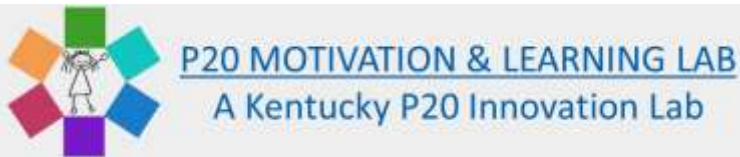


The Sources of Exercise Self-Efficacy in Undergraduates

Alicia L. Boone

University of Kentucky



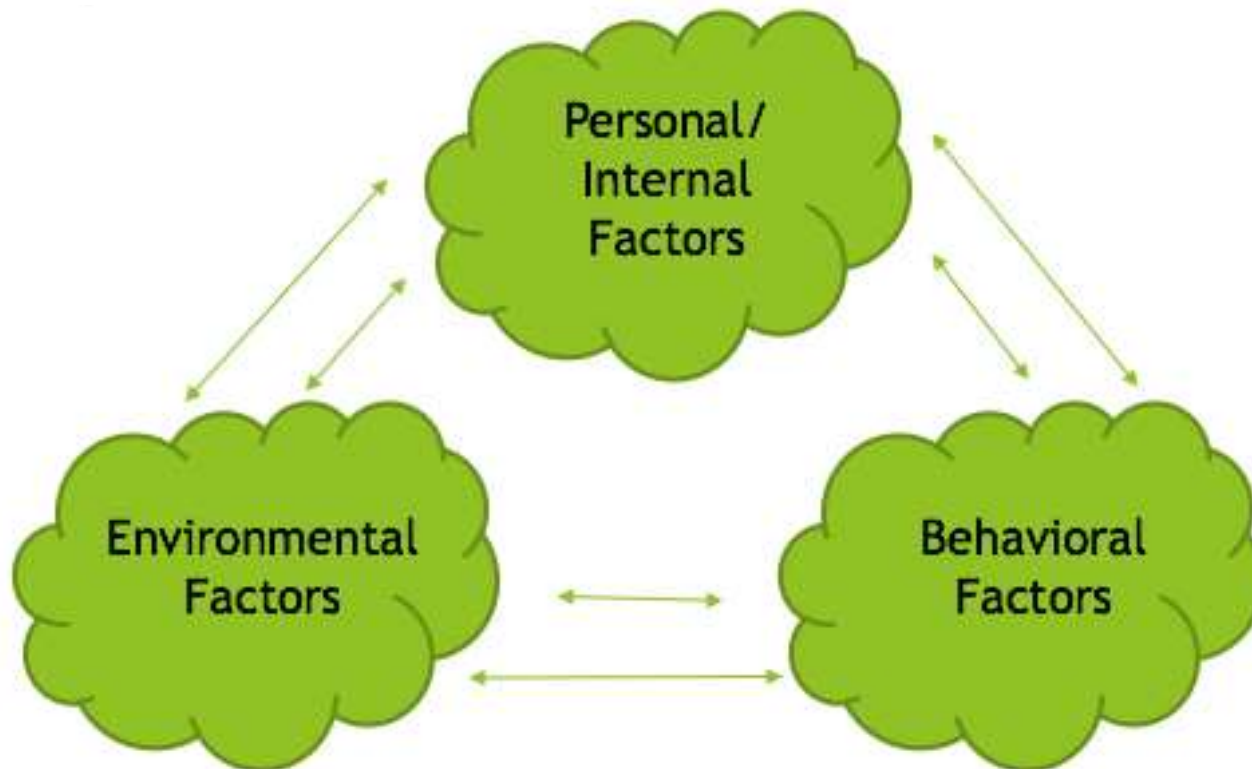
Introduction of the Broader Issue

- ▶ **80%** of adults do not get the recommended amount of exercise (Center for Disease Control and Prevention, 2016)
- ▶ Evidence of major decline in exercise for ages **18 to 24** (Casperson, Pereira, & Curran, 2000)



