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# Self-efficacy of physical education teachers in including students with cerebral palsy in their classes



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## ARTICLE INFO

#### ABSTRACT

Number of reviews completed is 2 Keywords: Exclusion Participation Mobility Children with cerebral palsy (CP) are often mainstreamed into the general education system, but are likely to be excluded from physical education (PE) classes. A questionnaire was constructed and utilized to measure PE teachers' self-efficacy (SE) toward inclusion of students with CP in each of three mobility categories (independent, using assistive devices, using wheelchair mobility) and the impact of experience and training on teachers' SE. Participants in the study were 121 PE teachers from different parts of Israel (mean age: 41.02 ± 9.33 years; range: 25.00-59.00 years). Exploratory factor analysis was used to determine the structure of the sub-scales' factors' structure and Cronbach's Alpha reliability was satisfactory (range 0.872-0.941). Independent ttests were calculated in order to compare the SE of teachers with and without adapted PE experience. Repeated Analysis of Variance was performed to measure within-group differences in SE. Results revealed that the PE teachers' SE in teaching students who use mobility assistive devices or wheelchairs was significantly lower compared to teaching those who walk and run unaided (F = 19.11; p < 0.001). The teachers' SE towards including CP children who independently ambulate was influenced (p < 0.05; d = 0.94) by the teacher's experience (elementary school practicum). SE in the mobility with assistive device group was also significantly influenced (p < 0.05; d = 0.1) by teaching experience (previous experience and having a specialization in adapted PE). Finally, SE when teaching the wheelchair mobility group was influenced by having an adapted PE specialization (p < 0.05; d = 0.82). Specialized training in this particular area should be enhanced to increase teachers' SE and enable greater participation of children with CP in general physical education classes

### What this paper adds?

Analyzing the degree of teachers' SE in accomplishing PE curricular objectives while including children with CP in the class, may add useful information for structuring future PE teacher education programs and internships.

#### 1. Introduction

Inclusion of students with disability in the regular education system is understood as a philosophy of supporting the active participation of all students within the school culture, including those with disabilities (Smith, Polloway, Patton, & Dowdy, 2008).

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Accordingly, inclusion of students with disabilities in physical education (PE) has been advocated and legislated in the United States over the last 30 years (USDE, 2004), and most recently mandated in a United Nations Education, Scientific and Cultural Organization (UNESCO, 2015) international charter stating that inclusive, adapted, and safe opportunities to participate in PE must be provided to children with disabilities. In Israel, the Special Education Act of 1988 encourages inclusion, but only the additional clause legislated in 2002 addresses the right of children with disability to be educated in the regular educational environment, and to be provided specific services and adaptations to promote inclusion (Shaked, 2016). However, inclusion in PE was not mentioned and/or supported under this act. Nevertheless, as in other countries, PE teachers in Israel have been facing increasing numbers of students with disability included in the regular classes, as opposed to the previous practice of referring such students to the special education system. For example, while in 1988 the majority of children with special education needs studied in special education institutions, this number was reduced to around half in the late 1990s and to less than one-third in the last decade (Central Bureau of Statistics, 2014; Heiman & Olenik-Shemesh, 2004).

#### 1.1. Social cognitive and self-efficacy theories

According to Social Cognitive Theory (SCT), human functioning is the result of the interaction among three factors represented in the Triadic Reciprocal Determinism model, in which personal, environmental, and task- or activity-specific factors all contribute to the resulting behavior (Wood & Bandura, 1989). Within the framework of SCT, self-efficacy (SE) has been described as one of the most influential motivational factors pertaining to the desire to perform a task, accomplishing and mastering its performance, and persisting (adhering) to participate in activities manifesting this task (Bandura, 1977, 1993, 1997). More specifically, SE is a context-and task-specific belief in the capability of individuals to master a task to a certain degree, and thus further develop self-organizing, proactive, self-regulating, and self-reflecting contributors to their life circumstances (Bandura, 2005; Levin, Culkin, & Perrotto, 2001).

