

PAUSE-Cardio: Moderate-Intensity Exercise Intervention for Women's Sport Student-Athletes Transitioning into College and Collegiate Sport

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Abstract

Moderate-intensity exercise may mitigate symptoms of depression, anxiety, and stress. Although women's sport student-athletes transitioning to college and collegiate sport experience a heightened prevalence of MHIs, little is understood about the influence of moderate-intensity exercise on this population. In this interventional study, four university students participated in a 4-week 45-minute indoor cycling moderate-intensity cardiovascular exercise intervention. We measured changes from pre-program (T1) to post-program (T2) in depression, anxiety, and stress, along with retention rates and exploratory identity measures. Depression decreased, while stress and anxiety increased. This may be due to the exam week during T2 and the short length of the intervention. Our retention rate was (4/5) 80%, suggesting possible feasibility within this population. Exercise, academic, and athletic identities increased, and all identities were negatively correlated with MHI. The results suggest moderate-intensity exercise interventions may be feasible in this specific population and emphasized the relationship between exercise, athletic, and academic identities with mental health symptoms.

Introduction

- Transition into collegiate sport can be difficult and lead to compromised performance and mental health in athletes.
- Women experience higher incidences and prevalence of anxiety, depression, and stress than males.
- Moderate-intensity cardiovascular exercises have been shown to reduce levels of depression, anxiety, and stress.
- There remains gap in the literature exploring women's sport student-athletes' transition into college and collegiate sport. There is strong evidence that a moderate-intensity intervention may mitigate mental health issues during this transition.

Purpose

Examine the feasibility and effectiveness of a 4-week moderate-intensity cardiovascular exercise intervention program to mitigate stress, anxiety, and depression in women's sport student-athletes transitioning into college and collegiate sport.

Methods

	Quantitative Measures (T1 and T2)	Qualitative Question Topics (T1 and T2)	Demographic Information (T1)
Mixed-Methods Qualtrics Survey	Athlete Identity Measurement Scale	Transition Plan	Prior Exercise History
	Exercise Identity Scale		Physical and Mental Health History
	Depression, Anxiety, and Stress Scale (DASS)	Subjective Physical and Mental Health	Past and Current Work History
	The International Adjustment Disorder Questionnaire (IADQ)		Sport
	Academic Identity Measurement Scale	Social Support	Year of Enrollment or Transfer
	Resource List	Age	
			Race
			Ethnicity