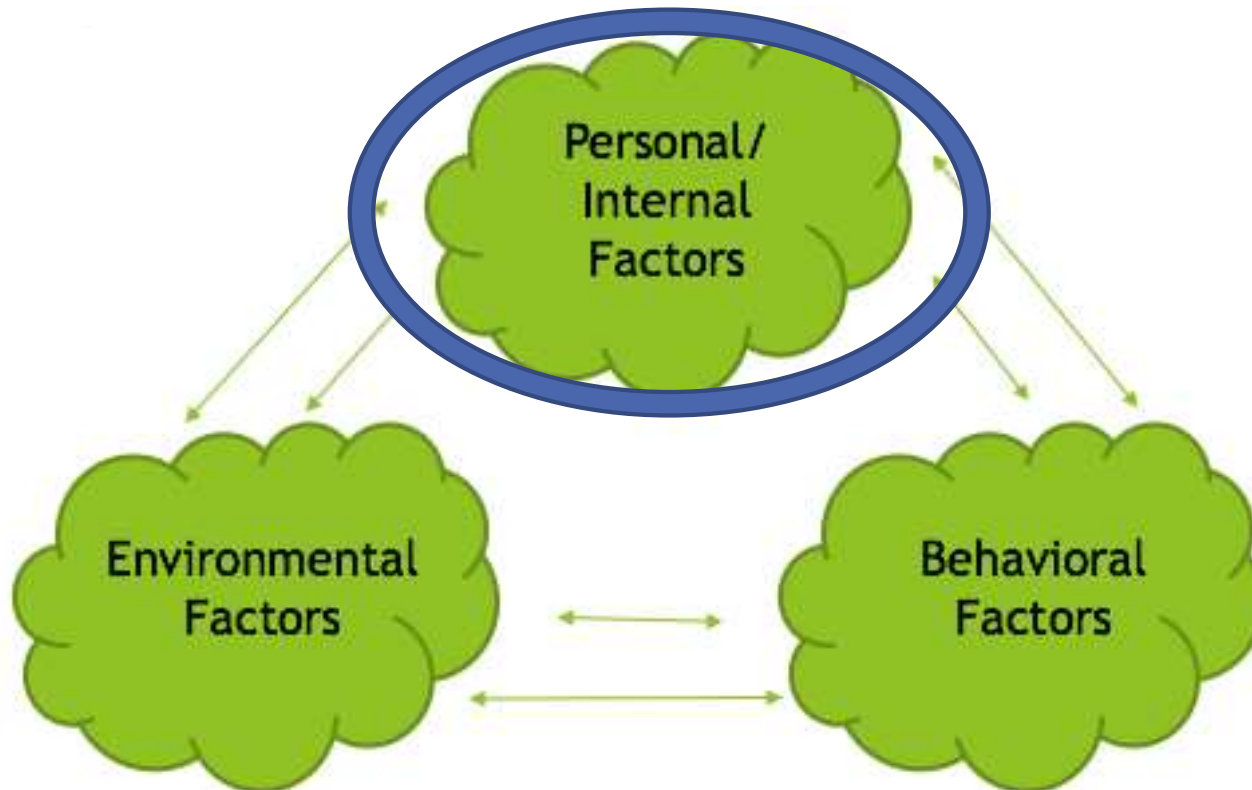
Social Cognitive Theory

- ▶ Bandura (1989) explained the idea of **Triadic Reciprocal Determinism**



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Social Cognitive Theory

- ▶ Self-Efficacy - one's beliefs about his/her capability to perform a behavior in a specific domain
- ▶ Exercise Self-Efficacy - one's beliefs about his/her capability to perform an exercise

(McAuley & Blissmer, 2000)



Introduction - Defining Exercise

▶ Exercise measured in 3 levels (Caperson, Powell, & Christenson, 1985)

