

COMPONENTS OF ATTITUDES TOWARD INCLUSION OF STUDENTS WITH PHYSICAL DISABILITIES IN PHYSICAL EDUCATION IN THE REVISED “ATIPDPE-R” INSTRUMENT/SCALE FOR PROSPECTIVE CZECH EDUCATORS

Martin Kudláček

Faculty of Physical Culture, Palacký University, Olomouc, Czech Republic

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The purpose of the study was to examine the structure of the revised attitudinal scale of the ATIPDPE-R, an instrument based on the theory of planned behavior (TPB) of Ajzen (2000). Participants were 214 prospective educators (155 females and 59 males) of an average age of 21.83 years enrolled in physical education teacher preparation programs at four universities, in one adapted physical education program, one special education program and one general education program in the Czech Republic. Based on analysis, the attitudinal scale of ATIPDPE-R measures III psychological properties (components). Three components, which come from principal component analysis, explain more than 65% of the variance. The three components are: a) positive outcomes for students, b) negative outcomes for teachers, and c) negative outcomes for students.

Keywords: Inclusion, integration, physical disabilities, attitude, adapted physical education.

INTRODUCTION

Inclusion of students with disabilities in general education represents a phenomenon of the last 15 years in Czech education (Kudláček, Válková, Sherrill, Myers, & French, 2002; Michalík, 2000; Válková, 1998). Until the year 1991, most students with disabilities were educated in segregated special schools. Students with physical disabilities have been systematically included in mainstream schools. From year 2000 there have been over 1200 students with physical disabilities included in general schools (Michalík, 2005). On the other hand the area of physical education has been largely overlooked (Kudláček et al., 2002). In accordance with Sherrill (2004) it is important to prepare future physical education (PE) teachers for inclusion of students with disabilities in general physical education (GPE) settings and in order to prepare these students we must be able to measure and to understand their attitudes towards inclusion. According to planned behavior theory (Ajzen, 1991, 2005), behavior (e.g., including students with disabilities) is predicted by intention. The theory of planned behavior (TPB) (Ajzen, 2005) posits that behavioral beliefs, normative beliefs, and control beliefs are predictors of one's intention to perform specific behavior.

The most frequently studied component of both theories is behavioral beliefs, because this component is used to infer attitudes toward the intention to perform a specific behavior. Attitudes are often cited as an important factor in successful work with students with

disabilities (Downs & Williams, 1994; Folsom-Meek & Rizzo, 2002; Hodge & Jansma, 1999; Hutzler, 2003; Kozub & Lienert, 2003; Rizzo, 1985; Rizzo & Kirkendall, 1995). Rizzo (1984) was the initiator of theoretically-based research on attitudes toward teaching individuals with disabilities in GPE. Rizzo developed an instrument, now entitled “physical educators’ attitudes toward teaching individuals with disabilities” (PEATID), which is based on the theory of reasoned action (Ajzen & Fishbein, 1980). PEATID uses a 5 point Likert-type scale to measure 12 behavioral beliefs about the outcomes of teaching children with disabilities in GPE. Without a doubt, the PEATID has become the most commonly used attitude instrument in adapted physical education (DePauw & Karp, 1990; Downs & Williams, 1994; Folsom-Meek et al., 1999; Hodge & Jansma, 1999; Meegan & MacPhail, 2006; Schmidt-Gotz, Doll-Tepper, & Lienert, 1994). In each of the studies using PEATID or its earlier form, PEATH, an attitude score was inferred by averaging the Likert-type ratings of 12 belief statements. PEATID has developed into its third version examined for its structure by Folsom-Meek and Rizzo (2002), who found that PEATID has three factors: (a) outcomes of teaching students with disabilities in regular classes, (b) effect on student teaching, (c) need for more academic preparation to teach students with disabilities.

