April 25, 2026

CSURF 2026

UNDERGRADUATE RESEARCH FORUM

Celebrating Research and Creative Works
Within the local Higher-Ed Community

SCAN to Register

PIKES PEAK STATE COLLEGE

UCCS University of Colorado Colorado Springs

COLORADO COLLEGE

Student Presenter Registration
OPENS Jan. 19
Closes April 6

Pikes Peak State College Downtown Campus

Pikes Peak State College

Oral Sessions

CONTINUE UP THE STAIRS 2ND FLOOR

2026 Colorado Springs Undergraduate Research Forum (CSURF)

April 25, 2026

Pikes Peak State College (Downtown- 100 W Pikes Peak Ave)

8:15-9:00 am	Check-In and Set Up - 1st Floor (Pikes Peak Ave. entrance)			
Oral Presentations Rooms	Room # s215	Room # s228	Room # s232	Room # s116
Faculty Session Chairs	Jesús Peña	Stefan Huddleston	Jackal Tanelorn	Roving
Oral Session 1 9:00 - 10:20 am	Plant-Fungal Symbiosis and Environmental Adaptation	Electrochemical Crystal Growth and Materials Science	Indigenous & Marginalized Cultural Identity	Poster Staging Room
	Katzen, M.	Bost, E	Axel, J.	Drop-off your poster HERE until your session begins
	Ollier, T.	Willner, R.	Nagel, H.	
	Hall, N. (2)	Johnson, M. (Group)	Schramm, M.	
	Hams, J.	Snelling, J.	Vasquez, S.	
9:15-10:15am	Poster Session 1 - The Learning Commons Leslie Newton, Jennifer Polopolus Meredith			
Oral Presentation Rooms	Room # s215	Room # s228	Room # s232	Room s116
Faculty Session Chairs	Mark Saviano	Emily Forand	David Schulz	Roving
Oral Session 2 10:30-11:50pm	Neurological Systems, Addiction, and Modern Behavior	Gender, Power, and Systemic Control	Stress, Physiological Response, and Policy Impact	Poster Staging Room
	Chapman, T.	Ford, JD	Gonzalez Paris, V.	Drop-off your poster HERE until your session begins
	Hutchison, S.	Hall, N. (1)	Wang, P.	
	Davis, J.	Schauer, T.	Griffin, L.	
	Powell, L.	Venzor, R.		
11:45am-12:45pm	Poster Session 2 - The Learning Commons Wayne Artis, Brett Woodard			

Schedule of Events

CSURF Book of Abstracts

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Coffee & Bagels
2026 Colorado Springs Undergraduate Research Forum (CSURF)
April 25, 2026
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YOU'RE THE COFFEE TO MY BAGEL

Poster Sessions


EXIT
Parking Validation
Validación de Estacionamiento
STUDENT PARKING VALIDATION

COLORADO COLLEGE







Top: Nyah Flores, Sophia Kang, Gabriela Lues, Carlie Malott

Bottom: Sofia Rocca, Owen Simpson, Gus Yar

Motor Control Asymmetry in Female Athletes with Unilateral ACL Reconstruction

COLORADO COLLEGE
Sophia Kang, Sofia Rocca, Kaitlyn Wilks, and Eryn Murphy, Ph.D.
Department of Human Biology and Kinesiology, Colorado College