▶ Light



▶ Moderate

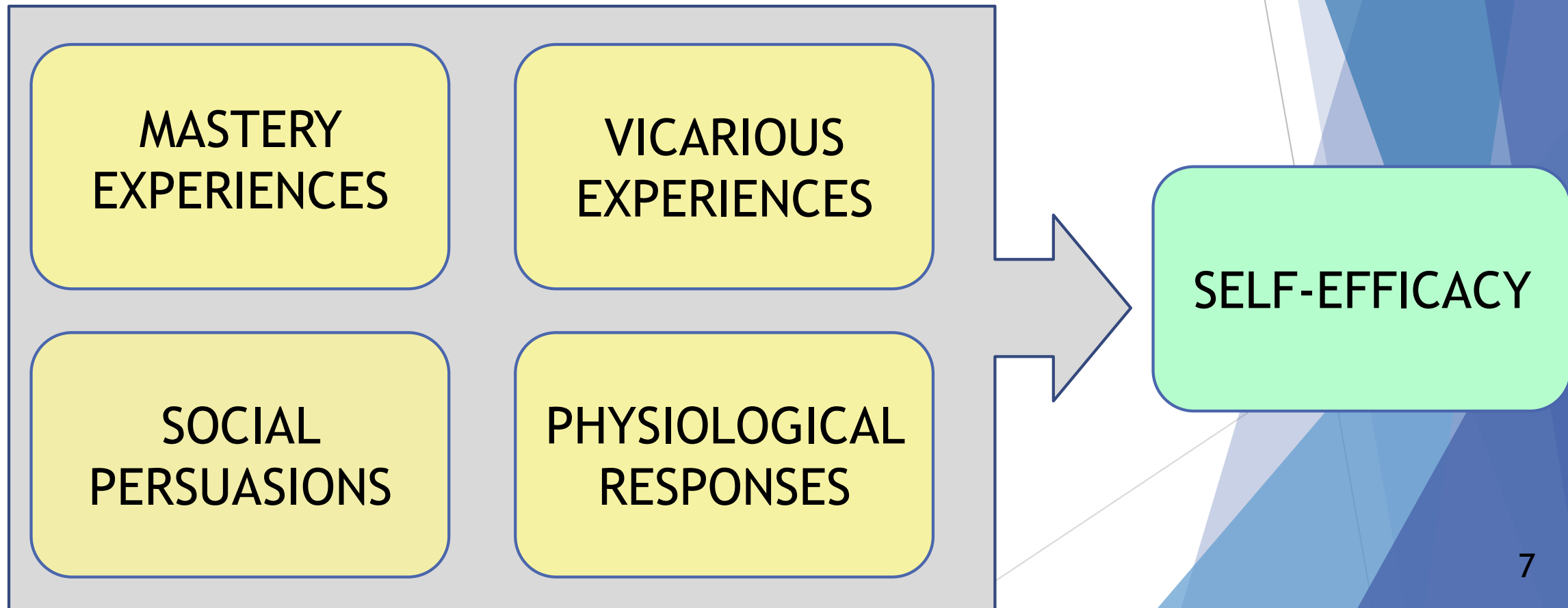


▶ Vigorous



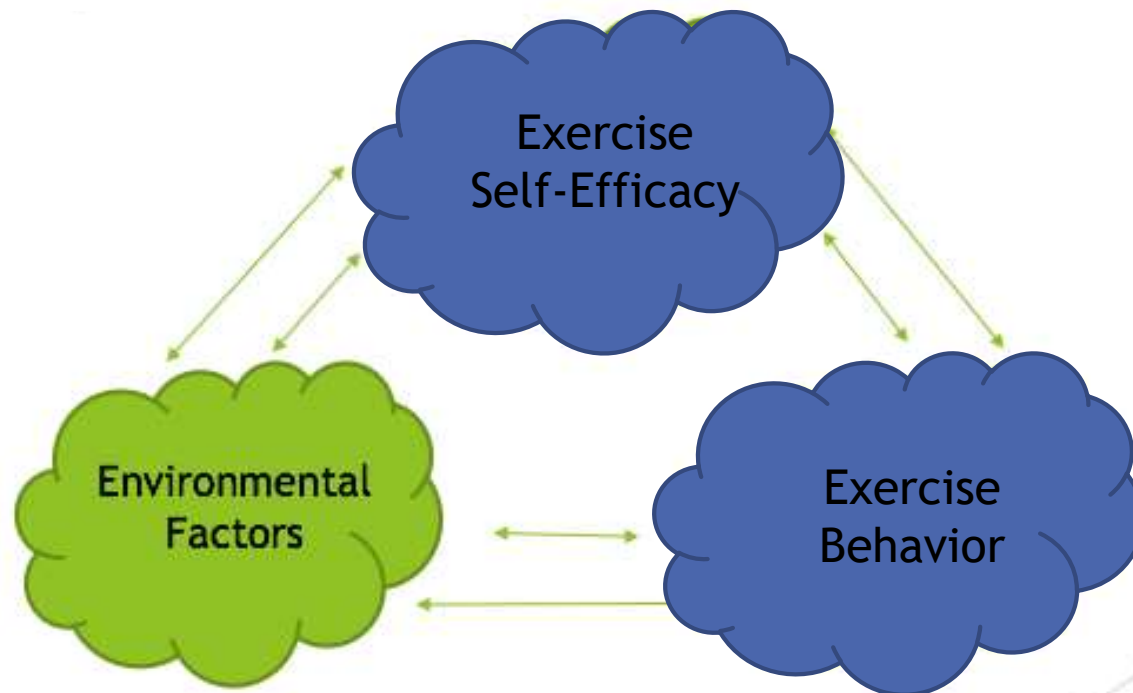
Social Cognitive Theory - Sources of Self-Efficacy

