



Attitudes of primary physical education teachers towards teaching pupils with disabilities

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Abstract

The inclusion of students with disabilities in to general physical education classes is a fast and growing trend. This study assessed the attitudes of Physical Educators and Regular class Teachers, who taught physical education in ordinary primary schools, towards teaching pupils with disabilities in regular classes. Participants' attitude was examined for eight disability conditions that exist according to the Belgian (Flemish community) special education system. 39 physical educators and regular class teachers (females $n = 33$; males $n = 6$) were involved in this study. The survey instrument used was the "Physical Educators' Attitudes Toward Teaching Individuals with Disabilities-III" (PEATID-III), which assesses physical educators' attitudes towards integrating individuals with disabilities in regular classes. The results indicated that Physical Educators' and Regular class Teachers' attitudes were significantly different. Further analysis showed that perceived teaching competence was significantly correlated with attitudes. Furthermore, it was the best predictor of favourable attitudes. Significant attitudinal differences were found between physical educators with regard to age and perceived competence with regard to teaching pupils with disabilities.

Key words: inclusion, physical education, attitude

Introduction

Nowadays, there is a clear tendency of teaching children with disabilities in regular education schools and classes. Individuals with disabilities are found increasingly in regular physical education programs (Depauw & Goc Karp, 1994) and the inclusion of students with disabilities in to general physical education classes is fast and growing trend (DePauw & Doll-Teppe, 2000). "Full inclusion means educating all children with disabilities with their non-disabled peers in regular education settings, even if it involves special resources, personnel and curricula to make it successful," (Block & Vogler, 1994, p. 40) and it is the common resultant of legislative and social factors (Rizzo, Davis & Toussaint, 1994). Many professionals believe that students with disabilities should be included in all school curricula, including regular physical education, in neighbourhood schools (Block & Volger, 1994). Also, many advocates claim that an inclusive setting may contribute to enhanced self-esteem for children with disabilities and increased social acceptance on behalf of their peers without disabilities (Place & Hodge, 2001),

and it will lead the students with disabilities to learn as much or more in regular classes than in segregated ones (Rizzo, Davis & Toussaint, 1994).

Integrating and teaching children with disabilities in regular classes and schools are social policy enforced by law in many countries the last two decades (Downs & Williams, 1994; Zanandrea & Rizzo, 1998). Increasing research (Santomier, 1985; Depauw & Goc Karp, 1994; Sheng, 1999) supports the fact that early placement in an inclusive setting will be beneficial to a child providing that adequate resource and qualified personnel are available. The successful assimilation of pupils with disabilities into regular physical education classes is dependent upon many factors, but an important one is the attitudes of physical educators (Rizzo & Vispoel, 1991; Sherrill, 1998; Zanandrea & Rizzo, 1998). "Legislation can be enacted to guarantee educational opportunities for handicapped children and youth, but no one can legislate tolerance" (Rizzo, 1985, p. 267). Downs and Williams (1994) (p. 32) conclude, "while legislative measures have undoubtedly helped the trend towards progressive inclusion, success integration practice depends more on dismantling attitudinal barriers than on passing legal mandates". The response of the schoolteachers to the needs of children with disabilities may be the determinant factor in whether or not the pupil with special needs will succeed. The key to changing behaviours towards people who are different is attitudes. "This is the essence of adapted physical activity, integration and inclusion" (Sherrill, 1998, p. 225). Attitudes are the "enduring positive or negative feeling about some person, object or issue" (Petty & Cacioppo, 1981, p. 7). Evidence suggests that a teacher's attitude towards a particular handicapped student probably exert an influence upon the student's overall learning (Patrick, 1987). "These attitudes can strengthen or weaken student achievement and behaviour. Favourable teacher attitudes are a potent variable in effective teaching and are critical for successfully including students with disabilities in physical education" (Duchane & French, 1998, p. 371). Negative opinions and attitudes that teachers have about handicapped children in the mainstream may be a source of stress for handicapped children (Santomier, 1985) because "attitudes involve how people think about, feel about and are likely to behave towards the attitude object" (Warger & Trippe, 1982, p. 247). "The need for teachers to hold positive attitudes towards their students is a sine qua non for effective education" (Patrick, 1987, p. 317). Teacher's acceptance and attitude towards individuals with disabilities are perhaps the most important variables in determining their success. As a conclusion, someone could claim that the most critical factors for successful inclusion are the attitude of the teacher, the learning environment and peer acceptance, which is partly dependent upon teacher attitude (Kuester, 2000). Many studies (Conatser, Block & Lerope, 2000; Downs & Williams, 1994; Duchane & French, 1998; Folsom-Meek, Groteluschen & Nearing, 1996; Folsom-Meek & Nearing, 1994; Folsom-Meek, Nearing, Groteluschen & Krampf, 1999; Kuester, 2000; Patrick, 1987; Rizzo, 1984; Rizzo, 1985; Rizzo & Vispoel, 1991; Zanandrea & Rizzo, 1998) conducted last 20 years have indicated that there is an association between physical education teachers' *attributes* (age, gender, years of teaching experience, number of adapted physical education courses taken, exposure to disabled individuals, certification level, perceived competence) and *attitudes* towards teaching individuals with disabilities (lightly mentally retarded, mildly and severely mentally retarded, physically handicapped, sensory impaired, emotional and behavioural disturbances, learning difficulties). These studies show that the attitudes of physical educators towards teaching handicapped individuals are related and influenced positively or negatively by the teacher's attributes and the individuals type of disability (lightly mentally retarded, mildly and severely mentally retarded, physically handicapped, sensory impaired, emotional and behavioural disturbances, learning difficulties). Sex and age of physical educators have shown less consistent relation to attitudes. More specifically, studies have shown that women held more positive attitudes toward integration than men did (Conatser, Block & Lerope, 2000; Downs & Williams, 1994; Folsom-Meek, Nearing, Groteluschen & Krampf, 1999) in contrast to those which shown no differences between attitudes and gender (Duchane & French, 1998; Patrick, 1987; Zanandrea & Rizzo, 1998). Teachers' age has been found to be negatively correlated with attitudes, and the older the teacher, the less favourable