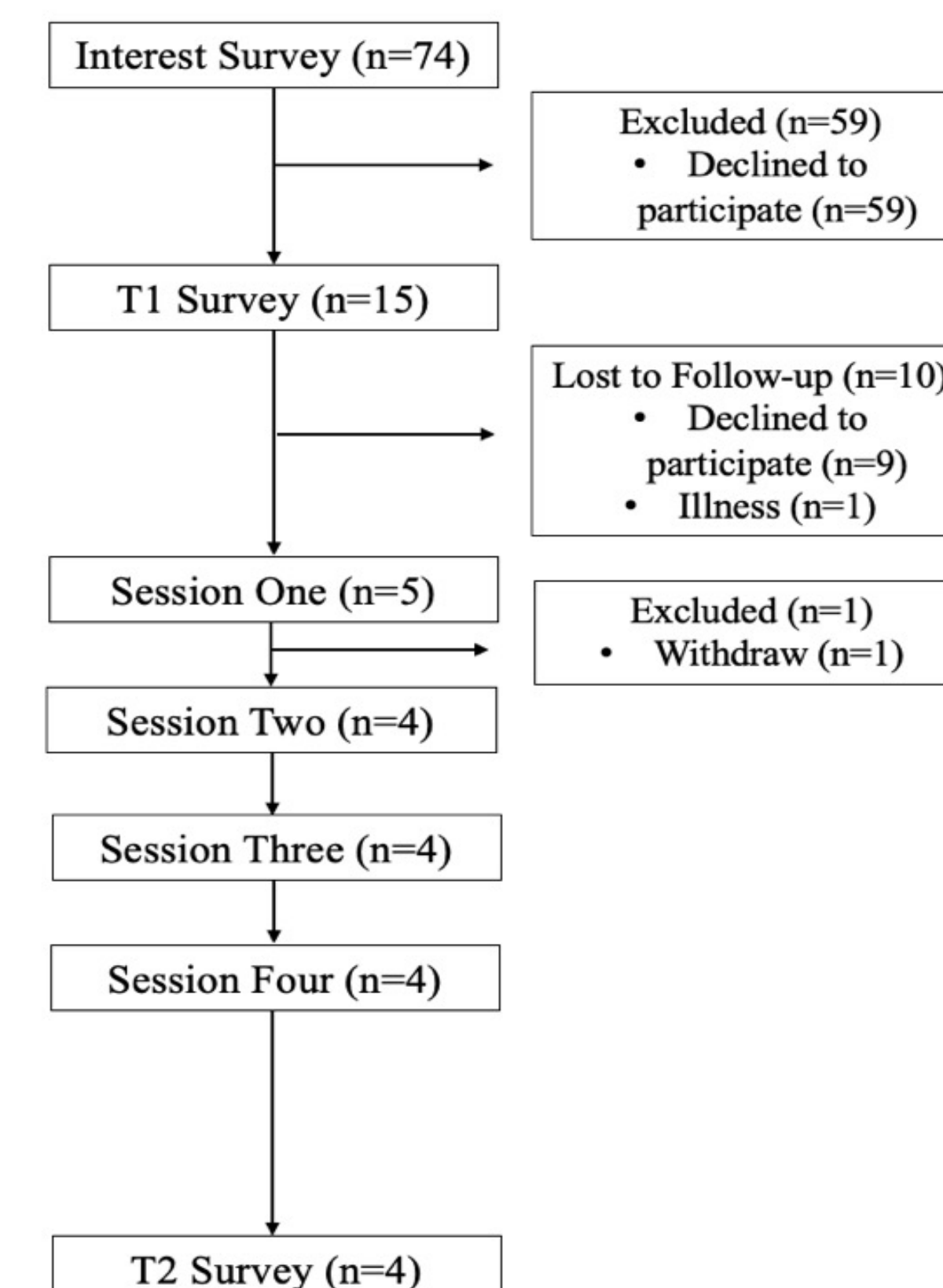
- All measurements and questions were compiled into one Qualtrics-based survey that was administered two times (pre-program [T1] and post-program [T2]).
- PAUSE-Cardio was administered once per week in the form of an indoor cycling group fitness modality over four weeks in-person.
- The 45-minute class consisted of a 5-minute warm-up, a 35-minute conditioning segment, and a 5-minute cooldown.
- Proportions of retention rates were examined.
- Mixed-effect regression analyses were conducted to assess efficacy through MHI changes from T1 and T2 and identity variables were inspected using Pearson's r correlation coefficient.

Participants

Participants consisted of four women's sport student-athletes (N=4) ages 18 and older in their first two years of undergraduate study participating in recreational sport.

