



## Original research

# Intention–behavior gap is wider for walking and moderate physical activity than for vigorous physical activity in university students



Amanda L. Rebar<sup>a,\*</sup>, Jaclyn P. Maher<sup>b</sup>, Shawna E. Doerksen<sup>c</sup>,  
Steriani Elavsky<sup>b</sup>, David E. Conroy<sup>d</sup>

<sup>a</sup> Central Queensland University, School of Human, Health, and Social Sciences, Australia

<sup>b</sup> Department of Kinesiology, The Pennsylvania State University, USA

<sup>c</sup> Department of Recreation, Park, and Tourism Management, The Pennsylvania State University, USA

<sup>d</sup> Center for Behavior and Health – Institute for Public Health and Medicine, Northwestern University, USA

## ARTICLE INFO

## Article history:

Received 28 May 2014

Received in revised form 7 October 2014

Accepted 27 November 2014

Available online 5 December 2014

## Keywords:

Motivation

Theory of planned behavior

Exercise

Physical activity intensity

## ABSTRACT

**Objectives:** The theory of planned behavior proposes that physical activity is the result of intentions; however little is known about whether the relation between intentions and behavior differs between vigorous, moderate physical activity, and walking. For university students, vigorous physical activity is oftentimes enacted as a goal-directed behavior; whereas walking is oftentimes a means to achieving a goal other than physical activity (e.g., transportation).

**Design:** The study was a one-week prospective study.

**Methods:** Undergraduate students ( $N = 164$ ) reported intentions for walking, moderate physical activity, and vigorous physical activity and self-reported these behaviors one week later.

**Results:** Hierarchical linear modeling revealed that intentions were more strongly related to vigorous physical activity than to moderate physical activity or walking.

**Conclusions:** Intention-enhancing interventions may effectively promote vigorous physical activity, but other motivational processes may be more appropriate to target in interventions of walking and moderate physical activity.

© 2014 Sports Medicine Australia. Published by Elsevier Ltd. All rights reserved.

## 1. Introduction

Important health benefits can be obtained by participating in physical activity of varying degrees of intensity, from vigorous exercise to slow-paced walking.<sup>1</sup> The theory of planned behavior<sup>2</sup> proposes that physical activity is primarily determined by behavioral intentions, and, to a smaller degree, by perceived behavioral control (i.e., perceptions of the ease or difficulty of performing physical activity). As is the case with most behaviors, the majority of physical activity is unexplained by behavioral intentions.<sup>3–5</sup> The behavior left unexplained by intentions is referred to in the literature as the *intention–behavior gap*.<sup>6</sup> A small intention–behavior gap suggests that interventions that enhance behavioral intentions will produce behavior change; however a large intention–behavior gap suggests that interventions may require additional strategies of behavior change beyond intention–enhancement.

A meta-analysis of the physical activity intention–behavior gap estimated that people only follow-through with slightly more than half (52%) of their physical activity intentions.<sup>7</sup> To address this, research has been focused on the motivational, self-regulatory, and habitual individual differences and states that make it more likely that people will follow through with their intentions.<sup>8</sup> With this new knowledge, intervention strategies can be incorporated to help people implement their physical activity intentions<sup>9</sup> and these programs can be tailored for those less likely to follow through with their intentions.<sup>8</sup> The question then arises, how physical activity interventions should be tailored to best aide people in bridging the intention–behavior gap. Most intention–behavior gap research has focused on individual differences<sup>8</sup> or motivational strategies;<sup>9</sup> however little is understood about what aspects of physical activity (e.g., intensity) might influence the intention–behavior gap. Such research could point toward effective, easy to implement strategies for making physical activity interventions more successful.

The intention–behavior gap may be different between vigorous physical activity, moderate physical activity, and walking. Vigorous and moderate physical activity is less seamlessly embedded

\* Corresponding author.

E-mail address: [a.rebar@cqu.edu.au](mailto:a.rebar@cqu.edu.au) (A.L. Rebar).

in daily life than walking, and therefore may be more dependent on intentional control. For example, vigorous physical activity often requires special clothing, equipment or social contexts and is unlikely to occur without some planning to coordinate these different components. Walking is less onerous and requires less preparation. As a representation of the effort that people are willing to put forth to perform the behavior,<sup>2</sup> intentions may more strongly regulate vigorous and moderate physical activity than walking.

The findings of two previous studies support that the intention–behavior gap may be wider for walking than for vigorous and moderate physical activity. In the first study, a sample of university students and community-based adults reported their intentions for six types of physical activity.<sup>10</sup> One month later, the participants reported the frequency of their engagement in each activity throughout the past month. It was found that intentions explained significantly more variability in engagement in team sports, aerobics, dancing, swimming, and cycling than walking. In the second study, university students reported their intentions for lifestyle physical activity (i.e., any activity performed with a primary goal other than physical fitness and health) and exercise (i.e., activity performed with physical fitness and health as a primary goal) and frequency of these activities throughout a typical week. It was found that intentions for exercise accounted for more variability in exercise behavior (and specifically vigorous activities) than intentions for lifestyle physical activity accounted for in lifestyle physical activity.<sup>11</sup> These studies demonstrated that the intention–behavior gap varies between the mode and style of physical activity, but neither study directly evaluated the magnitude of the intention–behavior gap between vigorous physical activity, moderate physical activity, and walking.