the attitude (Rizzo, 1985), although other studies yielded no age differences concerning attitudes (Patrick, 1987; Zanandrea & Rizzo, 1998).

Attitudes of physical educators are more favourable among teachers who have higher perceived teaching competence (Folsom-Meek, Groteluschen & Nearing, 1996; Folsom-Meek, 1994; Rizzo & Vispoel, 1991; Zanandrea & Rizzo, 1998) and experience with individuals with disabilities (Folsom-Meek, Nearing, Groteluschen & Krampf, 1999; Rizzo & Vispoel, 1991), although Downs and Williams (1994) found that pre-service physical education students (students during the last year of their studies) expressed less favourable attitudes when they had previous experience with disabled individuals. Particularly, perceived competence seems to be one of the best predictors of positive attitudes.

The type of individual's disability is also reflected in teachers' attitudes. In this case the findings are also inconsistent. Whereas Conatser, Block and Lepore (2000), Rizzo (1984), Rizzo and Vispoel (1991) reported that individuals with learning difficulties and mild disabilities (e.g., mild behavioural disturbances etc) were perceived more favourably than those with physical disabilities (e.g. light form of cerebral palsy, amputee etc), Downs and Williams (1994) reported the opposite.

In many countries (U.S.A., Europe, etc) students with disabilities are educated in regular schools and classes in less restrictive environment. In Greece, for instance, children with learning difficulties, light and mild behavioural disturbances, light and mild physical disabilities (e.g., light to mild forms of cerebral palsy, amputees, etc) and blind children are taught in regular schools, even though there are some difficulties (i.e., some times equipment and personnel are not enough and ideal).

In Belgium and in the Flemish community (Vlaamse Gemeenschap), special-needs education for children with disabilities is not part of mainstream education since all children with disabilities are taught in separated special schools. According to the Royal Decree of 28 June 1978 and the Flemish Decree on the basic education (basisonderwijs) of 25 February 1997 the special education is organised at the pre-school, primary and secondary school level in different types for each level. In the present study, we will mention only the primary level since our study deals with primary school children.