Demographic information at T2 for Intervention Group

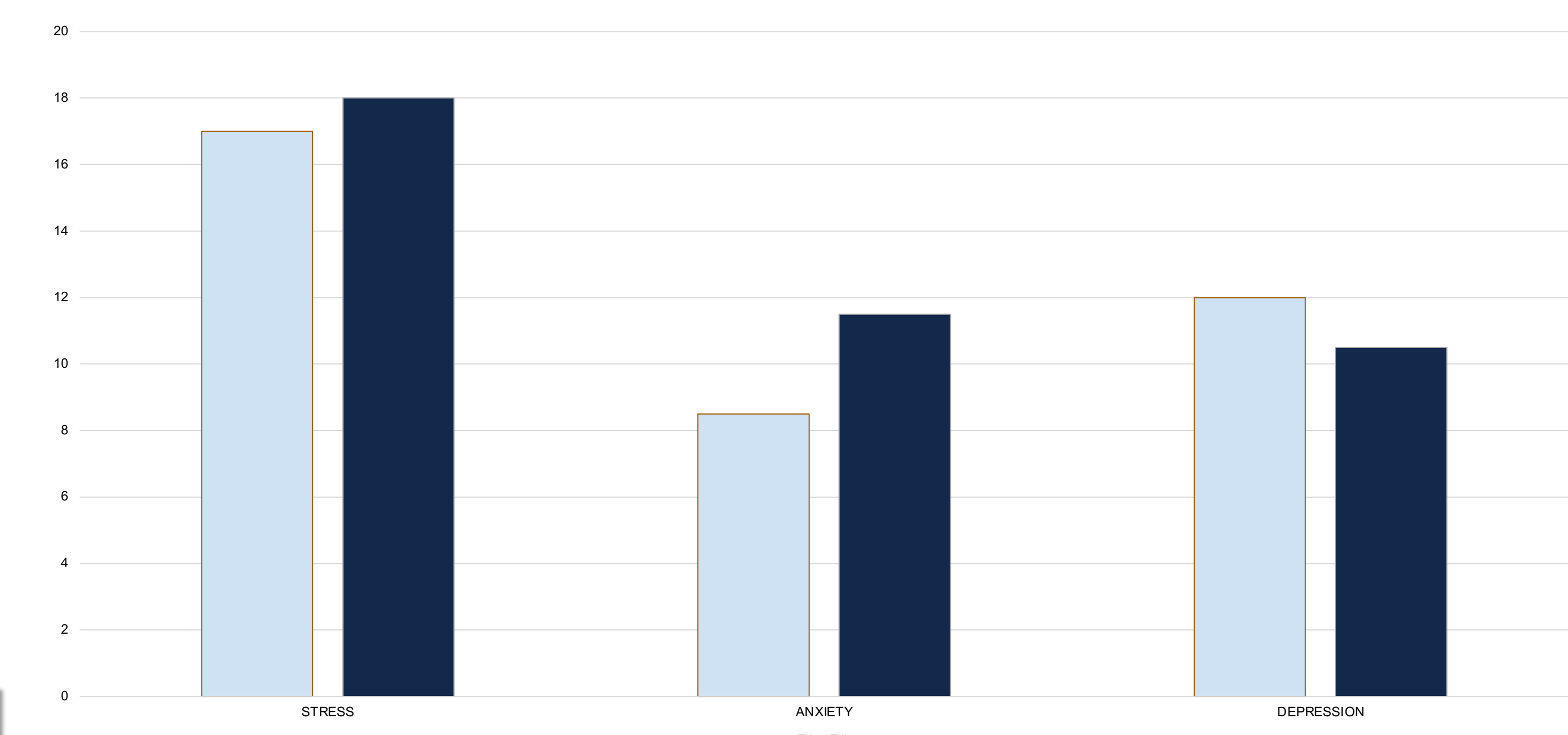
	n	%
Gender		
Female	4	100
Race		
White	2	50.0
Asian or Pacific Islander	1	25.0
Multiracial or Biracial	1	25.0
Age		
18	1	33.3
19	1	13.3
20	2	50.0



Results

- Retention rate was 80% (4/5) from session one to the T2 survey completion
- Depression symptoms trended down, while anxiety and stress symptoms trended upward from T1 to T2 (non-statistically significant)
- Exercise identity experienced a statistically significant increase
- Athletic and academic identities trended upward (non-statistically significant)
- All identity measures were negatively correlated with depression, anxiety, and stress

Comparison of Average Mental Health Issues Subscale Scores from T1 to T2



Correlations Between Mental Health Issues and Identity Measures

	Depression		Anxiety		Stress	
	r	p-value	r	p-value	r	p-value
AIMS	-0.683	.062	-0.587	.126	-0.566	.144
Academic Identity Scale	-0.448	.265	-0.306	.460	-0.351	.394
EIS	-0.450	.264	-0.118	.781	-0.389	.341
IADQ	0.493	.215	0.149	.724	0.181	.668

Conclusion

- The retention rate of 80% underscores the feasibility of a 4-week indoor cycling intervention for the specific population.
- The increase in identity scores post-intervention suggests exercise, athletic, and academic identities may be heightened utilizing this intervention methodology.
- Lastly, the negative correlation among MHIs and identity measures suggests future programs may aim to increase identity measures as a way of mitigating MHIs.