- ▶ Bandura (1997) identified four sources of self-efficacy



Social Cognitive Theory

- ▶ **Triadic Reciprocal Determinism** in the context of this study:



Literature Review

- ▶ Higher exercise self-efficacy related to more regular exercise in undergraduates (Leenders, Silver, White, Buckworth, & Sherman, 2002)

- ▶ Exercise self-efficacy found to be best predictor of exercise behavior (Roviak, Anderson, Winett, & Stephens, 2002)



Literature Review – Sources of Exercise Self-Efficacy

- ▶ *In middle-aged & older adults...*
- ▶ **Mastery experience and vicarious experience** strongest sources of exercise self-efficacy (Ashford, Edmunds, & French, 2010; Imayama et al., 2012)
- ▶ **Social persuasion not correlated with exercise self-efficacy** (Ashford, Edmunds, & French, 2010)
- ▶ **Positive physiological response related to higher exercise self-efficacy** (McAuley, Lox, and Duncan, 1993)



Research Questions

1. How do undergraduate students report their self-efficacy for exercise?
2. How are the sources of self-efficacy related to students' exercise self-efficacy?
3. What relationships exist between exercise self-efficacy and self-reported amount of exercise?

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2. How are the sources of self-efficacy related to students' exercise self-efficacy?
3. **What relationships exist between exercise self-efficacy and self-reported amount of exercise?**

Methods - Participants

- ▶ Students in psychology and education courses
 - ▶ $N = 383$ (83.6% women)
 - ▶ (mean age = 19.39)
- ▶ Racial distribution mirrors the university's population
 - ▶ (82% White, 7% Black, 3% Asian, 2% Hispanic)



Methods - Procedure

- ▶ Data collection occurred in February, 2017
- ▶ Students agreed to an online consent form
- ▶ The survey was completed online via an anonymous URL link



Methods - Measurement

Exercise Self-Efficacy (Campbell & Prapavessis, 2012)

- ▶ 9 item scale
- ▶ “How confident are you that you can complete 30 minutes of vigorous exercise 5 days a week?”
- ▶ 1 (Not Confident) to 4 (Completely Confident)



Methods - Measurement

Sources of Exercise Self-Efficacy Scale

- ▶ Adapted from Usher and Pajares (2009)
- ▶ Original Item: **“I have always been successful with math”**
- ▶ Survey Item: “I have always been successful with maintaining regular exercise”
- ▶ 1 (Disagree) to 4 (Completely Agree)



Methods - Measurement

- ▶ Sources of Exercise Self-Efficacy Scale
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- ▶ 1 (Disagree) to 4 (Completely Agree)



Methods - Measurement

Exercise Behavior (International Physical Activity Questionnaire, 1998)

- ▶ Asks to report exercise behavior *over previous 7 days*
- ▶ “In the last week, how many days have you performed at least 10 minutes of moderate exercise?
On one of those days, how long did you exercise?
Hours per day _____
Minutes per day _____”