At the primary level eight types of special education exist: type 1; children and adolescents with light mental disability; type 2; children and adolescents with a moderate and/or severe mental disability; type 3; children and adolescents with severe emotional and/or behavioural problems; type 4; children and adolescents with physical disabilities; type 5; sick (hospitalised) children and adolescents; type 6; visual impaired children and adolescents; type 7; children and adolescents with hearing impairment; type 8; children and adolescents with severe learning difficulties (Broekaert, De Fever & Hellinckx, 1996; <http://www.euridice.org>). In school year 1999-2000 the total number of pupils in special primary education were 25 934 and 20 235 belonged to the type 1 and 8. More specifically, the number of children for each type of primary school were 10 450, 2 882, 1 326, 758, 207, 135, 391, 9 776, for the type 1, 2, 3, 4, 5, 6, 7, 8 respectively. The total number of special primary schools was 195 (<http://www.euridice.org>).

Nowadays many countries consider as their moral duty towards the society to integrate students with disabilities into the ordinary education system. In Belgium also, Flemish community, a lot of discussion takes place about integration last years. The Decree on Education VIII of 15 July 1997 provides Integrated Education (Geïntegreerd Onderwijs) and the Integrated Education Institutes is a new step towards the integration of special education into ordinary education.

The present study tried to assess attitudes of Flemish teachers who give physical education (gymnastics) in regular primary schools towards teaching pupils with specific disability conditions (i.e. mildly mentally retarded-M.M.R., moderately and severely mentally retarded-M.S.M.R., children with behavioural and emotional problems-C.B.E.P., physically handicapped-P.H., sick children-S.C., sensory impaired-S.I., children with learning difficulties-C.L.D.). Three main research questions were addressed:

- a) Is the research instrument (PEATID-III) reliable for the Flemish population after its translation in Flemish?
- b) Is the teachers' attitude toward teaching pupils with disabilities influenced by the type of the disability condition (i.e. mildly mentally retarded, moderately and severely mentally retarded, children with behavioural and emotional problems, physically handicapped, sick children, sensory impaired, children with learning difficulties)?
- c) Which of the selected teacher attributes (i.e. age, gender, years of teaching experience, number of adapted physical education courses taken, exposure to disabled individuals, certification level, perceived competence) are negatively or positively related to attitudes toward teaching pupils with disabilities?
- d) Which of the selected teacher attributes (i.e. age, gender, years of teaching experience, number of adapted physical education courses taken, exposure to disabled individuals, certification level, perceived competence) is the best predictor for favourable attitudes?

Method

Participants

In the present study all schools of Leuven's district (Heverlee, Kessel-lo, Leuven, Winksele, Wijgmaal, Wilsele) were included and they belonged to the Katholieke network (Grant Aided Free Education- Gesubsidieerd vrij onderwijs). Participants were 6 (16%) males and 33 (84%) females, and they were both physical educators and regular class teachers who taught physical education in regular primary schools. In many countries regular class teachers teach physical education, mainly due to lack of adequate personnel and financial resources, in some primary schools. The age range was 21 to 55 years ($M = 40$, $SD = 9.22$), and teaching experience ranged from 1 to 35 years ($M = 15$, $SD = 9.68$). Demographic information for the participants, separately for physical educators and regular class teachers, is given in Table 1.

Table 1
Participants' demographics

Demographics	Physical Educators	Regular Teacher
Gender		
Female (n)	23	10
Male (n)	3	3
Age		
Range	21-55	24-54
M	38.38	42.30
SD	9.11	9.22
Years Teaching Physical Education		
Range	1-33	2-35
M	15.23	15
SD	8.61	11.91
Number of Participants Having Experience with Handicapped Persons		
Number (n)	7	1

Instrument

The instrument used to measure attitudes was the "Physical Educators' Attitudes towards Teaching Individuals with Disabilities-III" (PEATID-III) (Rizzo, 1993) (T.L. Rizzo, personal communication, January 25, 2002). PEATID-III was developed by Terry Rizzo, it is the third revision of the PEATH survey (Rizzo, 1984) and it measures physical education teachers' attitudes towards teaching students with disabilities in regular physical education classes. The instrument is based on the Theory of Reasoned Action (Ajzen & Fishbein, 1980). In this theory, one's personal belief system in regard to selected behaviours, e.g., teaching a student with specific disabilities, are expected to reflect attitude towards behaviour and provide insight about actual behaviour (Rizzo & Vispoel, 1991; Znaniecki & Rizzo, 1998; Sherrill, 1998).