Abstract

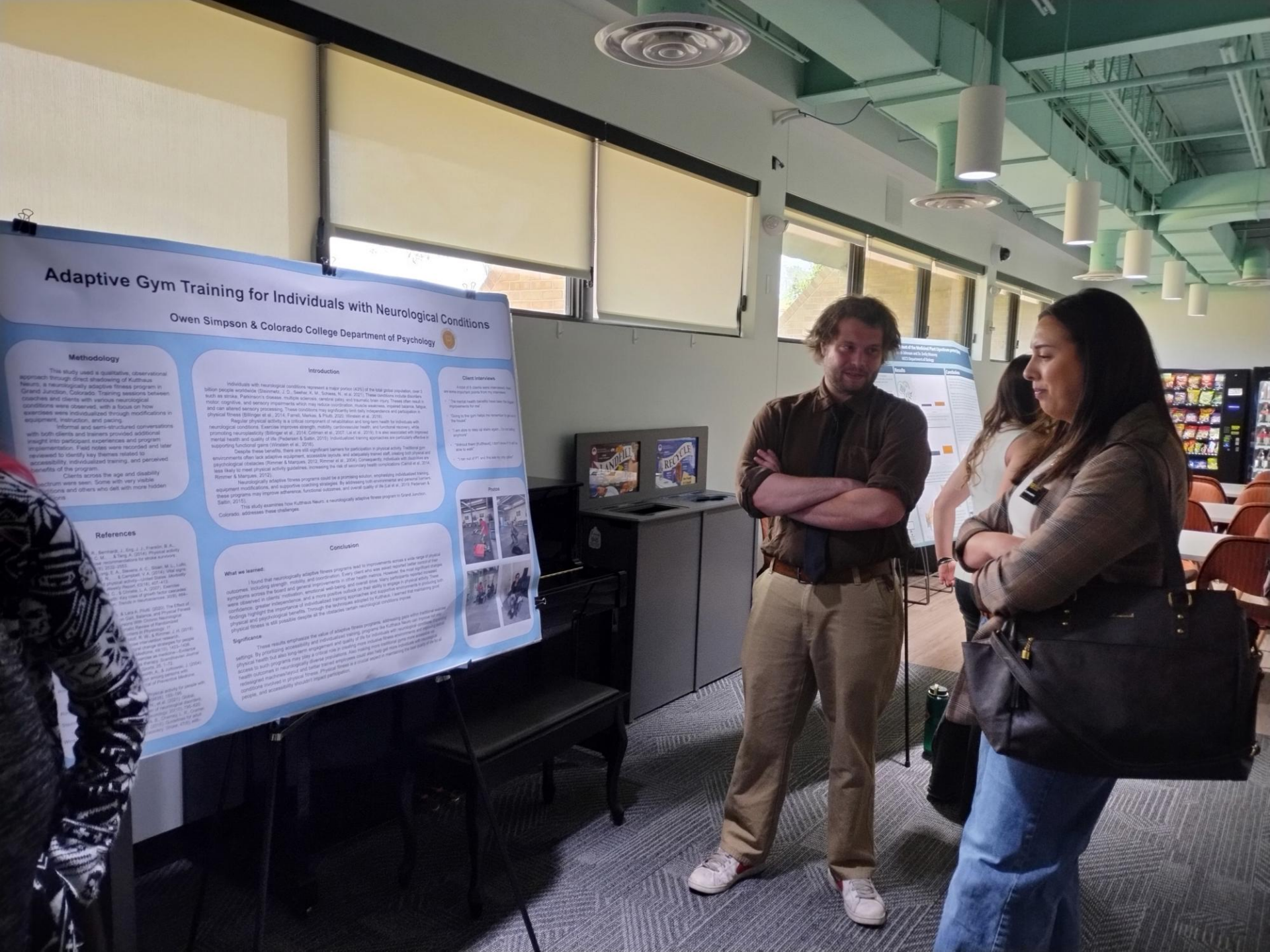
Results

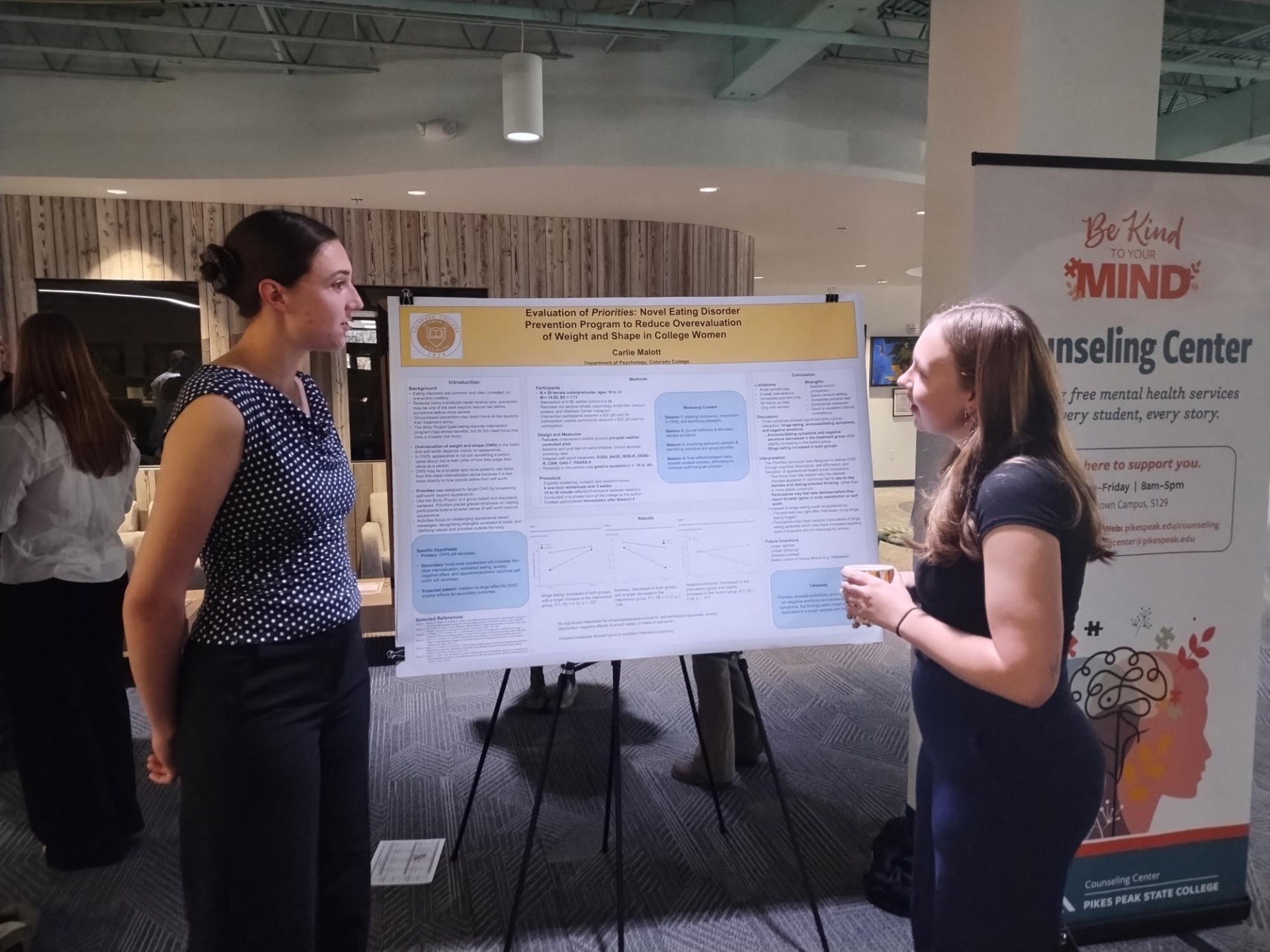
Methodology

Background

Discussion

Acknowledgements & References


Adaptive Gym Training for Individuals with Neurological Conditions
Owen Simpson & Colorado College Department of Psychology
Methodology
This study used a qualitative, observational approach through direct shadowing of Kutthaus Neuro, a neurologically adaptive fitness program in Grand Junction, Colorado. Training sessions between coaches and clients with various neurological conditions were observed, with a focus on how exercises were individualized through modifications in equipment, instruction, and pacing.
Informal and semi-structured conversations with both clients and trainers provided additional insight into participant experiences and program implementation. Field notes were recorded and later reviewed to identify key themes related to accessibility, individualized training, and perceived benefits of the program.
Clients across the age and disability spectrum were seen. Some with very visible conditions and others who dealt with more hidden ones.
References
Introduction
Individuals with neurological conditions represent a major portion (43%) of the total global population, over 1 billion people worldwide (Steinmetz, J. D., Seeher, K. M., Schiess, N., et al. 2024). These conditions include disorders motor, cognitive, and sensory impairments which may reduce coordination, muscle weakness, impaired balance, fatigue, and can altered sensory processing. These conditions may significantly limit daily independence and participation in physical fitness (Billinger et al., 2014; Farrell, Markas, & Pfuhl, 2020; Ilbrekes et al., 2018).
Regular physical activity is a critical component of rehabilitation and long-term health for individuals with neurological conditions. Exercise improves strength, mobility, cardiovascular health, and functional recovery, while promoting neuroplasticity (Billinger et al., 2014; Cotman et al., 2007; Lai et al., 2019). It is also associated with improved mental health and quality of life (Pedersen & Saltin, 2015). Individualized training approaches are particularly effective in supporting functional gains (Winstein et al., 2016).
Despite these benefits, there are still significant barriers for participation in physical activity. Traditional gym environments often lack adaptive equipment, accessible layouts, and adequately trained staff, creating both physical and psychological obstacles (Rimmer & Marques, 2012; Rimmer et al., 2004). Consequently, individuals with disabilities are less likely to meet physical activity guidelines, increasing the risk of secondary health complications (Carroll et al., 2014; Rimmer & Marques, 2012).
