

# Hoop your way to good health: Effects of hula hooping versus treadmill walking on attitudes and behavior.

Courtney J. Stevens, Trent Irwin, Ricky Camplain, Devon Humphreys, & Angela D. Bryan.

University of Colorado at Boulder & The University of New Mexico



# Low rates of physical activity participation

- 2/3 or more of American adults are physically inactive (Kahn et al. 2002; CDC, 2008) .
- Females engage in less physical activity than males (Buckworth & Dishman, 2007).
- Lack of physical activity is strongly correlated with rates of obesity (Levi, Segal, St Laurent, & Kohn, 2011).

# The obesity and physical inactivity relationship

**States with Highest Rates of Physical Inactivity in Adults**

Ranking	State	Percentage of Adult Physical Inactivity (Based on 2008-2010 Combined Data, Including Confidence Intervals)	Obesity Ranking
1	Mississippi	32.6% (+/- 0.9)	1
2	West Virginia	32.4% (+/- 1.0)	3
3	Oklahoma	30.9% (+/- 0.8)	7
4	Alabama	30.5% (+/- 1.0)	2
5	Tennessee	29.9% (+/- 1.2)	4
6	Kentucky	29.8% (+/- 0.9)	6
7	Arkansas	29.7% (+/- 1.1)	9
8	Louisiana	29.5% (+/- 0.8)	5
9	Texas	27.5% (+/- 0.9)	12
10	Missouri	27.2% (+/- 1.1)	11

\*Note: For rankings, 1 = Highest rate of physical inactivity. According to NIH, a significant gap exists between self-report (30 percent to 40 percent achieving recommended levels of physical activity) and objective measures (3 percent to 5 percent achieving recommended levels) of population prevalence of physical activity.

(Levi, Segal, St Laurent, & Kohn, 2011).

# Walking for exercise

- Most common modality (USDHHS)
- Practical and affordable
- Adequate?
- Enjoyable?  
(Ekkekakis et al., 2008; Hulens, et al., 2003).
- BUT, visibility /SPA concerns



## Question:

- How can we address these barriers and make exercise more fun??

# Hula hooping as exercise

- Privacy
- Low impact
- Adequate Intensity (Porcari, 2011; [www.acefitness.org](http://www.acefitness.org))



Hula hooping for exercise is not  
this:





Or this:





# A new way to hula hoop:





hula hoop



Search

About 7,060,000 results (0.24 seconds)

Everything

Images

Maps

Videos

News

Shopping

More

Boulder, CO

Change location

Any time

Past hour

Past 24 hours

Past 2 days

Past week

Past month

Past year

Custom range...

All results

Sites with images

More search tools

[Hula Exercise Hoop Center | sports-hoop.com](http://www.sports-hoop.com/)

[www.sports-hoop.com/](http://www.sports-hoop.com/)

All kinds of weighted **hoop** for weight loss exercise and have fun

[Weighted Hula Hoops | canyonhoops.com](http://www.canyonhoops.com/)

[www.canyonhoops.com/](http://www.canyonhoops.com/)

Exercise **Hoops**, Dance **Hoops**, Mini & Collapsible **Hoops** Size/Weight Guide

[Hula-Hoop at Amazon.com](http://www.amazon.com/)

[www.amazon.com/](http://www.amazon.com/)

amazon.com is rated ★★★★★ 7,191 reviews

Buy **Hula-Hoop** at Amazon! Qualified orders over \$25 ship free

Related searches for **hula hoop**:

Stores: [Amazon](#) [Toys R Us](#) [Walmart](#) [Target](#) [Sports Authority](#)

Brands: [Sports Hoop](#) [Hoopnotica](#) [Hoop Girl](#) [Wham O](#) [Maui Toys](#)

[Hula hoop - Wikipedia, the free encyclopedia](http://en.wikipedia.org/wiki/Hula_hoop)

[en.wikipedia.org/wiki/Hula\\_hoop](http://en.wikipedia.org/wiki/Hula_hoop)

A **hula hoop** is a toy hoop that is twirled around the waist, limbs or neck. Although the exact origins of **hula hoops** are unknown, children and adults around the ...