Results & Discussion - Research Question 1

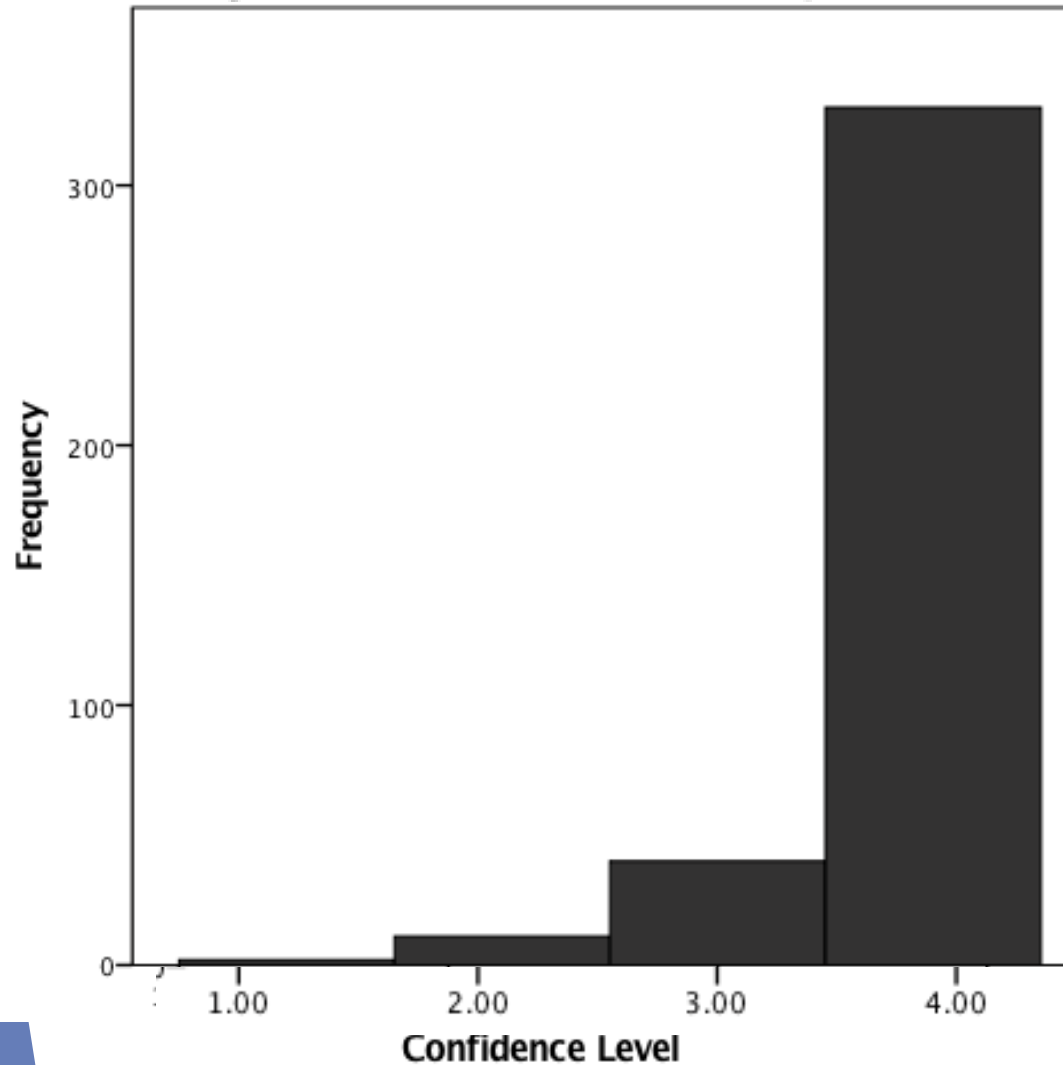
- ▶ How do students report their level of exercise self-efficacy?