Neurologically adaptive fitness programs could be a promising solution, emphasizing individualized training, equipment modifications, and supportive coaching strategies. By addressing both environmental and personal barriers, these programs may improve adherence, functional outcomes, and overall quality of life (Lai et al., 2019; Pedersen & Saltin, 2015).
This study examines how Kutthaus Neuro, a neurologically adaptive fitness program in Grand Junction, Colorado, addresses these challenges.
Client Interviews
Photos
Conclusion
What we learned:
I found that neurologically adaptive fitness programs lead to improvements across a wide range of physical outcomes, including strength, mobility, and coordination. Every client who was asked reported better control over symptoms across the board and general improvements in other health metrics. However the most significant changes were observed in clients' motivation, behavioral well-being, and overall drive. Many participants reported increased confidence, greater independence, and a more positive outlook on their ability to engage in physical activity. These findings highlight the importance of individualized training approaches and supportive environments in producing both physical and psychological benefits. Through the techniques adopted by Kutthaus, I learned that maintaining good physical fitness is still possible despite all the obstacles certain neurological conditions impose.
Significance
These results emphasize the value of adaptive fitness programs, addressing gaps within traditional exercise settings. By prioritizing accessibility and individualized training, programs like Kutthaus Neuro can significantly improve physical health but also long-term engagement and quality of life for individuals with neurological conditions. Increasing access to such programs may play a critical role in promoting more inclusive fitness environments, ultimately leading to health outcomes in neurologically diverse populations. Also making more adaptive gyms more accessible can help reintegrate individuals into physical activity and better trained employees could also help get more individuals with neurological conditions involved in physical fitness. Physical fitness is a crucial aspect in maintaining the best health of for all people, and accessibility shouldn't impact participation.


