



PAUSE-YOGA: AN 8-WEEK MINDFULNESS-BASED YOGA INTERVENTION FOR WOMEN’S SPORT STUDENT-ATHLETES TRANSITIONING INTO COLLEGE AND COLLEGIATE SPORT

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<https://youtu.be/BQ6XPQW0jWA>

Abstract

This study tested the feasibility and preliminary efficacy of PAUSE-Yoga, an 8-week mindfulness-based yoga program to mitigate symptoms of depression, anxiety, and stress among women’s sport student-athletes transitioning into college and collegiate sport. Evidence supports yoga as an active recovery and restorative activity to mitigate these prevalent mental health issues. Twenty-eight women’s sport student-athletes from one ACC Division I collegiate athletic team were enrolled into the program.

Summer 2023 Pilot Interest Survey

Our research team designed a pilot interest survey distributed from end of July through the end of August 2023 to assess student-athlete preferences and willingness to participate in an intervention program. Fifty-two student-athletes from 12 different sports teams completed the 10-minute survey via Qualtrics.

Quantitative Results from Pilot Interest Survey

Question	Response from most preferred to least [left to right]			
Preferred Modality (In-person, Hybrid, or Online)	In-person (n=38)	Hybrid (n=14)		Online (n=0)
Willingness to Participate (Yes/No)	Yes (n=35)		No (n=9)	
Intervention Length (4, 6, or 8 weeks)	4-weeks (n=25 first choice)	6-weeks (n=27 first or second choice)		8-weeks (n=4 first choice)
Time of Day (Mornings 8a-12p; Afternoons 12-5p; Evenings 5-8p)	Mornings (n=28)	Evenings (n=44 first or second choice)		Afternoons (n=12 first choice)
Time of Year (Spring [Mar-May]; Summer [June-Aug]; Autumn [Sept-Nov]; Winter [Dec-Feb])	Spring (n=26)	Autumn (n=18)	Summer (n=16)	Winter (n=14)

Relevant Themes from Open-Ended Responses

Respondents mentioned several themes regarding facilitators and barriers to participation:

- Social support and accountability with specific focus on encouragement and peer support such as group check-ins and a buddy system for motivation (n=26)
- Convenience in location and timing (n=23)
- Flexibility with program schedules to adapt to their individual commitments (n=19)

PAUSE-Yoga Intervention Assessment Data

PAUSE-Yoga ran from Aug 2023 - Oct 2023. We conducted data collection before the program began (pre-program) and 4-weeks into the program (midway point). Reported data is from pre-program and midpoint assessments. Final data collection is scheduled following the last session on October 11th, 2023. Twenty-eight student-athletes ($M_{age} = 19 \pm 0.9$ years old) completed the pre-program survey. Fifteen student-athletes completed the midpoint survey. All student-athletes from the pre-program survey will receive an invitation to participate in the post-program survey irrespective of their midpoint survey completion.

Aim 1 - Feasibility

Our study assessed the feasibility of our intervention through recruitment and retention rates. Our final evaluation will be conducted at the conclusion of the program. At the midpoint, we observed a response rate of 53.6% (n=15). It is also worth noting that our study faced some unexpected challenges. For instance, the midpoint survey was launched on the same day as the occurrence of a second campus lockdown of the semester. Unforeseen events may have contributed to the lower response rate observed at the midpoint. Accordingly, we anticipate a higher response rate following program completion.

Aim 2 – Preliminary Efficacy

We conducted within- and between-group comparisons of aggregated data pre-program and with our midpoint data. Our final evaluation on preliminary efficacy will be conducted at the conclusion of the program. Statistical significance is denoted by a * in the results below.

	Depression	Anxiety	Stress
Within-Subject	$F_{(1,14)} = 0.04, p = .844$	$F_{(1,14)} = 0.83, p = .379$	$F_{(1,14)} = 1.86, p = .195$
Between-Subjects	$F_{(1,14)} = 12.76, p = .003^*$	$F_{(1,14)} = 35.79, p < .001^*$	$F_{(1,14)} = 21.46, p < .001^*$

The results suggest that there were no significant changes in participant’s depression, anxiety, and stress over the 4-week period of PAUSE-Yoga. However, significant differences were observed among participants in these variables at the beginning of the program. These findings emphasize the importance of considering participants' baseline characteristics when evaluating the impact of the intervention.

Exploratory Aim 3 – Examine Associations Between Identity and Mental Health Issues

During our exploratory analysis, we examined associations between identity and mental health variables.

