



Apr 14th, 10:00 AM - 11:00 AM

Type 1 Diabetes and its Effects on Active/Inactive Goal Priming for Exercise

Kevin Seske
Illinois Wesleyan University

Jason Themanson, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>



Part of the [Psychology Commons](#)

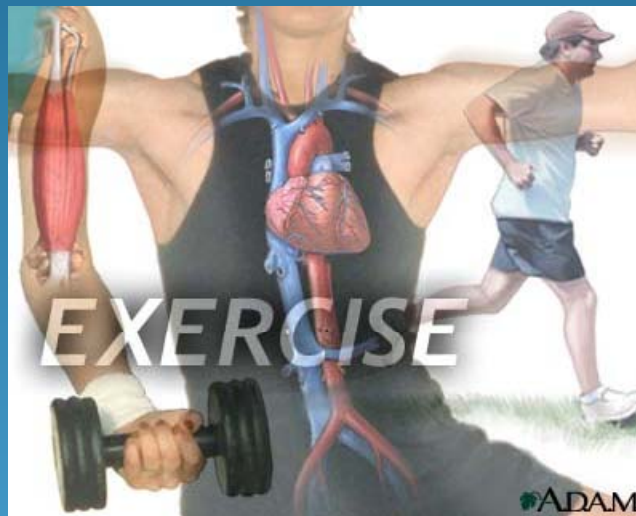
Seske, Kevin and Themanson, Faculty Advisor, Jason, "Type 1 Diabetes and its Effects on Active/Inactive Goal Priming for Exercise" (2012). *John Wesley Powell Student Research Conference*. 2.

<https://digitalcommons.iwu.edu/jwprc/2012/oralpres3/2>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Type 1 Diabetes and its Effects on Active/Inactive Goal Priming for Exercise



Kevin Seske
Illinois Wesleyan University

Why is this Important?

- Exercise has many benefits
- Managing a chronic illness (long-lasting) can be difficult
- Priming is effective





Priming (In general)

- Achievement Goal Priming (Action Priming)
(Gollwitzer, Sheeran, Trotschel, & Webb, 2011)
 - Inactive
 - Active
 - Exercise tasks (Albarracin, Hepler, & Tannenbaum, 2011)

Protection Motivation Theory (PMT)

- Cognitive mediation process of behavioral change with threat and coping appraisal (Plotnikoff, 2009)
- Perceived severity
- Perceived vulnerability
- Response Efficacy (Coping response)
- Self-Efficacy



PMT in Plotnikoff et al. (2009)

- Canadian adults with Type 2 Diabetes
- Intention and Self-Efficacy make a significant impact on behavior
- Provides framework



Action and Inaction Goals

- When one has a general *action* goal, they tend to carry out an *active* task.
- When one has a general *inaction* goal, they tend to carry out an *inactive* task.
- Priming these types of goals does what? (Bluemke, Brand, Schweizer, & Kahlert, 2010)
- Positive Associations
- Negative Associations



Why this study?

- How can individuals be motivated to exercise with a chronic illness?
- To determine whether goal priming (active or inactive) can be affected by a chronic disease (type 1 diabetes)



Hypotheses

- If actively primed to exercise, type 1 diabetes will *not* affect this priming.
 - Individuals will continue to exercise
- If inactively primed, type 1 diabetes *will* affect this priming.
 - Individuals will become active



Method and Measures

- Participants = enrolled in a general psychology course at Illinois Wesleyan University age 18 and over
- Completion of research experience is required for the course
- Action/Inaction Goal Priming Tasks
 - Active Priming: Jumping Jacks
 - Inactive Priming: Closing Eyes and Relaxing

Measures (Cont.), Research Design, and Procedure

	Chronic	Healthy	Active	Inactive
P1	X		X	
P2	X			X
P3		X	X	
P4		X		X

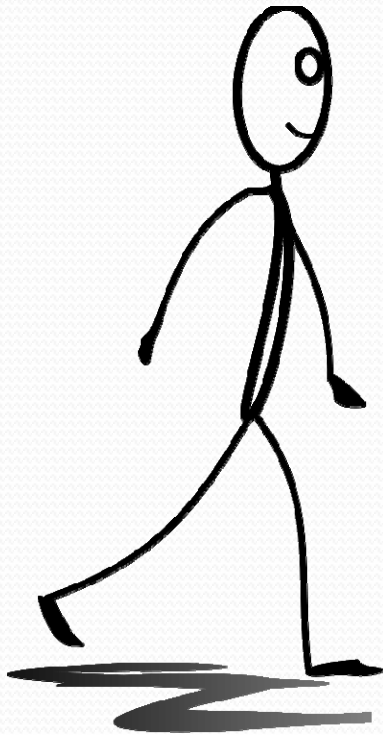


Measures (Continued)