Evaluation of *Priorities*: Novel Eating Disorder Prevention Program to Reduce Overevaluation of Weight and Shape in College Women
Carlie Malott
Department of Psychology, Colorado College
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own Campus, S129
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ncenter@pikespeak.edu
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Unplugged and Restored: Reversing
on Attention to Nature, Empa
Smartphone Use
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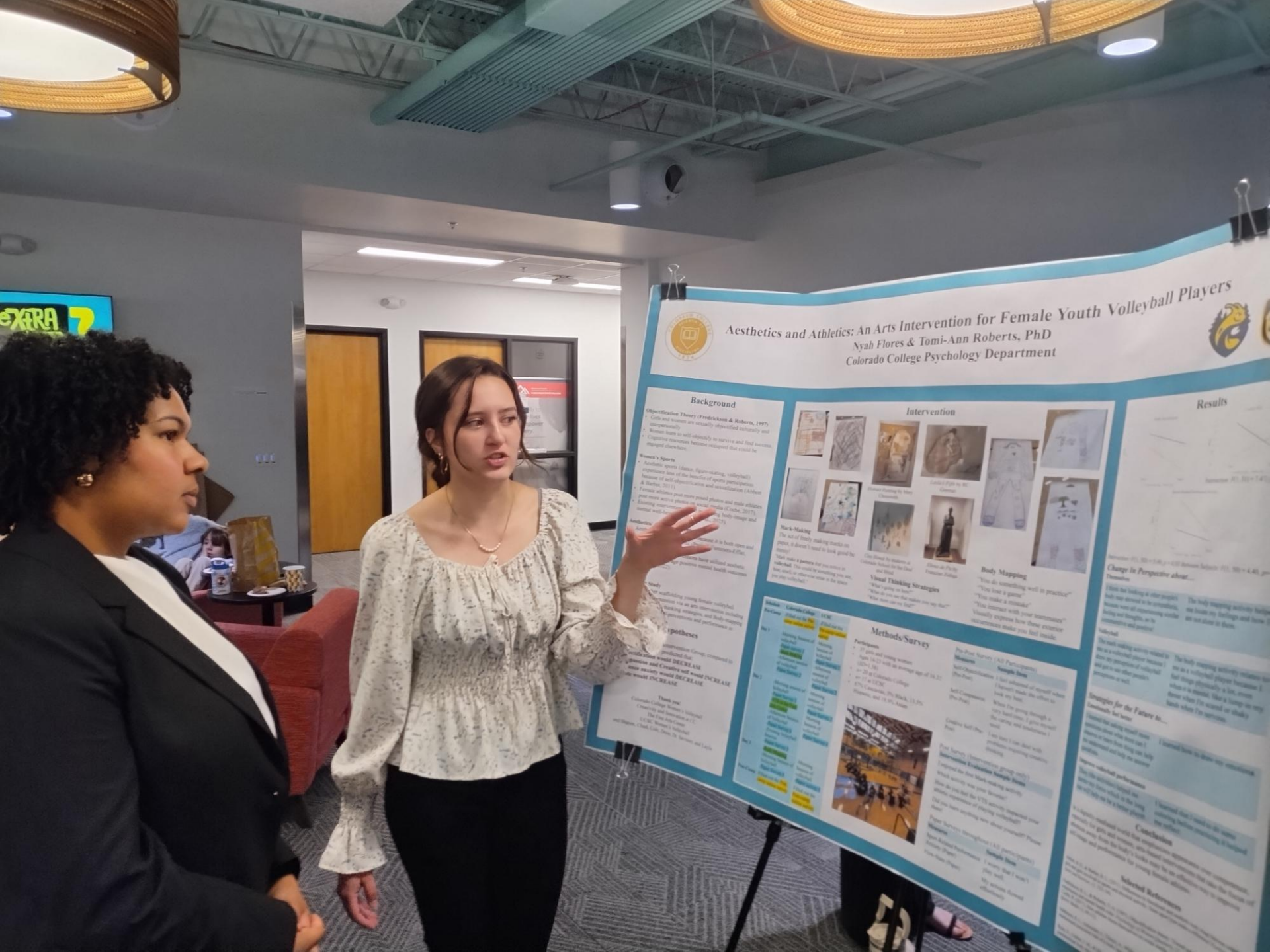
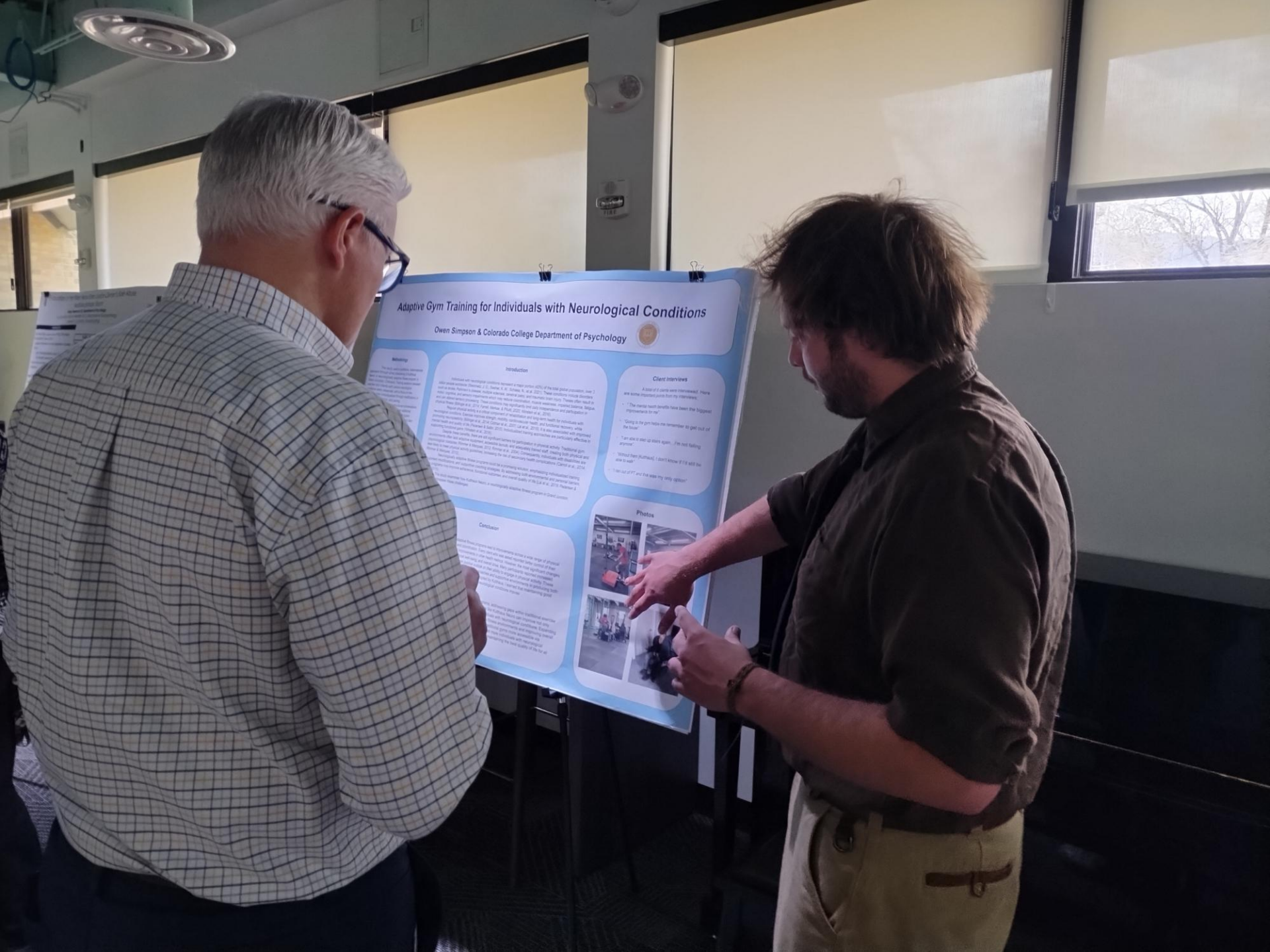

