



Psychology & Gender
Research Symposium
Department of Psychology
11th Annual
Fall 2023

Co-sponsors

The Center for Gender Studies

**Office of Undergraduate
Research and Scholarship**

Tuesday
November 28th
Heth 043
5:30 - 7:00 pm

Psychology & Gender Research Symposium Fall 2023 Program

 Center for Gender Studies presentations

Poster Presentations 5:30-7:00 – Heth 043

- Daniel Caffery, Brooklynn L. Mulholland, Lauren E. Prata,
& Jack T. Wilkens

Investigating the influence of technology-based testing on test anxiety

Faculty Mentor: Young-Kook Moon

- Enriqueta Calderon, Emerson Mills, Shyheim Woods,
Savannah Spencer, Zachary Lewis, & Haven Foley 

The heart's symphony: Connecting health and stress through social support

Faculty Mentors: Michaela Clark, Jenessa Steele, Thomas Pierce, & Jeff Aspelmeier

- Justin Jones, Shad Hannabass, Haley Brown, Alyssa Estell,
Liah Strouth

Spontaneous withdrawal from CP55,940 transiently decreases motivation for food in Long-Evans rats

Faculty Mentor: Matt Eckard

- Drake S. Khazal, Nicholas Ippolito, Mackenzie Brownrigg, Caleb Kundert, Michael Heller, Michael Josephson, Clarke Lerner, Elle Dela Rosa, Olivia Smith, Sydney Mundkowsky
Identifying support gaps: A study of stress levels, work-life balance and on-campus resource usage of the student body at Radford University

Faculty Mentor: Teresa Ristow

- Brooklynn Mulholland, Hayat A. Khan, Zoe M. Hannabass, & Jenna Blanchette

Neuropeptide Y expression in the hypothalamus of cannabinoid-exposed adolescent rats

Faculty Mentors: Matthew Eckard, Pamela Jackson, & Dayna Hayes

- Hayley Snow 

Why are females with autism going undiagnosed?

Faculty Mentor: Jennifer Mabry

- Olivia Webb, Olive Nichols, Corey Vallastro, Zachary Lewis

ChatGPTutor: Learning from AI-generated examples

Faculty Mentor: Kathleen Arnold

- Olivia Webb, Olive Nichols, Corey Vallastro, & Zachary Lewis

Emerging threat or virtual tutor: ChatGPT's role in learning

Faculty Mentors: Kathleen Arnold & Ben Biermeier-Hanson

- Brittle Williams 

Pluralistic ignorance within attitudes toward transgender individuals

Faculty Mentor: Jeff Aspelmeier

- Brittle Williams, MaKayla Dulaney, Zachary Lewis, Jessica Handy, Julianna Crawford

Pluralistic ignorance within academic self-efficacy: Potential moderators

Faculty Mentor: Jeff Aspelmeier

Abstracts

(Listed alphabetically by first author)

 Center for Gender Studies presentations

Daniel Caffery, Brooklynn L. Mulholland, Lauren E. Prata, & Jack T. Wilkens
Investigating the influence of technology-based testing on test anxiety

Faculty Mentor: Young-Kook Moon

Poster Presentation

Technology has become a large component of the academic environment. Technology has developed to facilitate learning through online learning platforms such as *Canvas*, *Blackboard*, *Skypak*, etc. These platforms range in functions from discussion, assignments, testing, and textbook formats. Testing specifically is an achievement measurement that is used in a variety of formats and can be used to assess for mastery and has been adapted to many formats including being embedded into online learning platforms requiring users to properly navigate the system to complete the assessment. This study aimed to build on the previously developed Achievement Anxiety Test (AAT) developed by Richard Albert and Ralph Norman Harbor in 1960, to evaluate paper testing. Our scale Attitudes Towards Technology in Academics (ATTA) scale explores achievement anxiety in a newer facet, by evaluating concerns regarding technology-based examination. This construct was multidimensional and investigated anxiety surrounding technology-based errors such as loss of internet, and anxiety surrounding personal technological abilities. Using a Qualtrics survey format, participants an adjusted AAT survey and the developed ATTA survey. Through a factor analysis, it was uncovered that the ATTA scale includes two dimensions, with one being user error as a source of anxiety and the other being technological malfunction. Data analysis confirmed that that the ATTA scale was overall a reliable measure of technology-related test anxiety at $\alpha = 0.89$ for the technology malfunction subdimension and $\alpha = 0.86$ for the user error subdimension. As a method of confirming construct validity, convergent validity was evaluated using a generalized anxiety scale and divergent validity was evaluated using an extroversion scale.