Within-Subjects

	Depression		Anxiety		Stress	
	Linear	Cubic	Linear	Cubic	Linear	Cubic
Exercise Identity	$F_{(1,14)} = 356.63, p < .001$	$F_{(1,14)} = 260.59, p < .001$	$F_{(1,14)} = 864.62, p < .001$	$F_{(1,14)} = 349.94, p < .001$	$F_{(1,14)} = 226.55, p < .001$	$F_{(1,14)} = 245.00, p < .001$
Athletic Identity	$F_{(1,14)} = 260.42, p < .001$	$F_{(1,14)} = 239.30, p < .001$	$F_{(1,14)} = 531.34, p < .001$	$F_{(1,14)} = 352.01, p < .001$	$F_{(1,14)} = 187.46, p < .001$	$F_{(1,14)} = 193.53, p < .001$
Academic Identity	$F_{(1,14)} = 704.63, p < .001$	$F_{(1,14)} = 531.57, p < .001$	$F_{(1,14)} = 1825.89, p < .001$	$F_{(1,14)} = 660.41, p < .001$	$F_{(1,14)} = 377.24, p < .001$	$F_{(1,14)} = 529.27, p < .001$

Between-Subjects

	Depression	Anxiety	Stress
Exercise Identity	$F_{(1,14)} = 970.06, p < .001$	$F_{(1,14)} = 1523.56, p < .001$	$F_{(1,14)} = 582.79, p < .001$
Athletic Identity	$F_{(1,14)} = 878.50, p < .001$	$F_{(1,14)} = 1028.14, p < .001$	$F_{(1,14)} = 554.71, p < .001$
Academic Identity	$F_{(1,14)} = 2581.35, p < .001$	$F_{(1,14)} = 5975.96, p < .001$	$F_{(1,14)} = 1709.59, p < .001$

The study's findings indicate that one's identity has significant and complex relationships with depression, anxiety, and stress. Within-subjects analysis revealed that these various identities exhibited both linear and non-linear associations with these mental health factors, implying that the impact of identity on mental well-being is not straightforward and can involve intricate patterns. Between-subjects analysis revealed these identities were each shown to have a substantial overall relationship with depression, anxiety, and stress scores. This suggests that a strong sense of identity may be associated with differences in mental health outcomes. This data underscores the importance of considering identity in understanding and addressing mental health challenges.



Qualitative Data Highlights

- *Mental and Physical Health Ratings*
 - There was a notable shift in the distribution of mental health ratings at the midpoint point, suggesting a potential improvement in self-reported mental health perceptions.
 - In contrast, there was a decline in self-reported physical health ratings at the midpoint.
- *Transition Facilitators and Barriers*
 - Facilitators: social support and relationships (n=9), and guidance and resources (n=7).
 - Barriers: challenges with coaches/teammates/peers (n=5) and logistical challenges (n=4).

Evidence-Based Recommendations

Based on the data and findings from your pilot study of the PAUSE-Yoga program, here are some key recommendations for clinicians and researchers working with ACC student-athletes during critical transition periods:

- *Tailor Interventions to Participant Preferences:* The survey results highlight the importance of considering participant preferences when designing interventions. Since the majority preferred in-person or hybrid modalities, future interventions should prioritize these formats to enhance engagement and participation.
- *Address Transition Challenges:* Acknowledge the diverse emotions and challenges that student-athletes experience during the transition to college and collegiate sports. Be prepared to provide support and resources that help them navigate this period effectively.
- *Emphasize Social Support and Accountability:* Participants expressed a need for social support and accountability mechanisms within intervention programs. Consider incorporating elements such as group check-ins and buddy systems to promote motivation and a sense of community.
- *Flexibility and Adaptability:* Recognize that student-athletes have individual commitments and schedules. Design interventions with flexibility to accommodate their diverse academic and athletic responsibilities.
- *Psychoeducation and Skill-Building:* Provide psychoeducation about mental health and coping strategies as part of the intervention. Equip participants with tools to manage stress, anxiety, and other mental health issues effectively.
- *Continuous Evaluation and Adjustment:* Continuously assess the feasibility and efficacy of interventions throughout their implementation. Adapt and refine programs based on participant feedback and evolving needs.
- *Monitor Mental and Physical Health:* Regularly monitor both mental and physical health during interventions. Track changes in mental health perceptions and address any perceived declines in physical health promptly.
- *Consider Timing and Length:* Participants showed a preference for morning sessions and shorter durations (4-6 weeks). Align intervention schedules with these preferences whenever possible.
- *Promote Holistic Well-Being:* Incorporate components related to nutrition, mental health, and career guidance into intervention programs to support holistic well-being.
- *Assess Identity Concerns:* Be attentive to identity struggles that some participants may face during transitions. Offer resources and support for those grappling with identity-related challenges.

These recommendations aim to enhance the design and implementation of interventions like PAUSE-Yoga, ensuring that they are more effective, well-received, and supportive of student-athletes during their transition into college and collegiate sports.