Aesthetics and Athletics: An Arts Intervention for Female Youth Volleyball Players
Nyah Flores & Tomi-Ann Roberts, PhD
Colorado College Psychology Department
Background
Intervention
Results
Methods/Survey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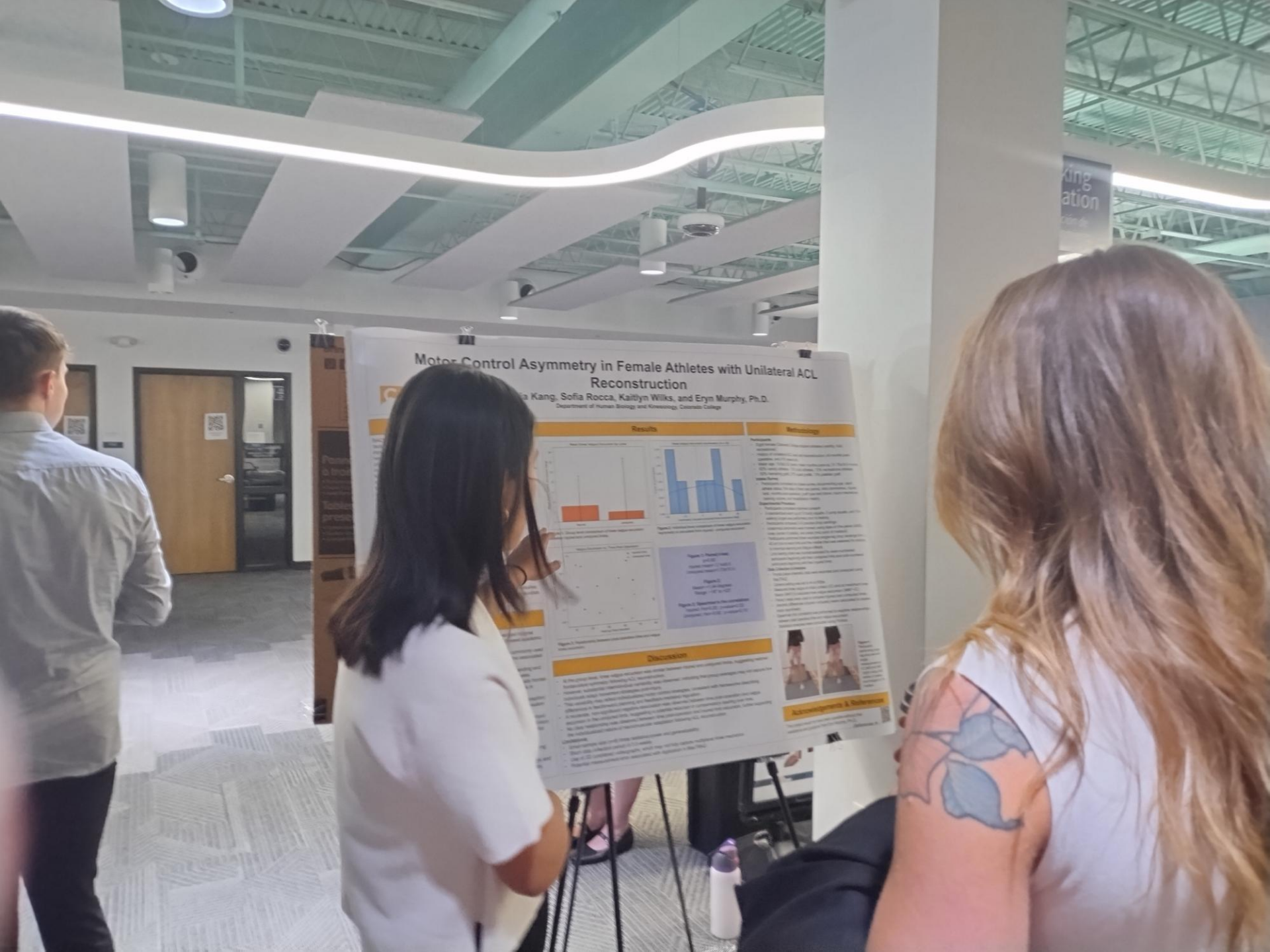
Hormonal Contraceptive Use and Dynamic Knee Valgus in Female Athletes After Unilateral ACL Reconstruction
Sofia Rocca, Sophia Kang, Kaitlyn Wilks, and Erya Murphy
Methods
Results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Department of Human Biology and Kinesiology, Colorado College
Results
Discussion
Acknowledgments & References

