

EXPLORATION OF THE INFLUENCE OF SELF-EFFICACY ON RECREATION PARTICIPATION LEVELS OF INDIVIDUALS WITH VISUAL IMPAIRMENTS WHO USE DOG GUIDES

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Abstract: Self-efficacy and its relationship to outdoor recreation is only recently being explored. This paper is an attempt to identify the specific domain of leisure self-efficacy and to explore how it might be related to participation levels in outdoor recreation activities of individuals with visual impairments.

Introduction

Persons with disabilities have often been acknowledged as generally having lower participation rates in recreation activities. Part of the reason for this is the number of physical barriers one must overcome in order to participate. For example, a person in a wheelchair must negotiate curbs, poorly surfaced trails and narrow entrance gates. The Americans with Disabilities Act was developed to address many of these external challenges and, with its enforcement, is providing progress in breaking down visible barriers to leisure participation. However, there are still internal challenges that must be addressed if a person with a disability wishes to participate in recreation.

Internal challenges identified include lack of motivation, a perceived loss of control over one's environment and the perceived inability to participate. These barriers, because they are not visible to others, are often difficult to measure or modify, and, thus, are often difficult to address in the recreation profession in order to increase leisure participation levels of persons with disabilities. One of these internal components that may be strongly connected to participation is self-efficacy.

Self-efficacy is generally described as the belief of one's ability to accomplish something (Bandura, 1997; Zimmerman, Bandura & Martinez-Pons, 1992). The theory suggests that self-efficacy levels can "...influence behavioral choices, performance, and persistence" (Betz & Hackett, 1998, p. 1). Sherer and Maddux (1982) contend that "...expectations of self-efficacy are the most powerful determinants of behavioral change because self-efficacy expectancies determine the initial decision to perform a behavior, the effort expended, and persistence in the face of adversity."

There are three levels of specificity typically measured in self-efficacy: global efficacy; domain specific efficacy; and, task specific efficacy (Bandura, 1997). Research suggests that the best prediction of behavior occurs when the level of specificity used in measuring efficacy is matched with the level of behavior it is anticipated to predict. For example, high academic efficacy, a global level of efficacy, tends to predict more involvement in academic activities and higher levels of academic achievement (Pajares, 1996). In addition, it would be expected that high math efficacy, a domain specific efficacy, would predict high success in math related classes, which is a domain specific behavior, but not necessarily high success in specific math tasks such as multiplication which would be classified as task specific behaviors.

Current self-efficacy research is largely centered on the domains of academics, work, and, more recently, sports (Pajares, 2000). However, little research is available regarding self-efficacy in leisure and no specific scale has yet been developed to measure leisure self-efficacy. Examining self-efficacy in leisure could provide additional information regarding why individuals choose to participate or not to participate in leisure programs. In addition, a leisure self-efficacy scale could be used as a tool for predicting the success or failure of leisure programs relative to specific populations.

The purpose of this study was to examine how leisure self-efficacy relates to levels of recreation participation, in particular, for people with visual impairments. People who used dog guides were chosen specifically as it was anticipated they would be more likely to participate in activities (Hart, Hart & Bergin, 1987; Steffens & Bergler, 1998).

The questions posed for research in this study were:

- R.Q. 1: What is the factor structure of the proposed leisure self-efficacy scale?
- R.Q. 2: How strongly does a general leisure self-efficacy scale relate to participation in specific leisure activities?

Methods

Leader Dogs for the Blind (LDFB) in Rochester, Michigan was contacted and agreed to distribute a self-administered survey to their active graduates. These individuals are at least 18 years old, have visual impairments and use dogs as guides. LDFB indicated that the response rate for this population is typically 20-30%, therefore, rather than select a sample, the survey was sent to all individuals in the population. In addition, because LDFB required their respondents have complete anonymity, reminder postcards could not be sent to improve the response rate. So, in order to attempt to increase response rate, we decided to implement three additional methods of responding to our written survey. First, participants were given a toll-free phone number to call if they preferred to have the survey read to them via telephone. In addition, respondents could

call the toll-free number to request the questionnaire in Braille. Finally, we printed the survey in 14-point type to facilitate completion by individuals with low vision. Three respondents contacted us to have the survey read over the phone, however, there were no requests for the survey in Braille.

All individuals (N=234) who were active graduates of the Leader Dogs for the Blind School were sent an introductory letter, self-administered survey and self-addressed stamped envelopes. The response rate of 26% (n=65), although within the expected response range, raises concerns about non-response bias.

Data were collected regarding levels of global self-efficacy using items from Bandura's (1997) General Self-Efficacy Scale. Leisure self-efficacy was measured using items from Bandura's scale modified with the phrase 'free-time'. Respondents were asked to indicate to what extent they agreed with each statement on a five-point scale from strongly agree to strongly disagree. In addition, they were asked to indicate at what level they participated in 31 activities on a five-point Likert-type scale with 1=not at all and 5=very often. The activities were grouped into the following five categories: physical activities; arts & entertainment activities; hobbies; social activities; and, home-based entertainment activities.

Results

General demographics of the population indicate this is a highly educated group with 80% having at least some college or more. It is comprised of 60% females with 52% of all respondents falling between 40 and 59 years of age.

In addition, 51% of respondents are Braille users. This relatively high number of Braille users suggests a sample that is highly educated relative to the population of persons with visual impairments in the United States (Kinder, 1999).

Before examining how self-efficacy in leisure related to activity participation, the factor structure of the leisure self-efficacy subscale was established. First, a reliability analysis was conducted on the leisure efficacy items as posited. Results indicated a moderate reliability of $\alpha=.77$. In addition, inter-item correlations were between .2 and .4, which suggested a relationship between the items without duplication of information.