Attitude toward the inclusion of individuals with physical disabilities into physical education (ATIPDPE) was developed in the Czech Republic (Kudláček et al., 2002) to assess intentions and belief systems and to

use the results to personalize teacher preparation so that university students develop positive attitudes and strong intentions toward inclusion. The results showed that 23% of variance in intentions can be explained by three belief components based on TPB. Kudláček, Válková and Sherrill (2002) explored the structure of the ATIPDPE instrument and found that it measures three psychological properties (components). The three components were: a) positive outcomes for students, b) negative outcome for teachers, and c) negative outcome for students. However findings of Kudláček et al. (2002) and Kudláček, Válková and Sherrill (2002) suggested that the instrument should include more items to be more balanced. Based on these suggestions, we have decided to look back at the original pilot study of ATIPDPE and include two more items from the list based on the frequency of their occurrences. The purpose of this study was to discover the structure of a revised (12 item) attitudinal scale of ATIPDPE-R by finding components of this scale using principal component analysis and to compare these with components of original ATIPDPE (Kudláček, Válková, & Sherrill, 2002) and the components of Folsom-Meek & Rizzo (2002).

METHOD

Participants

Participants were 214 prospective educators (155 females and 59 males) of an average age of 21.83 years. Ninety participants (37 females and 53 males) of an average age of 22.65 years were enrolled in physical education teacher preparation programs at four universities. Twenty three participants (18 females and 5 males) of an average age 23.35 of years were enrolled in one adapted PE teacher preparation program. 74 females of an average age of 20.64 years were involved in one general education program and 27 students (26 females and 1 male) of an average age of 21.11 years were involved in a special education teacher preparation program. All of these programs were realized in the Czech Republic. The sampling goal was to obtain as many participants as possible. The sampling design was purposive, meaning all students were surveyed who met the criteria of (a) enrollment in the above explained teacher preparation programs, and (b) willingness of the course instructor to allow class time for the survey.

Instrument

We have used the 12 item revised attitudinal scale ATIPDPE-R (attitudes toward inclusion of children with physical disabilities in physical education – revised) instrument. This scale measures behavioral beliefs about the outcomes of inclusion of students with physical disabilities in physical education. The attitudinal scale

was selected from three scales to compare the results of attitudes toward inclusion among Czech perspective educators with the results of previous study on components of original ATIPDPE scale (Kudláček, Válková, & Sherrill, 2002) and with the study by Folsom-Meek and Rizzo (2002). Each ATIPDPE item is accompanied by a 7 point scale, as recommended by Ajzen (2000). The scoring system required the use of two 7 point scales: a) 1 to 7 for the likelihood construct, and b) -3 to +3 scale for the evaluation construct. Scores for each statement were then multiplied to create item belief scores as shown in TABLE 1. The results of the multiplications were summed and thereafter referred to as the summative belief index (attitudinal score). The statements from all items can be found in TABLE 2.

TABLE 1

Sample item from the attitudinal scale

Behavioral belief (outcome belief)						
<u>Likelihood</u>						
Including students with physical disabilities in my PE class will help students without disabilities to learn to interact with persons with physical disabilities.						
Extremely unlikely outcome:						
_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7
<u>Evaluation</u>						
Students without disabilities learning to interact with persons with physical disabilities is an:						
Extremely bad outcome:						
_____	_____	_____	_____	_____	_____	_____
1	2	3	4	5	6	7

A substantial amount of research has been also conducted outside of adapted physical education that uses this or a similar scoring system as well as this terminology (e.g. Baker, Morrison, Carter, & Verdon, 1996; Yordy & Lent, 1993). The scoring systems and logic of these studies that applied the recommendations of Ajzen (2000) were followed. The internal consistency of ATIPDPE-R reported using Cronbach alpha was at the desirable level of 0.72.