Unplugged and Restored: Reversing the Negative Effects of Smartphone Use on Attention to Nature, Empathic Connection, and Mindfulness

Gus Yar and Tomi-Ann Roberts, PhD
Department of Psychology, Colorado College

Introduction

Method

Participants and Setting

Procedure

Domain	Measure
Problematic Use	Smartphone Addiction Scale – Short Version (SAS-SV)
Dependence	Smartphone Application-Based Addiction Scale (SABAS)
Unself	Connectedness to Nature Scale (CNS)
Mitself	IRI: Empathic Concern, Personal Distress, Perspective-Taking
Mitself	Self-Assessed Collaboration Skills Scale (SACS)
Yourself	Mindful Attention Awareness Scale (MAAS)

Time 1 Correlations

Outcome	Direction	r	p
Nature Connectedness	↓ Lower connection	−.25	.027
Empathic Concern	↓ Less compassion for others	−.32	.007
Perspective Taking	↓ Less able to adopt others' views	−.37	.002
Personal Distress	↑ More self-focused anxiety	+.35	.003
Mindful Awareness	↓ Less present-moment awareness	−.37	.002
Collaboration Skills	↓ Weaker teamwork	−.23	.050

Notable Interconnections

Time 2 Tech-Free Nature Restoration:

Outcome	Change	$F(1,28)$	p	η^2
Nature Connectedness	↑ Increased	4.02	.040	.14
Empathic Concern	↑ Increased	6.37	.020	.18
Personal Distress	↓ Decreased	4.53	.042	.14

Counselor Experience Trend

Discussion

Implications & Future Directions

ym Training for Individuals with Neurological Conditions

Owen Simpson & Colorado College Department of Psychology

Introduction

Individuals with neurological conditions represent a major portion (43%) of the total global population, over 3 billion people worldwide (Steinmetz, J. D., Seeher, K. M., Schiess, N., et al. 2021). These conditions include disorders such as stroke, Parkinson's disease, multiple sclerosis, cerebral palsy, and traumatic brain injury. Theses often result in motor, cognitive, and sensory impairments which may reduce coordination, muscle weakness, impaired balance, fatigue, and can altered sensory processing. These conditions may significantly limit daily independence and participation in physical fitness (Billinger et al., 2014; Farrell, Merkas, & Pilutti, 2020; Winstein et al., 2016).

Regular physical activity is a critical component of rehabilitation and long-term health for individuals with neurological conditions. Exercise improves strength, mobility, cardiovascular health, and functional recovery, while promoting neuroplasticity (Billinger et al., 2014; Cotman et al., 2007; Lai et al., 2019). It is also associated with improved mental health and quality of life (Pedersen & Saltin, 2015). Individualized training approaches are particularly effective in supporting functional gains (Winstein et al., 2016).

Despite these benefits, there are still significant barriers for participation in physical activity. Traditional gym environments often lack adaptive equipment, accessible layouts, and adequately trained staff, creating both physical and psychological obstacles (Rimmer & Marques, 2012; Rimmer et al., 2004). Consequently, individuals with disabilities are less likely to meet physical activity guidelines, increasing the risk of secondary health complications (Carroll et al., 2014; Rimmer & Marques, 2012).

Neurologically adaptive fitness programs could be a promising solution, emphasizing individualized training equipment modifications, and supportive coaching strategies. By addressing both environmental and personal barriers, these programs may improve adherence, functional outcomes, and overall quality of life (Lai et al., 2019; Pedersen & Saltin, 2015).

This study examines how Kutthaus Neuro, a neurologically adaptive fitness program in Grand Junction, Colorado, addresses these challenges.

Client Interviews

A total of 6 clients were interviewed, here are some important points from my interviews:

- "The mental health benefits have been the biggest improvements for me"
- "Going to the gym helps me remember to get out of the house"
- "I am able to step up stairs again...I'm not failing anymore"
- "Without them [Kutthaus], I don't know if I'd still be able to walk"
- "I ran out of PT and this was my only option"