↳ [Background information](#) - [Modern History](#) - [Modern hooping](#) - [World records](#)

[Hoopnotica - hula hoop FUN fitness and weight loss](http://www.hoopnotica.com/)

[www.hoopnotica.com/](http://www.hoopnotica.com/)

Welcome to Hoopnotica—the hottest new fitness trend— incorporating FUN, technique, and weight-loss. A fat-burning **hula hoop** workout that both strengthens ...

Shopping results for **hula hoop**



[Wham-O 81553-0106 Original Hula Hoop](#)

\$4 - 6 stores - [Nearby stores](#)

[Powerhoop 3lb Weighted Hula Hoop](#)

\$29 - 5 stores

[Sports Hoop Weighted DIY Hula Hoop - 2 lb. 42 Inch ...](#)

\$18 - 3 stores

[Amazon.com: Weighted Hula Hoop for Exercise and Fitness - 1.5 ...](http://www.amazon.com/Weighted-Hula-Hoop-Exercise-Fitness/sim/.../2)

[www.amazon.com/Weighted-Hula-Hoop-Exercise-Fitness/sim/.../2](http://www.amazon.com/Weighted-Hula-Hoop-Exercise-Fitness/sim/.../2)

Canyon Hoop Weighted **Hula Hoop** July 6, 2010. Reviewer: Hooplady50 (see more about me) I just received my Canyon Hoop weighted **hula hoop** today.

Ads - Why these ads?

Ads - Why these ads?



[Weighted Sports Hula Hoop -- Power Hoop 4b. Boxed](#)

**\$39.60** - [eBay](#)

Great Deals on Sporting Goods!



[i/fit 3 lb. Weighted Exercise Hoop - 10-0063](#)

**\$29.99** - [Hayneedle](#)

Free Shipping on Most Products



[Martin Plastic Hula Hoops \(12 Pack\) Multi-Color 30"-12](#)

**\$50.29** - [Epic Sports](#)

[Discount Kids Hula Hoops](#)

[discountschoolsupply.com/Zebra-Hoop](http://discountschoolsupply.com/Zebra-Hoop)

Learn the **Hula** w/ **Zebra Hoops**! Affordable & Fun for All Ages.

[Hula Hoop](#)

[www.swww.com/Hula\\_Hoops](http://www.swww.com/Hula_Hoops)

24, 30 or 36-inch plastic **hoops**

Free shipping on orders over \$59!

[Super cheap Hula Hoop](#)

[www.hula-hoop.best-deal.com/](http://www.hula-hoop.best-deal.com/)

Buy discount **Hula Hoop** & save now.

BEST-DEAL.com - the shop expert!

[32 LED Glow Hula Hoop \\$69](#)

[www.trickconcepts.com/](http://www.trickconcepts.com/)

Hand Made in USA! Super Bright Rechargeable Lithium Battery

[Custom Hoops @ Troo Hoops](#)

[www.troohoops.com/](http://www.troohoops.com/)

Collapsible Custom **Hula Hoops** for Performance, Dance, Fitness & Fun

[See your ad here »](#)