Light Exercise Self-Efficacy		Moderate Exercise Self-Efficacy		Vigorous Exercise Self-Efficacy	
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
3.80	.44	3.48	.66	2.87	.96

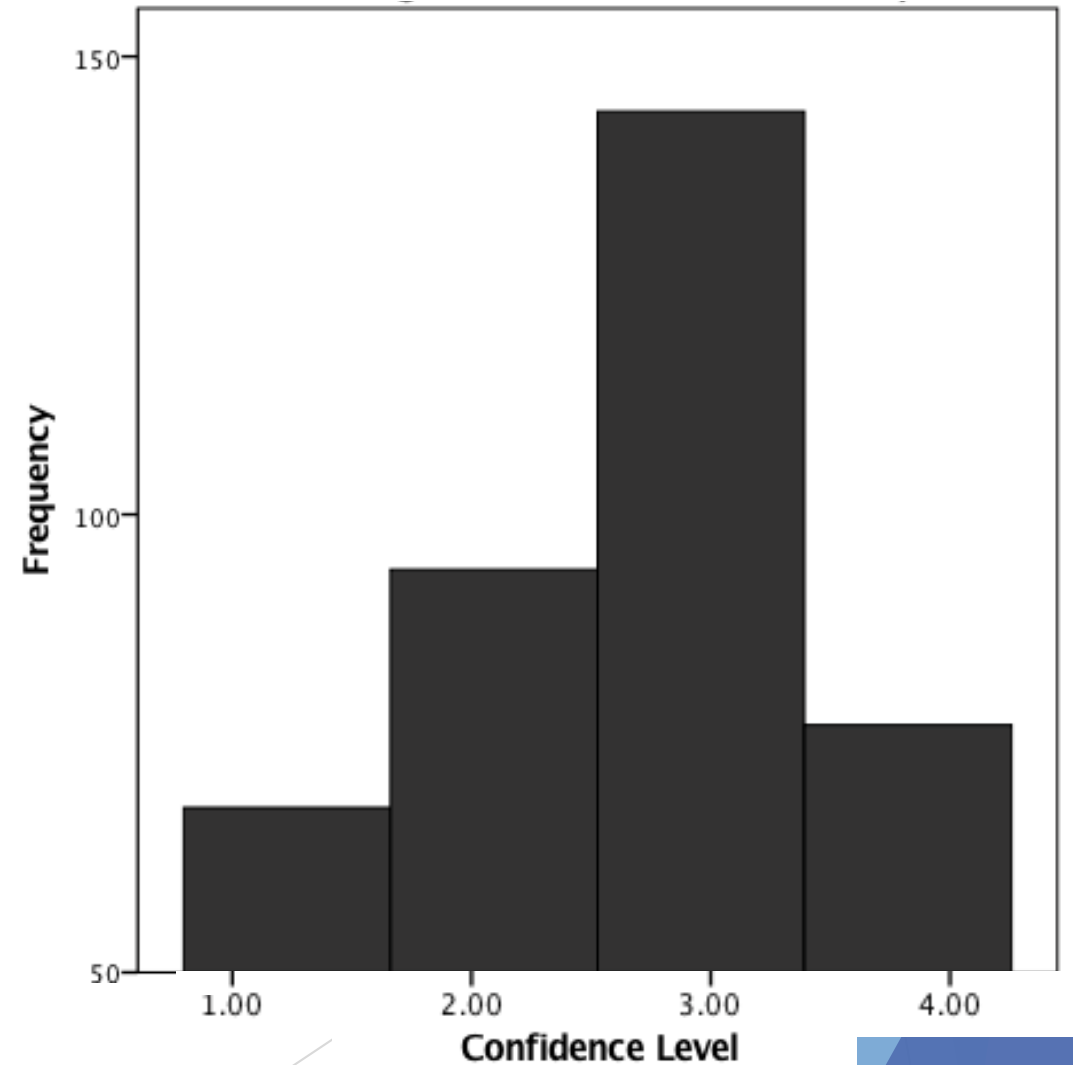
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Results & Discussion - Research Question 1

Light Exercise Self Efficacy Scores



Vigorous Exercise Self-Efficacy Scores



Results - Research Question 2

- ▶ How are the four sources of self-efficacy related to exercise self-efficacy?