Photos

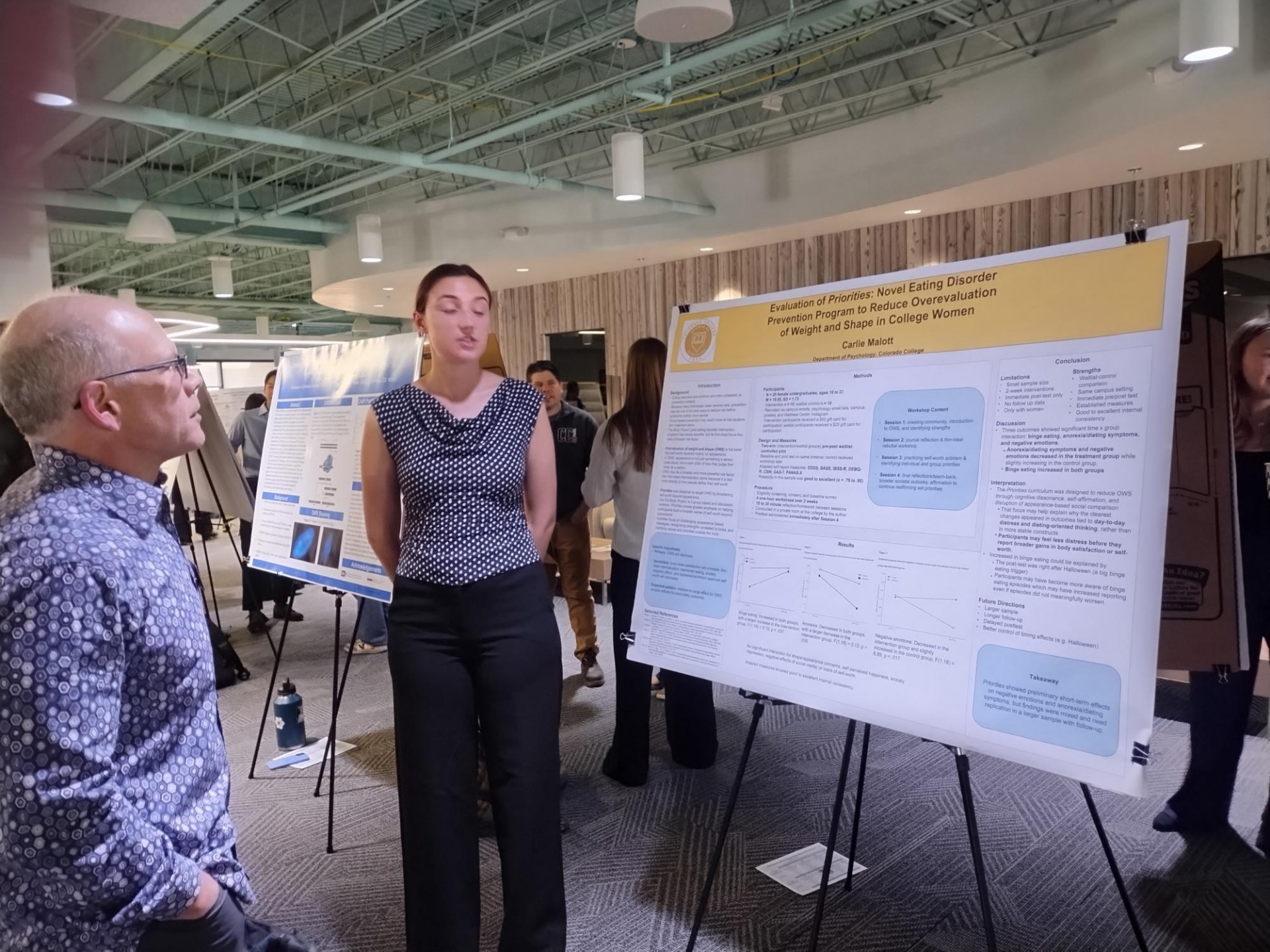
Conclusion

What we learned:

I found that neurologically adaptive fitness programs lead to improvements across a wide range of physical outcomes, including strength, mobility, and coordination. Every client who was asked reported better control of their symptoms across the board and general improvements in other health metrics. However, the most significant changes were observed in clients' motivation, emotional well-being, and overall drive. Many participants reported increased confidence, greater independence, and a more positive outlook on their ability to engage in physical activity. These findings highlight the importance of individualized training approaches and supportive environments in producing both physical and psychological benefits. Through the techniques adopted by Kutthaus, I learned that maintaining good physical fitness is still possible despite all the obstacles certain neurological conditions impose.

Significance:

These results emphasize the value of adaptive fitness programs, addressing gaps within traditional exercise settings. By prioritizing accessibility and individualized training, programs like Kutthaus Neuro can improve not only physical health but also long-term engagement and quality of life for individuals with neurological conditions. Expanding access to such programs may play a critical role in creating more inclusive fitness environments and improving overall health outcomes in neurologically diverse populations. Also making more traditional gyms more accessible via redesigned machines/layout and better trained employees could also help get more individuals with neurological conditions involved in physical fitness. Physical fitness is a crucial aspect in maintaining the best quality of life for all people, and accessibility shouldn't impact participation.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