- PMT Questionnaire (Plotnikoff, 2009)
 - Perceived severity and vulnerability
 - EX: Getting further diabetes complications would be a very bad thing to happen to me (1-5 Scale)
 - Response efficacy
 - EX: For me, regular physical activity will keep me healthy (1-5 Scale)
 - Self-efficacy (level of confidence to exercise regularly)
 - EX: You feel stiff or sore (1-5 Scale)
 - Behavioral Intention
 - EX: (0-100%) Likelihood of getting regular physical activity within the next month?

Post-PMT Behavior Analysis

- Do you want to do the active task (walking) or the inactive task (napping)?



OR





Statistical Analyses

- 2 (priming: action, inaction goals) x 2 (illness: yes, no) between-subjects ANOVA
- Dependent Variable: Do you want to do the active task (walking) or the inactive task (napping)? (Participant's intention?)
- Examines the influences of goal priming and a chronic illness on participant's intention to exercise



Results

- $N = 66$ participants total
- Omnibus 2x2 Univariate ANOVA indicated that:
- Significant Main Effect of Priming
 - $F(1, 62) = 4.68, p = 0.03, \eta^2 = 0.07$
- Marginal Main Effect of Illness
 - $F(1, 62) = 3.29, p = 0.08, \eta^2 = 0.05$
- Significant Priming x Illness Interaction Effect
 - $F(1, 62) = 4.68, p = 0.03, \eta^2 = 0.07$



Results (Continued)

- To examine interaction better, two-way ANOVAs were conducted
- Compared behavioral choices between the two illness conditions (chronic, healthy) within each priming group (active, inactive)
- No illness condition effect for the actively primed group
- Significant illness condition effect within inactively primed group
 - $F(1, 32) = 8.54, p = 0.006$



Discussion (What does this mean?)

- Main Effect of Priming
 - If someone is actively primed, then more likely to be active
 - If someone is inactively primed, then less likely to be active
- Priming x Illness Interaction effect
 - For those who are inactively primed and given an illness, they will intend to exercise more than those who were inactively primed and not given an illness.
- Illness condition effect within inactively primed group
 - Supports interaction effect



Limitations and Future Research

- Total number of participants were relatively low
 - $N = 66$
- Participants hypothetically had diabetes
- Priming manipulation
 - Participants get primed for a *longer* period of time, then answer questionnaire, perform behavioral follow-up, etc. afterwards

The Puzzle Finally Makes Sense...

- Generally, if an individual is very active, then his/her exercise frequency will not be affected by type 1 diabetes should it enter his/her life unexpectedly.



Table 1

Sex for the Four Condition Groups

	<u><i>M (SD)</i></u>
Active/Chronic	1.53 (.514)
Inactive/Chronic	1.69 (.480)
Active/Healthy	1.53 (.516)
Inactive/Healthy	1.60 (.507)

Age for the Four Condition Groups

	<u><i>M (SD)</i></u>
Active/Chronic	19.24 (.970)
Inactive/Chronic	19.62 (1.33)
Active/Healthy	19.47 (1.995)
Inactive/Healthy	19.27 (.961)

School Year for the Four Condition Groups

	<u><i>M (SD)</i></u>
Active/Chronic	1.71 (.849)
Inactive/Chronic	2.08 (1.32)
Active/Healthy	1.80 (1.082)
Inactive/Healthy	2.00 (1.13)

Race for the Four Condition Groups

	<u><i>M (SD)</i></u>
Active/Chronic	4.65 (1.06)
Inactive/Chronic	4.54 (1.198)
Active/Healthy	3.60 (1.81)
Inactive/Healthy	4.07 (1.62)



Table 2

PMT Measures Responses

	<u><i>M (SD)</i></u>
Perceived vulnerability	3.68 (0.98)
Perceived severity	4.53 (0.71)
Response efficacy	4.60 (0.57)
Self-efficacy	3.47 (0.75)
Participants' intentions	1.45 (0.50)