DATA ANALYSIS

Data were analyzed using SPSS PC 13.0 software. One way ANOVA revealed that there were no significant differences between females and males and among students in different years of study. This finding provided the justification for combining data for gender and year of study in the subsequent data analysis. Principal component analysis was used because this procedure analyzes all variance in shared variables and was used in a comparable study of attitudes by Folsom-Meek

TABLE 2
Description of the 12 items on the attitudinal scale of ATIPDPE with means and standard deviations

Component item	Description	M	SD
<i>Positive outcomes for students</i>			
1.	Including students with physical disabilities in my PE class will help students without disabilities to learn to interact with persons with physical disabilities.	16.56	5.18
3.	Including students with physical disabilities in my PE class will encourage students to learn to help others.	17.27	4.43
5.	Including students with physical disabilities in my PE class will teach students greater tolerance.	15.76	5.19
6.	Inclusion will have a positive effect on the development of personalities of students with physical disabilities (e.g. self esteem, feeling of belonging, etc.).	16.11	5.24
9.	Inclusion will cause my students to have better knowledge about persons with disabilities.	17.18	5.66
10.	Including students with physical disabilities in my PE will teach students cooperation.	16.91	5.32
<i>Negative outcomes for students</i>			
7.	Students with physical disabilities will experience discrimination in my regular physical education classes.	-7.23	5.33
8.	Students with physical disabilities will slow down instruction and progress in my PE class.	-4.34	6.96
11.	Students without physical disabilities will experience discrimination in my regular physical education classes.	-4.81	5.48
12.	Including students with physical disabilities in my PE class will reduce the quality of teaching.	-5.64	6.72
<i>Negative outcomes for teachers</i>			
2.	Including students with physical disabilities in my PE class will make teaching physical education more difficult.	6.41	9.27
4.	Including students with physical disabilities in my PE class will make lesson planning and preparation much more difficult.	6.06	9.15

Note

Scores of all items are based on the multiplication of evaluation results and the likelihood of beliefs about the outcomes of the inclusion of students with PD in general PE class. The possible range of scores of every item is from -21 (-3 on evaluation and 7 on likelihood) to +21 (+3 on evaluation and 7 on likelihood).

and Rizzo (2002). The Kaiser measure for sampling adequacy for this study was .77 which was above the recommended minimum of .60 (Tabachnik & Fidell, 2000). Components were required to have eigenvalues above 1.0 to be included.

RESULTS

Based on analysis the attitudinal scale of ATIPDPE-R measures three psychological properties (components). Detailed information on means and standard deviations of each item can be found in TABLE 2. Three components, which came from principal component analysis, explain more than 65% of the variance. The three components are: a) positive outcomes for students, b) negative outcomes for teachers, and c) negative outcomes for students.

TABLE 3 depicts component loadings of the 12 items. Each of the items loaded higher than the .40 cut off point. Most items showed excellent loadings (above .70) with the exception of one item (item 8 = .69). Thus we can conclude that the described attitudinal scale has a sound structure, which is comparable with the structure of the previously studied original instrument ATIPDPE.

DISCUSSION

The purpose of this study was to discover the structure of the revised attitudinal scale of ATIPDPE-R by finding components of this scale using principal component analysis and to compare these to the components of the original ATIPDPE (Kudláček et al., 2002) scale and the PEATID-III scale of Folsom-Meek and Rizzo (2002). Prospective teachers seem to be aware of the potential outcomes of inclusion (Ajzen, 2000) as both positive and negative. Negative outcomes are divided in the same way as in the original study by Kudláček, Válková and Sherrill (2002) as to outcomes on teachers (making teaching and preparation more difficult) and the outcomes on students (students with PD and students without disabilities). Two newly added items, no. 11 "students without physical disabilities will experience discrimination in my regular physical education classes" and no. 12 "including students with physical disabilities in my PE class will reduce the quality of teaching" were loaded together with two original items representing the negative outcome on students. It is interesting to notice that the results of negative outcomes for teachers were not rated as bad outcomes (minus scores) rather they were evaluated as not so good outcomes in the same way

TABLE 3

Component loadings, eigenvalues and percentages of variance using principal components extraction with varimax rotation for total composite scores

Item #	Varimax components		
	1	2	3
<i>Positive outcomes for students</i>			
1	.78		
3	.81		
5	.77		
6	.73		
9	.74		
10	.83		
<i>Negative outcomes for students</i>			
7		.79	
8		.69	
11		.77	
12		.71	
<i>Negative outcomes for teachers</i>			
2			.91
4			.91
Eigenvalue	3.67	2.32	1.81
Percent variance	30.59	19.36	15.12

as the original ATIPDPE scale, suggesting that respondents were likely to respond in a socially desirable way.

