroom or extra-curricular activities.

The researcher concluded that activities designed to promote engagement in positive social interactions had a positive impact on peer connection, and therefore, on adolescent social and emotional wellbeing. Future studies could provide insight into improving engagement and positive social interactions in all classrooms to better meet the social and emotional needs of students who do not engage in music or extra-curricular activities.

Cassandra Gilbert, MA
Career Coach, NDSU Career
and Advising Center
Graduate student
Education

In collaboration with
Melanie Fierstine, PhD,
Minot State University, and
Laura S. Dahl, PhD

Residential Students' Perceptions of Mental Health & Impacts on Campus Climate

As campus leaders develop new priorities, they must seek to understand how changes in student experiences impact outcomes. In the past decade, there have been significant increases in symptoms of depression and other disorders among students (Twenge et al., 2010) as well as a larger demand for mental health services (Gallagher, 2008).

Our research helps to show how mental health plays a role in students' perception of their living environment and campus as a whole, especially in regard to sense of belonging. Previous research shows that living on campus does have a positive effect on sense of belonging. Gay male students reported higher levels of sense of belonging than others in the LGBTQ+ community but lower than their heterosexual peers (Duran et al. 2020).

Utilizing the Assessment of Collegiate Residential Environments and Outcomes (ACREO), our research for this poster is guided by the question: RQ1: How do student perceptions regarding mental health support, mental health resources, and campus climate differ by residential environment and sexuality?

In 2021, over 7,700 students at three institutions were invited to participate in the survey, with a response rate of 14.7% with a useable data rate of 66.7%. Regression analysis will be utilized to discuss findings between heterosexual respondents and respondents who identify as a different sexuality and their experiences regarding mental health support and factors that impact their perception of campus climate. The survey items focused on residential student perception and beliefs regarding campus faculty, staff, and campus value their mental health as well as knowledge of available resources and how to interact with them if needed. For planners, these findings can help provide a foundation for directing programming and funding for initiatives. Additionally, institutions can assess who is benefiting from programming and provide a starting point when discussing avenues to reach diverse populations.

POSTER ABSTRACTS

Sean Brotherson, PhD

Professor

Human Development and
Family Sciences

In collaboration with

Philip Estepp, Kim Bushaw,
Extension Specialist and
Geoff Zehnacker

Behavioral Health

101 Training: Strengthening Professional Development for Rural Community Professionals

Rural communities face barriers to care including limited access to mental health services due to geographic isolation as well as a shortage of service providers to underserved areas. Community professionals working in areas absent of behavioral health providers require ongoing education and training in order to meet the behavioral health needs of the areas they serve. To facilitate increased professional development opportunities related to mental and behavioral health in rural contexts, the NDSU Extension Service in partnership with a local behavioral health entity, provides an innovative professional development approach. This case study examines information on four years of an annual training seminar on mental and behavioral health topics delivered via an interactive video network to rural community professionals across North Dakota.

Individuals participating in the training (N=733) demonstrated: (1) high perceived value of training provided; (2) positive impacts on knowledge related to seminar content on mental and behavioral health; and (3) planned steps to share and implement information obtained during the seminar in professional settings and local communities. Implications from the case study for Extension-led professional development for community professionals, addressing needs in mental and behavioral health in rural contexts, and working in rural communities are explored.