However, because this was an exploratory study, we also ran a principle axis factor analysis to examine the interrelationship of all of the items including those used to measure global efficacy. Results revealed several items that were posited to measure efficacy at a global level actually loaded heavily on the domain of leisure. The reliability of the scale increased to $\alpha=.80$.

Upon review of the questionnaire, it appears the loading of the global self-efficacy items with the leisure self-efficacy items may be a result of priming. Participants had already answered two pages of leisure participation related questions before beginning to answer the self-efficacy related questions. Therefore, they may have considered their answers within the framework of leisure. However, because there is not a clear understanding of these unexpected results, and because of the relatively small change in reliability, the originally posited scale was used in further analysis.

Table 1. Factor Analysis Results of Global and Leisure Self-efficacy Subscale Items

Survey Item	Factor Loading from Principle Axis Factor Analysis with Varimax Rotation
When I have something unpleasant to do, I stick to it until I finish it.	.747
If I can't do a job the first time, I keep trying until I can.	.636
I give up on projects or activities in my free time before completing them. ^{1,3}	.636
When unexpected problems occur during my free time, I don't handle them well. ^{1,3}	.630
When I make plans regarding the use of my free time, I am certain I can make them work. ³	.605
When I decide to do something during my free time, I do it right away. ³	.583
In deciding how to use my free time, I avoid facing difficulties. ^{1,3}	.541
I am a self-reliant person.	.538
Failure just makes me try harder.	.526
When I set important goals for myself regarding the use of my free time I rarely achieve them. ^{1,3}	.2
If a leisure or recreation activity looks too complicated, I will not even bother to try it. ^{1,3}	.2
When trying to learn a new leisure or recreation activity, I soon give up if I am not initially successful. ^{1,3}	.2
I feel insecure about my ability to do leisure or recreation activities in my free time. ^{1,3}	.2

¹ Items were reverse coded in the final analysis.

² Item loaded at less than a .4 level in the Principle Axis Factor Analysis.

³ Items were originally posited to comprise the leisure self-efficacy subscale and were used in the correlation analyses.

The leisure efficacy subscale was then examined for the potential to predict participation in leisure activities. Leisure activity participation was measured using two different indices of participation. Recreation Activity Index 1 (RAI 1) was developed by calculating the mean of the participation frequency for each participant in each group of activities. Recreation Activity Index 2 (RAI 2) was developed by dummy coding each recreation activity with 1=participated and 0=did not participate. The mean of the number of activities in which they participated was then used as the index value. Each participation index was then correlated with the leisure self-efficacy subscale.

The results of the correlation analyses indicated the leisure scale had a minimal relationship with both of the indices used to measure leisure participation. When the RAI 1 was correlated with the leisure efficacy index, results indicated a significant relationship at the .05 level with the physical activity index of Pearson Correlation Coefficient = .266 and the arts & entertainment index Pearson Correlation Coefficient = .337. Correlation of the RAI 2 with the leisure self-efficacy subscale revealed significant correlations with the same two groups at similar levels. There were no other significant correlations. Outdoor recreation, in particular, was not significantly correlated to the leisure self-efficacy subscale regardless of index used.

Discussion

Efficacy is generally divided into three levels: global, contextual or domain specific, and situational or activity specific. Motivational literature suggests, "...the consequences are of the same level of generality as the level of generality of the motivation that engendered them" (Vallerand, 1997, p. 276). Self-efficacy literature also suggests that the level of efficacy measured should be at the same level as the activity that is measured. Bandura (1997) notes "...the 'one measure fits all' approach usually has limited explanatory and predictive value because most of the items in an all-purpose test may have little or no relevance to the domain of functioning that is being studied" (p. 1). In other words, academic efficacy, which is domain specific, has a stronger relationship to success and participation in academics, in general, whereas math efficacy, which is task or item specific, is a better predictor of success and participation in math rather than of success and participation in other academic areas.

In this study, leisure efficacy was hypothesized to predict levels of leisure participation. It may appear that this study does not support the theory that increased levels of efficacy can predict levels of participation within domain specific activity. However, further examination of the questions used to determine self-efficacy suggests that, perhaps, leisure self-efficacy as a sub-domain was not measured adequately. Using an existing global self-efficacy scale modified through the addition of one phrase, i.e., free time, may not be an adequate measure of free time efficacy. Although this method has been successful in previous research (Sherer & Maddux, 1982) it may be a more accurate measure if we completely deconstruct and rewrite the statements intended to measure leisure self-efficacy.

In addition, it may be that the leisure self-efficacy subscale is not a good predictor of participation in specific activities. The specific activity questions may be measuring leisure participation at a situational level whereas the leisure self-efficacy scale may be measuring self-efficacy at a contextual level.

The most important component of this study may be its exploratory nature of the use of domain specific self-efficacy scales and their reliability and validity. As self-efficacy theory suggests, once a reliable and valid scale is established, it should also be a predictor of levels of achievement within domains. A leisure self-efficacy scale, as well as a recreation participation efficacy scale, may be a valuable tool to use in predicting the effectiveness of leisure or recreation programs. Future research in this area would be likely to focus on leisure and/or recreation efficacy scale development. From that scale development, further studies could then focus on the ability of the scale to predict leisure and/or recreation participation.

Finally, results from this study are subject to several limitations. Clearly, response rate bias is relatively high due to the low response rate. In addition, the population studied in this paper is unique. Individuals with visual impairments who use dog guides in Michigan account for less than 0.5% of the entire population of persons with visual impairments in the United States. The fact that these individuals use dogs and have a disability may result in attribution of a different meaning to self-efficacy and to leisure. Certainly, some constraints to leisure participation are unique due to the fact that these participants lack vision. Because of these limitations, it is important to use caution in interpretation and generalization of these study results.

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