Enriqueta Calderon, Emerson Mills, Shyheim Woods, Savannah Spencer, Zachary Lewis, & Haven Foley 

The heart's symphony: Connecting health and stress through social support

Faculty Mentors: Michaela Clark, Jenessa Steele, Thomas Pierce, & Jeff Aspelmeier

Poster Presentation

During and after the pandemic, the United States reported a significant increase in stress and anxiety due to drastic shifts in social/nonsocial environments that created barriers to building relationships (Wang et al., 2020). Thus, this traumatic experience influenced the current perspective of young adults today (Velez et al., 2023). The current study aims to find whether social support has an impact on emerging adults' perceptions. The repeated measures, correlational proposed study design aims to test the relationships between perceived stress and physical health (via heart rate variability and somatic symptoms) through indirect effects of perceived social support. The current study will collect and analyze data from undergraduate students at Radford University. The Multi-Dimensional Scale of Perceived Social Support

(MSPSS) measures perceived social support (Zimet, 1988), the Social Convoy Model assesses the number of individuals within their social support networks (Kahn & Antonucci, 1980), and the Perceived Stress Scale (PSS; Cohen, 1983) assesses perceived stress within their environment. Additionally, Physical Health Questionnaire (PHQ) assesses somatic symptoms, such as sleep disturbances, headaches, gastrointestinal problems, and respiratory infections (Schat et al., 2005). Heart rate variability (HRV) determines physical and psychological changes that assess individuals' psychological arousal or relaxation (Bertsch et al., 2012; Natarajan et al., 2020; Kvadsheim et al., 2022; Tarkiainen et al., 2005; Thayer et al., 2012; Thayer et al., 2008). Thus, HRV is measured using the Garmin Vivosmart 5 to collect the hearts' beat-to-beat intervals for every second for about 7 days. This study is unique in that it involves (a) modern devices measuring physical and psychological changes and (b) evaluating a potential shift in perceptions and impact of social support within emerging adults. Future implications of this research involve improving the overall quality of social support in emerging adults when transitioning in an academic environment.

Justin Jones, Shad Hannabass, Haley Brown, Alyssa Estell, & Liah Strouth
Spontaneous withdrawal from CP55,940 transiently decreases motivation for food in Long-Evans rats

Faculty Mentor: Matt Eckard

Poster Presentation

Behavioral changes induced by spontaneous cannabinoid withdrawal have been historically difficult to demonstrate. This is likely due to both the slow elimination of cannabinoids during abstinence and the relatively mild nature of the withdrawal syndrome. Operant-conditioning tasks represent a sensitive and powerful approach to detect behavioral disruption during spontaneous withdrawal. Here, we use an exponentially incrementing PR schedule to model possible motivational deficits during spontaneous withdrawal. Adult male and female Long-Evans rats were trained in operant-conditioning chambers to respond on a PR schedule. During each session, the ratio requirement incremented exponentially following each reinforcer generating the following progression: 1, 2, 4, 6, 9, 12, 15, 20, 25, 32, 40, 50, 62, etc. Following three weeks of training, rats received twice daily injections of vehicle (1:1:18 parts EtOH:Kolliphor:Saline) or the synthetic CB1 agonist CP55,940 (0.5 mg/kg, s.c.) for 6 days while continuing PR training. Following Day 6 of repeated injections, rats were tested for 4 days following their last injection to assess spontaneous withdrawal. CP-treated rats become tolerant to CP55,940 by Day 5 of repeated injections. During the early withdrawal phase (Days 1 & 2) CP-treated rats showed decreased response rates and longer response latencies relative to their performance during baseline. By late withdrawal (Days 3 & 4), CP-treated rats resembled vehicle-treated rats on all measured outcomes. Spontaneous cannabinoid withdrawal can be detected using an exponential PR schedule in rats. However, withdrawal magnitude is low and resolves within 2-3 days of abstinence. While spontaneous withdrawal can be demonstrated, longer dosing regimens and/or more sensitive tasks are likely needed to reliably detect behavioral effects of spontaneous cannabinoid withdrawal.

Drake S. Khazal, Nicholas Ippolito, Mackenzie Brownrigg, Caleb Kundert, Michael Heller, Michael Josephson, Clarke Lerner, Elle Dela Rosa, Olivia Smith, & Sydney Mundkowsky
Identifying support gaps: A study of stress levels, work-life balance and on-campus resource usage of the student body at Radford University

Faculty Mentor: Teresa Ristow

Poster Presentation

This study examines the stress levels of the student body at Radford University, specifically attempting to identify differences in stress levels between student-athletes, employed students and students who are neither employed nor athletes, as well as what on-campus resources students utilize to manage stress and maintain a healthy work-life balance. Data was collected utilizing a survey created in Qualtrics and distributed electronically via SONA. Three one-way ANOVA tests were conducted to detect potential differences between the aforementioned groups in their overall stress levels, work-life balance and the effects of their perceived work-life balance and overall stress; a significant difference was detected between the overall stress levels of the groups but not work-life balance nor perceived work-life balance. With these analyses, we aim to identify potential gaps in stress-management resources available to Radford students and how best to support their differing needs.