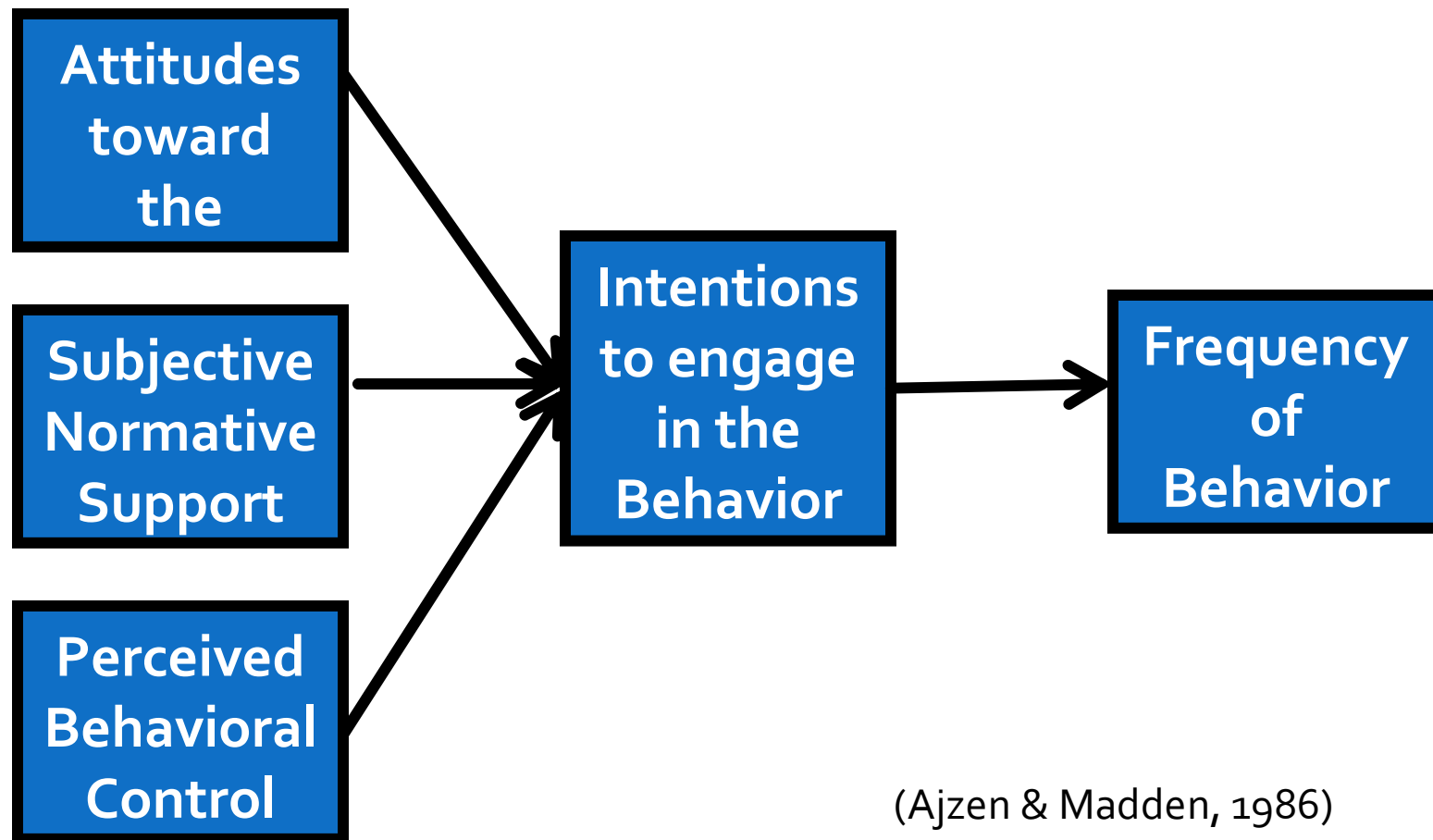
# The present study

- Design:
  - 120 sedentary women
  - 2 conditions, (HOOP,  $n = 58$ ) or (WALK,  $n = 62$ )
  - Pre-task survey
  - 30mins moderate intensity exercise bout
    - Measure of heart rate (HR) and ratings of perceived exertion (RPE)
  - Post-task survey
  - 30 day follow-up survey

# Study Aims

- Test the main effect of exercise condition (HOOP) vs. (WALK) on HR and RPE during a 30 minute exercise session.
- Measure the effect of condition on change in physical activity level.
  - Baseline → 30 days.
- Explore potential mediators of behavior change.

# The Theory of Planned Behavior





# Hypotheses 1 & 2

- 1). The HOOP group will perceive the exercise as less physically exerting (RPE) than the WALK group but average HR (exercise intensity) will not differ.
- 2). The HOOP group will have greater change in activity scores from baseline to 30 days follow-up.

# Hypotheses 3, 4 & 5

After controlling for BMI...

- 3). HOOP group will be related to greater attitudes, norms, and PBC scores at post-task.
- 4). Post-test attitudes, norms, and PBC will predict intentions for exercise at 30 days follow-up.
- 5). Exercise intentions will have a significant main effect on change in activity scores.

