The Role of Self-as-Doer Identity in Physical Activity: Increasing Behaviors by Increasing Self-Efficacy for Overcoming Barriers to Physical Activity.

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Introduction

Physical Activity Behaviors

- Only 21% of US adults meet the recommended amount of physical activity (PA) each day.[1]
- Decreases are likely due to technological changes in the work place, home, and transport systems. The inability to overcome barrier to physical activity is also a reasons for the decrease. [2,3]
- Barriers to physical activity include time constraints, lack of self-motivation, not enjoying exercise, and an inability to overcome environmental barriers like inclement weather and limitations in the built environment.[4,5]
- Since PA is associated with better health, lower disease risk, and greater academic achievement and weight control,[1,2] research is needed to explore ways to increase efficacy for overcoming barriers to PA.

[1]CDC, 2014 [2]Brownson, R. C., Boehmer, T. K., & Luke, D. A., 2005; [3] CDC, 2017; [4]Garcia & King, 1991; [5]Gray et al., 2016

Self-efficacy

- Self-efficacy is the confidence one has in their ability to perform a given task.[1]
- Higher self-efficacy is found to be directly related to increased amounts of PA.[2]
- Self-efficacy for PA behaviors can assist individuals in overcoming barriers to PA.[3,4]
- Self-efficacy for overcoming common barriers to PA is linked to greater PA behaviors.[5]

[1]Bandura, 1997; [2]Hamilton, Warner, & Schwarzer, 2017 ; [3]Zelle, et al., 2016; [4]Babatunde, 2015; [5]Higgins et al., 2014

Self-as-doer Identity

- The self-as-doer is a construct wherein action and self are combined in working memory to provide motivation for behaviors.[1]
- The self-as-doer is understood as one's identification with *doing* a behavior, especially when one may not feel autonomous in doing so.[1]
- Self-as-doer identity predicts health behaviors such as diet and exercise,[2,3,4] but the mechanisms by which self-as-doer identity predicts physical activity behaviors are not well understood.
- It may be that a self-as-doer identity provides the motivation to overcome barriers to PA and consequently increase the likelihood of engaging in PA behaviors, but this relationship has yet to be explored.

[1]Houser-Marko & Sheldon, 2006; [2,3]Brouwer, & Mosack, 2014; 2015; [4] Brouwer, 2017

Study Aims and Hypotheses

- Explore the relationship between self-efficacy for overcoming physical activity barriers, self-as-doer identity, and physical activity behaviors.
- We hypothesized that the relationship between self-as-doer identity and physical activity behaviors will be explained by an increase in self-efficacy for overcoming barriers to PA.

Method

Participants

- 222 Adults
- 18-49 years old (M= 20.05, SD= 2.95)
- 41 males, 174 females
- Ethnicity:
  - Asian: 2.7%, African American: 3.6%, Native American: 0.5%, Hispanic: 1.8%, Caucasian: 94.1%

Procedure

- Participants completed a survey with questions related to demographics, self-efficacy for PA barriers, and physical activity behaviors.
- Participants then completed a writing activity where they developed physical activity goals and then created self-as-doer identities from those goals.

Measures

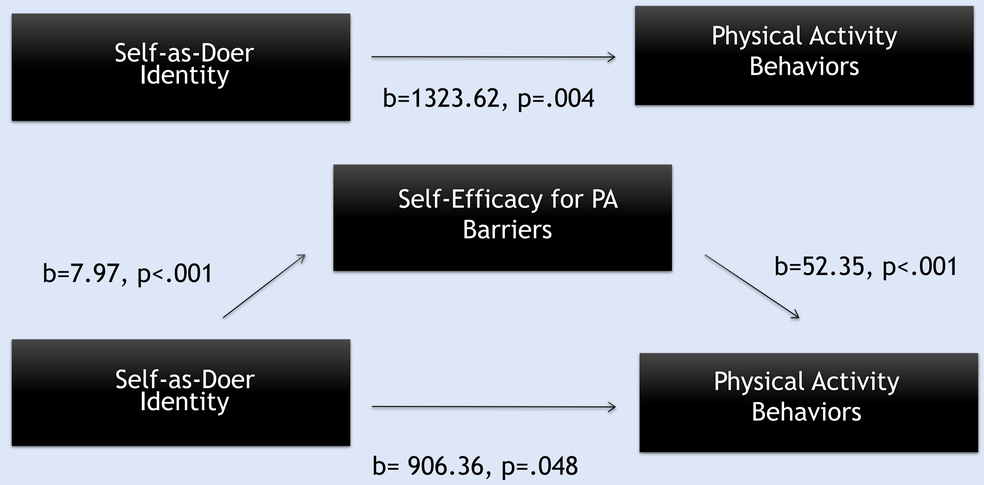
- Demographics:
  Age, education, ethnicity, gender
- Self-Efficacy for Physical Activity Barriers (Garcia & King, 1991)
  Self-efficacy levels were measured by listing potential barriers toward physical activity completion and then identifying the degree to which participants were confident in exercising under those conditions using a 0% to 100% scale. Examples of barriers include inclement weather, illness, being tired, distance/commutes, and personal responsibilities.
- Self-as-Doer Identity (Houser-Marko & Sheldon, 2006)
  Participants listed 6 goals related to physical activity and then created self-as-doer statements by adding an "er" suffix to the end of the object and verb of the goals statement. Example statements include, "gym goer," "stair climber," "frequent stretcher."
- Physical Activity Behaviors: International Physical Activity Questionnaire (Booth, 2000)
  Participants described the number of days per week and hours and minutes per day they engaged in walking, moderate, and vigorous physical activity. Metabolic equivalent (MET) minutes were calculated for each by multiplying minutes per day by days per week by MET level (e.g., 3.3 for walking, 4 for moderate and 8 for vigorous). Total METs were calculated by summing the METs for each activity level.

Statistical Analyses

- Mediation analyses using bootstrapping procedures (Preacher & Hayes, 2008) were conducted to test the indirect effect of self-as-doer identity on physical activity behaviors through self-efficacy for physical activity barriers.

Results

- Self-efficacy for physical activity barriers was a significant mediator of the relationship between the self-as-doer identity and physical activity behaviors, b=417.25, 95% CI[176.78, 709.89].



- As self-as-doer identity increased, so did self-efficacy for physical activity barriers, which then led to an increase in physical activity behaviors.

Discussion

- Findings demonstrate that as self-as-doer identity increases, so does self-efficacy for overcoming barriers to physical activity which then increases engagement in physical activity behaviors.
- This means that when an individual identifies with the self-as-doer identity, he or she will be motivated to engage in physical activity behaviors, even when there are barriers.
- Results support the theory of the self-as-doer identity in that developing a cognitive representation of the doer of one's behavior can increase motivation to enact the corresponding behavior. The current research adds to the existing theory by identifying how it changes behavior; it provides motivation to overcome common barriers to physical activity.
- Focusing on developing an identity as a "physical activity doer" or "exerciser" may then be a way to increase self-efficacy for barriers to PA which can potentially lead to greater physical activity behaviors.
- Individuals struggling with barriers to physical activity (e.g., exercise when tired, feeling anxious, on vacation, etc.) and special populations (e.g., those at high risk for serious diseases, etc.), might benefit from using the self-as-doer identity as a way to help them also increase their self-efficacy for managing barriers to physical activity behavior and consequently increase physical activity behaviors.
- Future researchers should explore the causal effects of this relationship and the degree to which it holds in clinical populations.