According to Bandura (1977), four sources of information are employed to establish a belief that the person has a certain capability to accomplish the desired task: (a) actual performance accomplishments, (b) vicarious experiences (i.e., performance experienced by others with whom a person identifies), (c) verbal persuasion, and (d) emotional arousal. Individuals with high levels of SE experience stronger perceptions of control in their life than those with low levels of SE. They willingly approach difficult tasks and perceive them as challenges to master rather than as threats to be avoided (Bandura, 1993; Williams & Williams, 2010). Accordingly, research on teachers' SE has indicated that those with a high level of SE will persist in finding a solution in order to accomplish the teaching objectives, even in the face of significant challenges or barriers (e.g., coping with a student with a behavioral conduct problem) (Woolfolk Hoy, Hoy, & Davis, 2009). Given the significance of SE to teachers' intentions and behaviors, understanding teachers' SE relative to specific teaching objectives appears to be of cardinal importance to their educational performance.

Several scales have been developed to evaluate teacher's SE. Researchers of the Rand Corporation, who evaluated the United States Federal innovative educational programs (Armor et al., 1976), developed the first teachers' SE rating scale. Additional scales have been proposed and utilized in numerous studies that were engaged in identifying a unified teacher SE scale (e.g., Gibson & Dembo, 1984; Hoy & Woolfolk, 1993). However, it should be noted that consistent with Bandura's theory, teachers' SE beliefs should be referenced to specific tasks (Pajares, 1996), and in addition, the strength of teachers' SE beliefs should be assessed in light of impediments or obstacles to task accomplishment and include a broad range of response options (Bandura, 1997).

PE teachers are often challenged with tasks that are completely uncommon for teachers in other disciplines. For example, teaching PE requires negotiating large open spaces and using a variety of equipment in dynamic sessions engaging large numbers of students. Such a teaching environment includes significant safety issues, in addition to knowledge and skill transfer (Morley, Bailey, Tan, & Cooke, 2005). In addition, physical educators are engaged in the challenge of developing life-long health-oriented physical activity behavior in their students (Lee, Burgeson, Fulton, & Spain, 2007). Moreover, within the SHAPE America (2015) and Centers for Disease Control and Prevention (CDC, 2011) guidelines, PE teachers are expected to engage their students in moderate to vigorous physical activity for at least 50 percent of class time, promoting maximum physical activity participation during class.

Under these circumstances, including students with disabilities in a general PE setting is often perceived as a challenging and even threatening task for physical educators. For example, Fejgin, Talmor, and Erlich (2005) found in their study that the majority of 363 Israeli PE teachers reported that they did not include children with sensory or motor impairments at all or were only to some extent in their PE classes. One major reason for PE teachers' practical exclusion of students with disability who are included in their class (i.e., not insisting on their participation through adaptation and/or educational support) is a lack of training, knowledge, and skills in coping with students with disability within an inclusive setting. Similarly, previous studies – mostly from the United States – emphasized that PE teachers do not feel prepared or self-confident enough for inclusion (e.g., Ammah & Hodge, 2006; Hardin, 2005; Hodge, 1998; Kowalski & Rizzo, 1996; LaMaster, Gall, Kinchin, & Siedentop, 1998; Lienert, Sherrill, & Myers, 2001). Moreover, based on a multicultural comparison of interviews with 29 PE teachers from Ghana, Japan, the U.S., and Puerto Rico, Hodge et al. (2009) reported that some of the teachers indicated compromised SE and increased pedagogical concerns when including students with disability in their PE classes. The aforementioned reports are not surprising, considering that in most states in the U.S., as well as in most other countries – including Israel, the majority of PE teacher education colleges provide at most one compulsory lecture-based course on the ramifications of including students with disability, and very limited, if any, practicum and/or internships (Jin, Yun, & Wegis, 2013).

Hutzler, Zach, and Gafni (2005) studied PE students' attitudes and SE toward the inclusion of children with disabilities in PE in 153 Israeli PE majors from the two main PE teacher education institutions in the country, and found that SE was closely related to attitudes. Those students who had higher levels of SE also reported more positive attitudes toward inclusion in PE. In addition, previous training and exposure to children with disabilities were found to be significant contributors to SE in this study. These

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