	1	2	3	4	5	6
1. Light Exercise Self-Efficacy						
2. Moderate Exercise Self-Efficacy	.698					
3. Vigorous Exercise Self-Efficacy	.515	.811				
4. Mastery Experience	.356	.566	.593			
5. Vicarious Experience	.324	.527	.552	.782		
6. Social Persuasion	.289	.526	.572	.848	.813	
7. Physiological Response	.292	.449	.471	.678	.676	.660

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Results - Research Question 3

- ▶ How is exercise self-efficacy related to exercise behavior?
- ▶ Participants who reported at least 30 minutes of moderate exercise 5 days a week were classified as ***sufficient exercisers*** (Centers for Disease Control and Prevention, 2016)

Results - Research Question 3

- ▶ How is exercise self-efficacy related to exercise behavior?

Light Exercise Self-Efficacy*				Moderate Exercise Self-Efficacy**				Vigorous Exercise Self-Efficacy**			
Sufficient Exercisers (<i>n</i> = 223)		Insufficient Exercisers (<i>n</i> = 160)		Sufficient Exercisers (<i>n</i> = 223)		Insufficient Exercisers (<i>n</i> = 160)		Sufficient Exercisers (<i>n</i> = 223)		Insufficient Exercisers (<i>n</i> = 160)	
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
3.87	.35	3.72	.52	3.63	.58	3.28	.71	3.07	.91	2.58	.95
<i>d</i> = 0.34				<i>d</i> = 0.54				<i>d</i> = 0.53			

Results - Research Question 3

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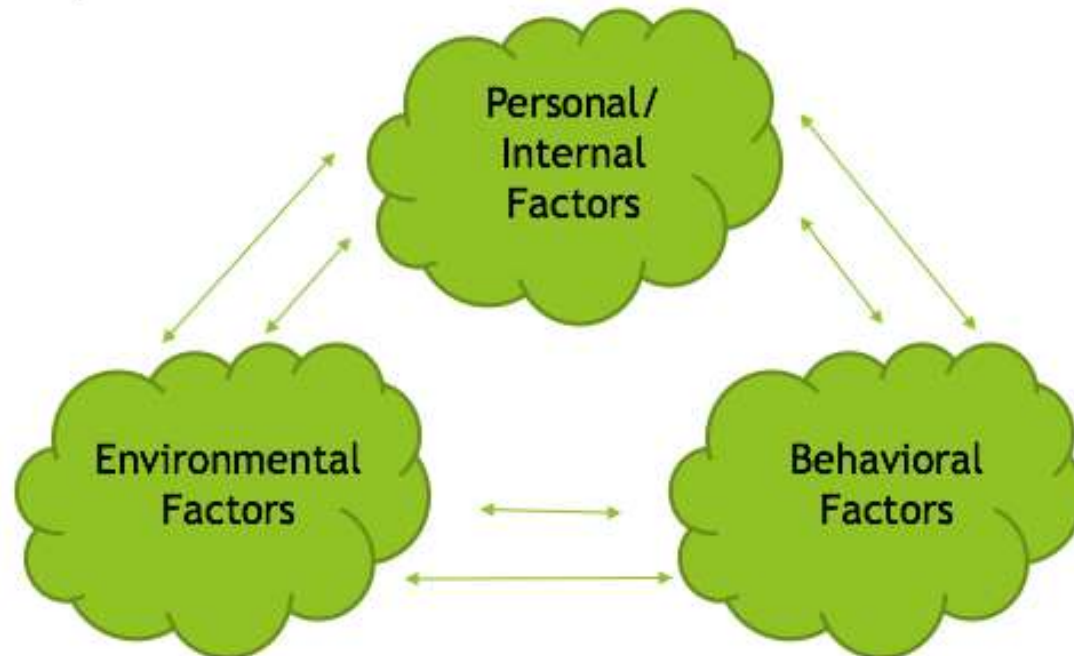
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Results & Discussion

- ▶ The relationship between exercise self-efficacy and behavior is most likely reciprocal, as Bandura (1989) hypothesized
- ▶ Higher exercise self-efficacy could increase exercise behavior, and more exercise behavior could increase exercise self-efficacy.



Limitations & Future Directions

- ▶ Exercise behavior is based on only the past 7 days
- ▶ Convenience sample
- ▶ There is a need for a validated measure of the sources of exercise self-efficacy
- ▶ Future studies should address young adult populations outside of college

► Questions?