It is not possible to compare all items or components of ATIPDPE-R with PEATID-III of Folsom-Meek and Rizzo (2002) as they used a different PEATID - III instrument in a different cultural environment. However we must highlight some similarities of both studies. Folsom-Meek and Rizzo (2002) has 6 items in its first component (outcomes of teaching students with disabilities in regular classes). All outcomes are negative apart from one item, which, based on Ajzen (2000), should not be included: "Students labeled ...should be taught with non-disabled students in my PE classes whenever possible". Component two (negative outcome on teachers) and three (negative outcome on students) from our study is comparable to Folsom-Meek and Rizzo's (2002) first component. Folsom-Meek and Rizzo's (2002) second component (effects on students' learning) includes four positive items, which are comparable to six items from our first component (positive outcomes on students).

If we consider the fact that two instruments (PEATID and ATIPDPE-R) were developed by two separate pilot studies, where researchers have asked respondents to list the possible outcomes of the inclusion of students with PD in general physical education classes, in two different countries with a different state of inclusion, the similarities of the results are surprising. (For differences in the scoring of these instruments see Kudláček et al., 2002). In relation to ATIPDPE-R the results showed that while the explanation of variance remained the same as in original ATIPDPE (Kudláček, Válková, & Sherrill, 2002) the 65% revised version is more sensitive to beliefs about the potential outcomes

of inclusion. The revised scale has a sound structure and an internal consistency of 0.72 and therefore it is recommended to use it with students of Czech teacher preparation programs in physical education, adapted physical education, general education and special education. This instrument can be used to measure impacts of different courses and educational programs on the attitudes of the above mentioned students toward the inclusion of students with physical disabilities in general physical education.

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**STRUKTURA POSTOJŮ K INTEGRACI ŽÁKŮ
S TĚLESNÝM POSTIŽENÍM V TV
V REVIDOVANÉM DOTAZNÍKU ATIPDPE-R
U BUDOUCÍCH UČITELŮ V ČESKÉ REPUBLICE
(Souhrn anglického textu)**

Cílem této studie bylo prozkoumat strukturu revidované postojové škály dotazníku ATIPDPE-R, který je založen na Ajzenově (2000) teorii plánovaného jednání (Theory of planned behavior). Této studii se účastnilo 214 budoucích učitelů (155 žen a 59 mužů) průměrného věku 21,83 let, kteří studovali studijní obor učitelství TV na čtyřech univerzitách, studijní obor aplikovaná

tělesná výchova, speciální pedagogika a učitelství prvního stupně základní školy v České republice. Analýza postojové škály ATIPDPE-R poukázala na tři psychologické ukazatele (komponenty). Zmíněné komponenty (na základě analýzy základních komponent - principal component analysis) objasňují více než 65 % variance. Tři komponenty jsou: a) pozitivní důsledky pro studenty, b) negativní důsledky pro učitele a c) negativní důsledky pro studenty.

Klíčová slova: inkluze, integrace, tělesné postižení, postoje, aplikovaná tělesná výchova.

Mgr. Martin Kudláček, Ph.D.



Palacký University
Faculty of Physical Culture
tř. Míru 115
771 11 Olomouc
Czech Republic

Education and previous work experience

1997 - Palacký University (MSc.),
1998-2000 - graduate teaching assistant at Texas Woman's University, Texas,
2001 - Texas Woman's University (Ph.D.),
Since 2001 - prof. assistant at Palacký University, Olomouc, Czech Republic.

Scientific orientation

Social-psychological dimensions of disability and sport, recreation and physical education, comparative studies of adapted physical activities, inclusion of people with disabilities through physical education.

First-line publication

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