Brooklynn Mulholland, Hayat A. Khan, Zoe M. Hannabass, & Jenna Blanchette
Neuropeptide Y expression in the hypothalamus of cannabinoid-exposed adolescent rats

Faculty Mentors: Matthew Eckard, Pamela Jackson, & Dayna Hayes

Poster Presentation

It is widely known that cannabis use can increase appetite. This change in hunger state appears to be mediated via endocannabinoid activity in the hypothalamus, but the nature of appetite and reward signaling in this region is complex with various overlapping neurobiological pathways. Thus, assessing the effects of cannabinoid exposure on known hunger peptides, including Neuropeptide Y (NPY), may elicit an increased understanding of the hypothalamic circuitry. However, studies of cannabinoid exposure in adolescent rats in our laboratory have consistently revealed a reduction in body weight and food intake following administration, thus necessitating a nutritional control. Therefore, adolescent rats were randomly assigned to one of three conditions; drug+supplement, yoked+supplement, and weight-control. The supplement groups were allowed access to Vanilla Ensure throughout the 2-week injection period (CP-55,940 or vehicle; i.p.). Following a battery of behavioral tests, animals were injected with sodium pentobarbital then transcardially perfused. Brains were extracted, post-fixed for 24 hours, then sliced coronally. A 1:8 tissue series was utilized to examine the expression of NPY in the paraventricular nucleus of the hypothalamus following standard immunohistochemistry protocols. NPY expression in the paraventricular nucleus was quantified via densitometric analysis of representative photomicrographs obtained using a BX-43 microscope (Olympus) and associated Q-Capture software (n = 9-10/group). Pixel density was determined using thresholding analysis within the Image J software package. One-way ANOVA failed to reveal any significant differences in NPY expression levels between groups, indicating a need for further investigation into the complicated mechanisms underlying the relationship between hunger and cannabinoid reward pathways within the hypothalamus.

Hayley Snow 

Why are females with autism going undiagnosed?

Faculty Mentor: Jennifer Mabry

Poster Presentation

The male to female ratio of autism has previously been found to be 4:1. More recent research contradicts this sex ratio and has found that females are more likely to go undiagnosed (D’Mello et al., 2022). Consequences of going undiagnosed (or delayed diagnosis) can result in an increased risk of mental health disorders, such as anxiety and depression (Brickhill et al., 2023). This poster will explore the reasons why this sex bias is occurring through an international lens. A literature review of articles from within last 10 years was conducted and revealed that the sex bias against females can potentially be explained by an expectation bias, diagnostic criteria, diagnostic measures, and “masking”. This poster will also explore sex bias through a college student case study lens with a case completed through our Psychology Department clinic (Center for Assessment and Psychological Services (CAPS)). Implications for school psychologists and other health professionals involved in the diagnostic process are reviewed.

Olivia Webb, Olive Nichols, Corey Vallastro, & Zachary Lewis

ChatGPTutor: Learning from AI-generated examples

Faculty Mentor: Kathleen Arnold

Poster Presentation

With AI’s rise in popularity, educators have begun to wonder how we can use it as a tool for learning. An early qualitative study that examined tweets and conducted interviews with students and educators showed that AI has the potential to be a virtual tutor; however, some students admit that they would choose to use AI as a means of cheating rather than as a tool for learning (Tlili et al., 2023). Other applications, like Google, have been shown to hurt metacognitive accuracy (Stone & Storm, 2021). These findings could be applied to ChatGPT. Our study examines 1) Can AI generated examples improve learning? 2) How will AI generated examples influence our metacognitive judgements? Radford University students will be randomly placed into two groups. They will either generate their own examples on ChatGPT to assist in studying or be provided with examples. They will then answer questions to measure their judgment of learning. After a period of time, the participants will take a test to see how much they actually learned. We predict that ChatGPT will lead to better learning compared to provided examples. However, we also predict ChatGPT will decrease students’ metacognitive accuracy. If these hypotheses are supported, students can use ChatGPT as an additional virtual tutor to provide them with extra educational support but must be careful to not become overconfident.