# Demographics

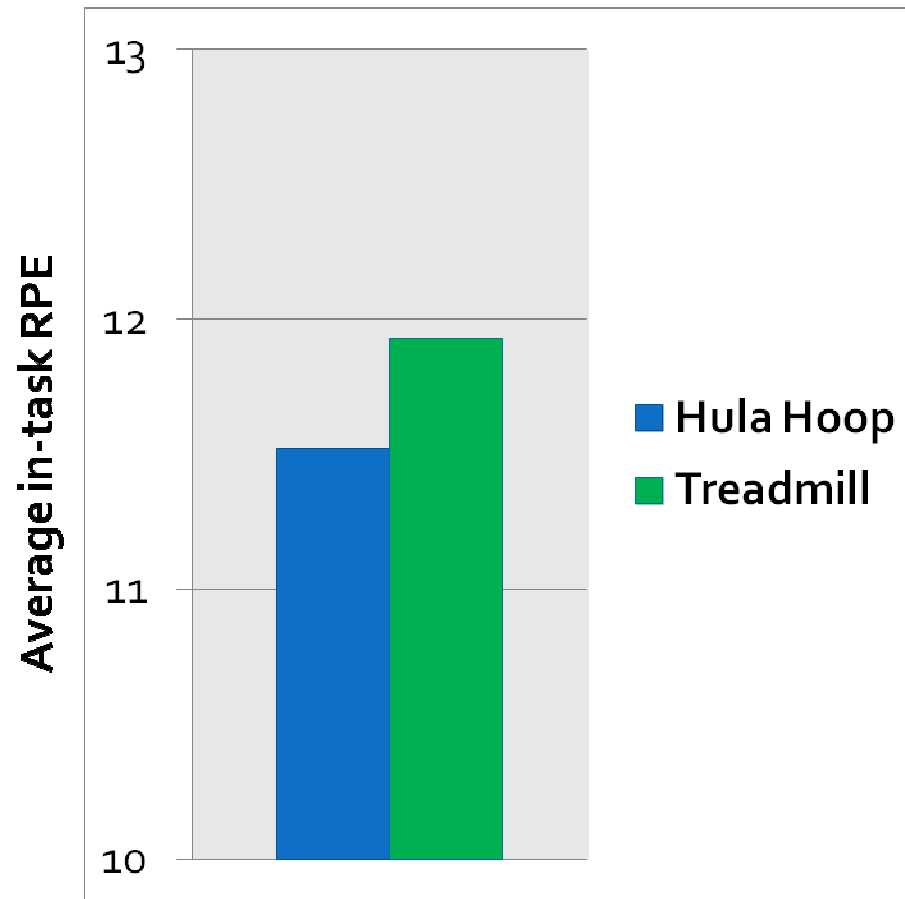
	Hula Hoop	Treadmill	<i>p</i>
<b>Age</b>	27.16 ( <i>SD</i> = 7.37)	26.61 ( <i>SD</i> = 6.81)	.68
<b>Ethnicity</b>			.72
Caucasian	19	15	
African American	4	4	
Asian	1	4	
Hispanic	24	25	
Native American	4	6	
Other	6	8	
<b>Education</b>			.25
≤ High School Level	10	9	
≤ 2 years of college	33	30	
Bachelor's degree	12	15	
Some grad school	2	1	
Master's degree	1	5	
PhD/Professional	0	2	

# Demographics continued...

	Hula Hoop	Treadmill	<i>p</i>
<b>BMI</b>			.08
Underweight	3	3	
Normal Weight	19	31	
Over Weight	14	9	
Obese	14	14	
Extreme Obese	8	5	
<b>Resting Heart Rate</b> beats per minute (BPM)	85.28 ( <i>SD</i> = 14.25)	81.87 ( <i>SD</i> = 14.32)	.20
<b>Godin Leisure Time Activity Score at baseline</b>	23.74 ( <i>SD</i> = 18.42)	29.02 ( <i>SD</i> = 22.68)	.17