A more recent study directly tested for differences in intention–behavior relations between moderate and vigorous activity with a between-group comparison of university students.<sup>9</sup> In this study, one group reported intention and behavior of moderate physical activity and another group reported intentions and behavior of vigorous physical activity. No significant differences were found between the magnitude of the intention–behavior relations between the two groups, which may suggest that the intentional regulation of physical activity does not differ between moderate and vigorous physical activity. It remains unclear, however, whether these effects extend to a within-person level. This may not be the case, given that intentions are influenced by individual factors, such as attitudes.<sup>3–5</sup> Identifying whether there are within-person differences in the intentional regulation of vigorous physical activity, moderate physical activity, and walking will have important implications for how to target these behaviors in interventions.

The aim of our study was to determine whether there were differences in the intentional regulation of vigorous physical activity, moderate physical activity, and walking. This is the first study to test whether the magnitude of the relation of intentions with prospective behavior differed between vigorous physical activity, moderate physical activity, and walking. Analyses were conducted at the within-person level and accounted for between-person differences; this analysis strategy reduces the risk of making incorrect conclusions from strictly between-person analyses and better represents behavioral processes.<sup>12,13</sup> We hypothesized that intentions would be more strongly related to vigorous physical activity than to moderate physical activity or walking. In accordance with the theory of planned behavior,<sup>2</sup> perceived behavioral control of these behaviors was accounted for in the models.

## 2. Methods

Participants ( $N = 164$ , 75 women, 87 men, 2 did not report sex) were mostly White (88%), non-Hispanic (96%) students in their

second (15%), third (69%), or fourth (16%) year at the university. Data were collected as part of a class project in an undergraduate Kinesiology course with the approval of the local Institutional Review Board. All participants provided informed consent to participate in the project and gave permission to use their data for research purposes. The decision to participate in the research study had no bearing on the course grade. Participants made laboratory visits at the beginning and end of a one-week interval. During the first lab visit, participants reported on their intentions for vigorous physical activity, moderate physical activity, and walking. During the second lab session, participants reported on their vigorous physical activity, moderate physical activity, and walking during the previous week.

Participants completed three versions of items adapted from previous research.<sup>14</sup> The items were adapted based on physical activity intensity (i.e., separate assessments for vigorous physical activity, moderate physical activity, and walking; 15 items total). Prior to rating the items (described below), participants were provided with definitions and examples of the intensities of physical activity that matched those from the International Physical Activity Questionnaire.<sup>15</sup> *Vigorous physical activity* was defined as activities that take hard physical effort, and examples included heavy lifting, digging, aerobics, or fast bicycling. *Moderate physical activity* was defined as an exertion of more than minimal effort, and examples included carrying light loads, bicycling at a regular pace, or doubles tennis. Participants were explicitly informed that moderate physical activity did not include walking. *Walking* was defined as walks of at least 10 min characterized by an exertion of minimal effort, completed with a normal heart rate, and in which you could easily hold a conversation.

Physical activity intentions at each level of intensity were assessed using two items: ‘I plan to engage in [vigorous physical activity/moderate physical activity/walking] regularly over the next week’ and ‘I intend to engage in [vigorous physical activity/moderate physical activity/walking] regularly over the next week.’ Participants rated each item on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*) and scores at each level of intensity were calculated as the mean response to the two items. Internal consistency was acceptable for each of these intention scales ( $\alpha s > .70$ ).

Perceptions of behavioral control at each level of intensity were assessed using three items: “How much personal control do you feel you have over engaging in [vigorous physical activity/moderate physical activity/walking] in the next week if you really wanted to do so,” “How much do you feel that engaging in [vigorous physical activity/moderate physical activity/walking] over the next week is beyond your control even if you really wanted to,” and “Is engaging in [vigorous physical activity/moderate physical activity/walking] over the next week up to you if you wanted to do so?” Participants responded to these items on 7-point Likert scales ranging from either *very little control* to *complete control* (item 1) or *not at all* to *very much* (items 2 [reverse scored] and 3). The second item reduced internal consistency considerably ( $\alpha s$  ranged from .46 to .56), so it was dropped and the internal consistencies of the remaining items were acceptable ( $\alpha s \geq .70$ ). Thus, scores at each level of intensity were calculated as the mean of the remaining two items.

Participants self-reported vigorous physical activity, moderate physical activity, and walking using the short version of the International Physical Activity Questionnaire (IPAQ)<sup>15</sup> which has demonstrated acceptable reliability and validity in an adult population.<sup>16</sup> Participants reported the number of days in the past week that they participated in vigorous and moderate physical activity and walked for at least 10 min at a time. They also reported how much time they typically spent doing these physical activity behaviors per day. Responses were processed using standard scoring procedures and intensity-specific physical activity scores were calculated as the product of days, time (in minutes), and a weight

Download English Version:

<https://daneshyari.com/en/article/2703873>

Download Persian Version:

<https://daneshyari.com/article/2703873>

[Daneshyari.com](https://daneshyari.com)