Olivia Webb, Olive Nichols, Corey Vallastro, & Zachary Lewis,

Emerging threat or virtual tutor: ChatGPT’s role in learning

Faculty Mentors: Kathleen Arnold & Ben Biermeier-Hanson

Poster Presentation

The introduction of Artificial Intelligence (AI) in education has created a new debate; is AI helpful, or harmful to learning? One of the most widely used AI software is ChatGPT by OpenAI. In education, there is a growing concern that students will use ChatGPT and other AI programs to cheat; however, researchers and educators have also begun to look at AI as a potential *asset* to learning, rather than a threat (Halaweh, 2023; Tlili, 2023). When studying, AI

may help students by clarifying concepts, summarizing readings, providing extra practice or in other ways. However, AI can generate incorrect answers and fake sources. Given these complicated issues, educators need guidance on how to approach AI in the classroom. Currently, little is known about how students are using AI in education. This study intends to investigate by answering five questions: 1) What do students know about AI? 2) Do students intend to use AI for learning? 3) Do students intend to use AI for cheating? 4) Do students believe AI can be a tool for learning? 5) Do students believe it is ethical to use AI? Using these five questions as constructs, we are conducting survey research using a sample of Radford University students recruited via flyers and SONA class credits. An exploratory factor analysis will be used to examine the reliability and validity of the survey. Comparisons will be drawn to examine potential relationships between the constructs. Our findings will inform decisions made in education about future AI use.

Brittle Williams 

Pluralistic ignorance within attitudes toward transgender individuals

Faculty Mentor: Jeff Aspelmeier

Poster Presentation

The current study provides further evidence that pluralistic ignorance (PI) occurs within transprejudice attitudes. PI is a phenomenon where members of a group misperceive the group norm, which creates pressure to conform to the misperceived norm (Miller & Prentice, 1994). Participants ($n = 245$) recruited through Prolific completed a short form of the Genderism & Transphobia Scale (Tebbe, Moradi, & Ege, 2014) and the Negative Attitudes & Negative Intentions Toward Transgender Individuals subscales (Barbir et al., 2017). Each participant reported their own attitudes and reported the attitudes they believe their peers hold, in a counterbalanced order. Participants also completed the Marlow-Crowne Social Desirability Scale (Crowne & Marlow, 1960). A mixed-model repeated measures ANOVA showed a significant main effect for target of rating (self vs. other; $\eta_p^2 = .57$) and social desirability (low vs. high; $\eta_p^2 = .02$), but no significant interaction. Participants' self-ratings were significantly less prejudiced ($M = 2.34$, $SD = 1.40$) than ratings they made for the average American ($M = 3.93$, $SD = .96$). People low in social desirability showed the strongest evidence for pluralistic ignorance which ruled out social desirability as an alternative explanation for pluralistic ignorance. Additional analyses showed a significant main effect for target of rating ($\eta_p^2 = .58$) and sexual identity (heterosexual vs. queer; $\eta_p^2 = .17$), with a significant interaction ($\eta_p^2 = .07$). Queer participants show a larger magnitude of PI; however, they also estimated attitudes of the average American more accurately. These data suggest the presence of PI in transgender attitudes.

Brittle Williams, MaKayla Dulaney, Zachary Lewis, Jessica Handy, & Julianna Crawford

Pluralistic ignorance within academic self-efficacy: Potential moderators

Faculty Mentor: Jeff Aspelmeier

Poster Presentation

This study investigates Pluralistic Ignorance (PI) in academic self-efficacy (ASE). PI represents collective misestimations of social norms, demonstrated when group members' self-reported attitudes collectively differ from estimates of peers' attitudes (Miller & Prentice, 1994; Prentice & Miller, 1993). PI has been found in attitudes about school including students' beliefs about cheating (Halbesleben et al., 2004), and study behaviors (Buzinski et al., 2018). In this study, students were expected to underestimate classmates' ASE. Social desirability and self-esteem

were investigated as potential alternative explanations for discrepancies between self and other ratings. Participants completed an online survey where they reported their own ASE, estimated peers' ASE, and completed a social desirability and self-esteem measures. Mixed-model ANOVAs tested whether social desirability moderated the effects of target of rating on both general ASE and course specific ASE. Both analyses show significant main effects for target of rating and social desirability. Self-ratings of general and course specific ASE were significantly higher than other-ratings, consistent with PI. Participants with higher social desirability reported significantly higher ASE for themselves and for others. Neither case showed significant interaction, eliminating social desirability as an alternative explanation. Additional analyses showed significant main effects self-esteem. Participants with higher self-esteem reported higher ASE for self and for other. Also, the interaction between target of rating and self-esteem for general ASE was significant. PI was observed in both self-esteem groups but was strongest among participants with high self-esteem. Participants with high self-esteem rated peers' ASE significantly higher than low self-esteem participants, reflecting a pattern of attitude assimilation. Findings provide preliminary evidence that PI occurs within academic attitudes.