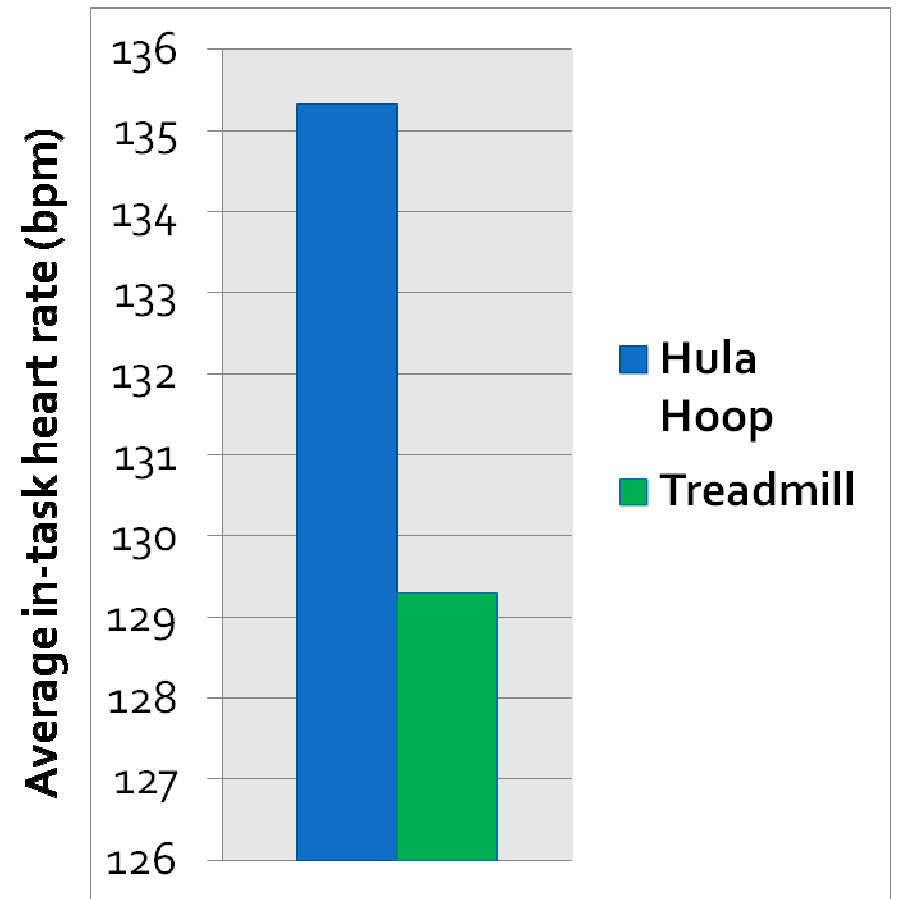
# Hypothesis 1: unexpected pattern

RPE X CONDITION



$F(1, 118) = 2.05, p = .20$  (NS)

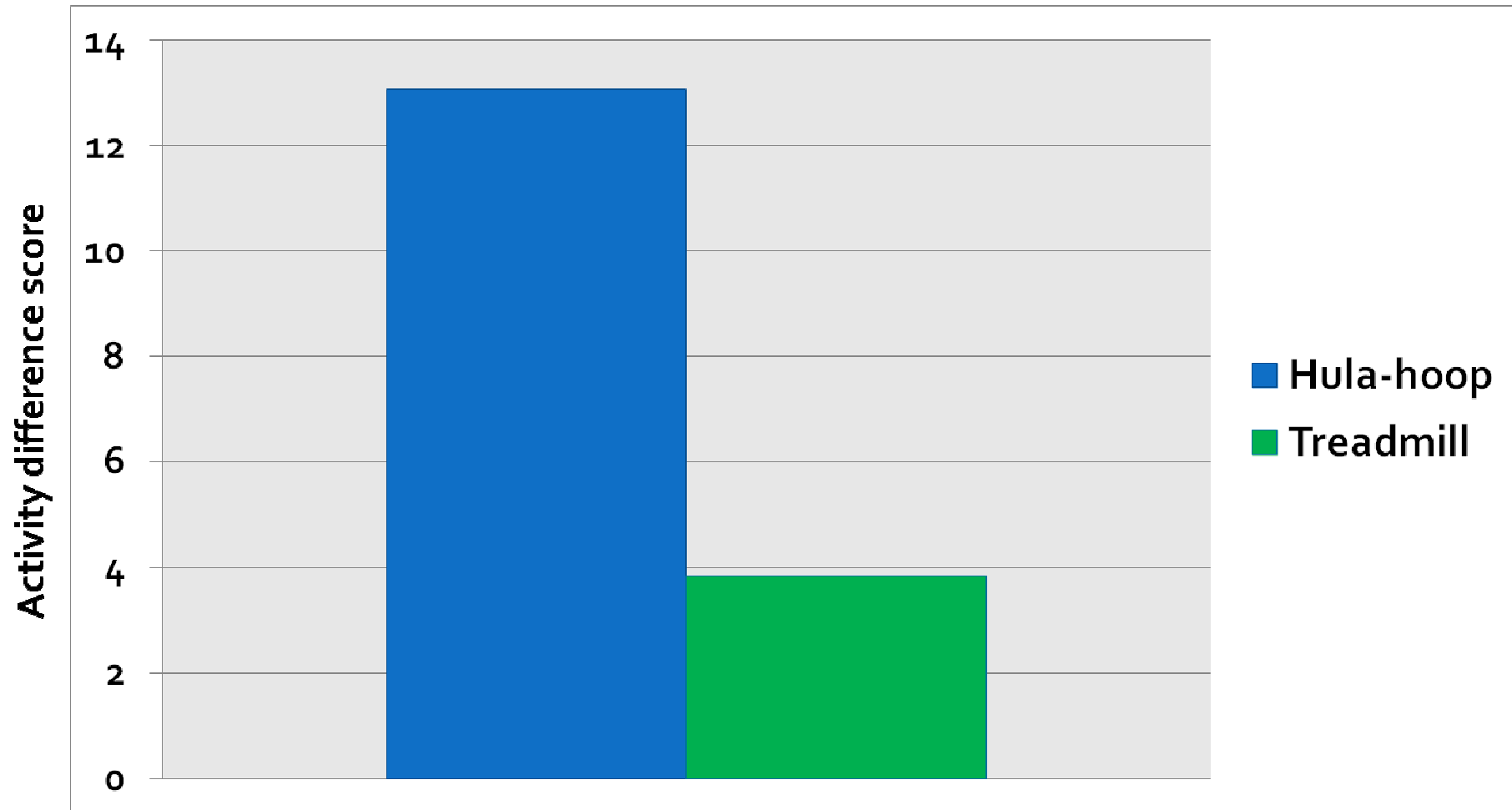
HEART RATE X CONDITION



$F(1, 118) = 4.90, p = .03$

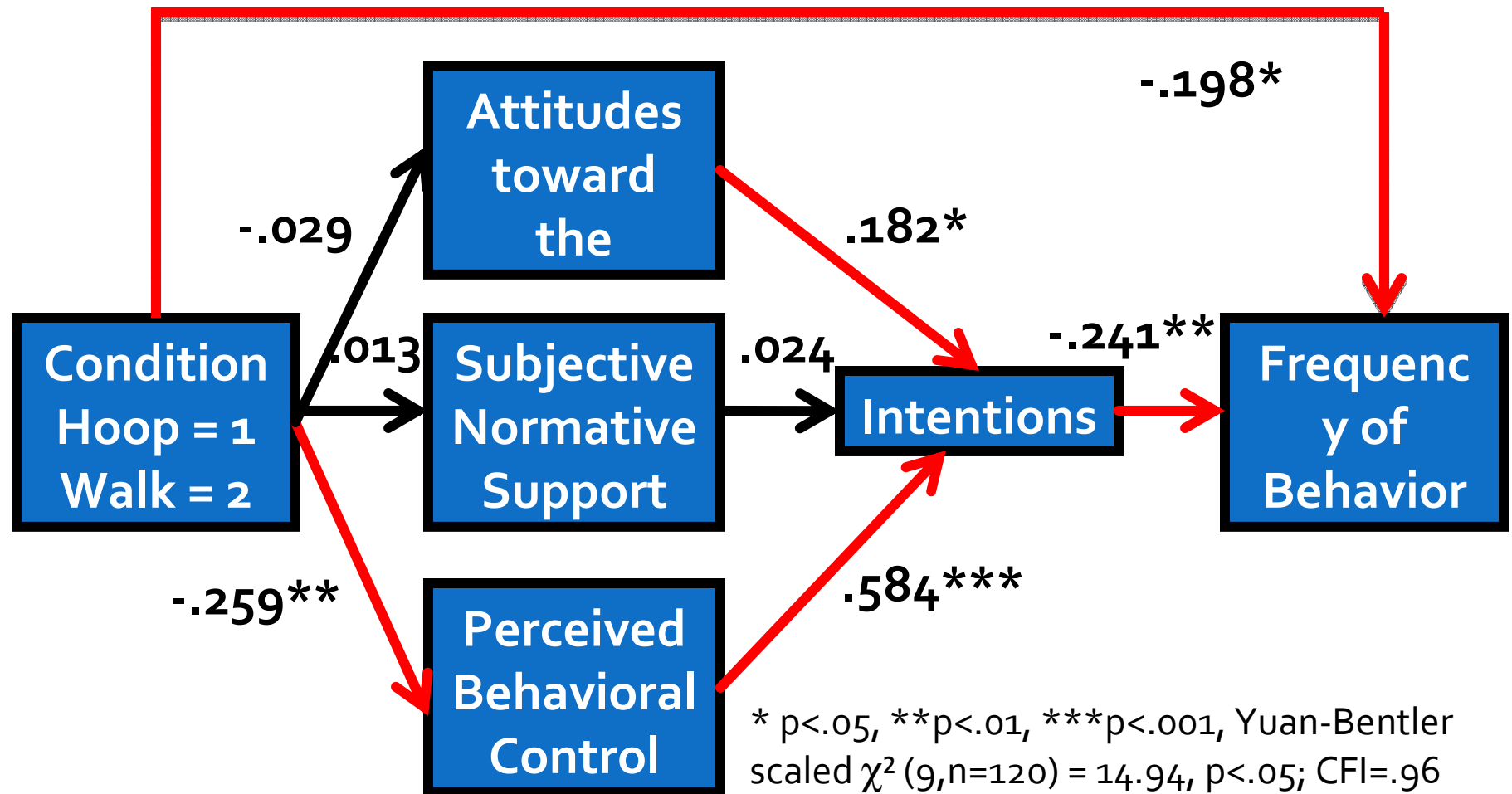


# Support for hypothesis 2



$F(1,107) = 2.68, p = .05$  (one-tailed)

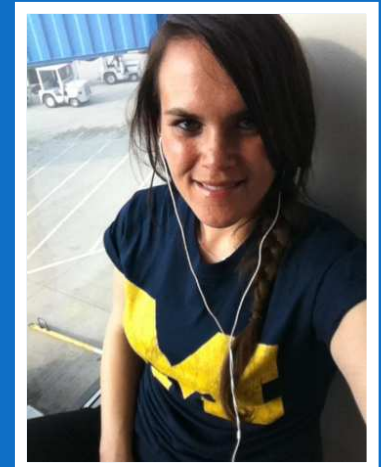
# Support for hypotheses 3, 4 & 5



# Summary and implications

- Hula-hooping is equivalent to or better than treadmill walking in terms of aerobic intensity.
- Instable intentions
- Novel approaches to exercise may be more effective than traditional approaches for improving exercise participation among physically inactive women.

# Thank you to the New Heart Center staff and my research assistants!



# Questions?





# TPB variables measured at baseline

	Hula Hoop	Treadmill	<i>p</i>
Attitudes	5.78 ( <i>SD</i> = 1.48)	5.94 ( <i>SD</i> = 1.04)	.418
Norms	4.19 ( <i>SD</i> = 1.21)	4.31 ( <i>SD</i> = 1.29)	.605
PBC	4.53 ( <i>SD</i> = 1.40)	4.24 ( <i>SD</i> = 1.29)	.241
Intentions	3.57 ( <i>SD</i> = 1.46)	3.53 ( <i>SD</i> = 1.56)	.863

# Anecdotal evidence..

“I've tried aerobics, circuit training, weight training, and water aerobics, but hooping is the only thing I've stuck with because it's simply fun. When I put on my music and pick up a hoop, I'm not exercising - I'm playing. I can go from half an hour to two hours or more, depending on what I'm trying to accomplish in a given session. Let's see your typical obese sedentary person do that with aerobics!”