The first part of the PEATID-III consists of 12 statements with embedded blanks such as, "Students labelled as... in my regular physical education classes with non-disabled students will disrupt the harmony of the class," and "Having to teach students labelled... in regular physical education classes with non-disabled students places an unfair burden on teachers". Under each of the 12 statements, seven labelled disabling conditions (i.e., mildly mentally retarded, moderately and severely mentally retarded, children with behavioural and emotional problems, physically handicapped, sick children, sensory impaired, children with learning difficulties) were listed along with a 5-point Likert scale (i.e., 1 = strongly disagree, 2 = disagree, 3 = undecided, 4 = agree, 5 = strongly agree).

Respondents read carefully in the first page the description of each disabling condition, attitude item, and expressed extent of their agreement. They were instructed to mentally insert the appropriate label into the blank when answering a given item. Eight scale scores were derived from these items, one for each disabling condition and a total score.

Scale mean scores are based on the sum of item scores for each scale divided by the number of items within the scale so that they are interpreted with reference to the original 5-point Likert scale. Lower scores (< 3) indicated negative and less favourable attitudes, a score of 3 indicated that the teacher was undecided toward teaching pupils with disabilities, and higher scores (> 3) indicated positive and more favourable attitudes. To derive proper scale means, scores for negatively phrased items were reversed (statements 5,6,7,8,9,10,11).

The second part of the PEATID-III consists of items about selected demographics (attributes). The attribute questions were such as, "What is your age?", "What is your gender?", "Have you had any experience teaching individual with disabilities?", "How competent do you feel teaching students with disabilities in your regular physical education classes?" (1 = not at all, 2 = somewhat, 3 = very competent) and the participants had to write or circle the appropriate response.

The PEATID-III was originally evaluated for content relevance by a panel of six experts, all of whom had doctoral degrees – four in Kinesiology (physical education), one in special education, and one in educational psychology. Four of the six experts were national scholars and faculty members at a premier mid-west research university, the fifth was employed by the National Institute on Disability and Rehabilitation Services, and the sixth was the director of physical education for a large mid-western urban school district. The experts were told the purpose of the survey and were asked to review it for face and content validity. They commented on the content of the items, suggested improvements in the wording of certain items, and concluded that the survey had sufficient validity because it adequately sampled the beliefs of physical educators towards teaching individuals with disabilities. Construct validity was supported by factor analysis (Rizzo, 1988).

Original PEATID reliability was reported by Rizzo (1984) as an alpha coefficient of .97, which revealed very small error variance due to fatigue, fluctuating attention, familiarity with the items, and practice. Additional evidence of validity and reliability related to PEATID-III items can be found in Rizzo's (1984) study describing the original PEATH.

Procedures

All addresses and telephone numbers of Leuven's district schools were obtained from the "Repertorium van het Katholiek Onderwijs, 1999/2000" directory. The principals of all schools, 19 in total, were contacted by phone, they were explained the procedure and the purpose of the study, and they were asked to participate in it. 18 schools accepted to participate and only 1 denied. Each principal was asked to give the number of physical educators and/or regular teachers who execute the lesson of physical education in each school in order us to send the appropriate number of envelopes to them.

An envelope contained the questionnaire-research instrument, an introductory letter explaining the purpose and the importance of the study, and an example procedure paper for completing the questionnaire, all written in Flemish language, was personally given by the researcher to the head of schools. They had to distribute the envelopes to the participants and after a week of the initial deliberation they should to take the envelopes back.

The questionnaire-research instrument was translated from English to Flemish by a physiotherapist who hold a Master degree in Adapted Physical Activity (A.P.A.), and a physical educator and finally it was corrected for terminology mistakes by a Professor and expert in A.P.A. After a week of the distribution the student-researcher personally went again to the schools to collect the envelopes with the filled questionnaires. After two weeks followed a second and final attempt in order us to collect the rest of the envelopes. Of the 52 surveys given (27 physical educators, 25 regular teachers), 41 (79%) were returned, with useable data for 33 (80%) women and 6 (15%) men. Two (5%) participants didn't give interpretable responses to the survey. Of the 39 successfully participated, 26 (67%) were physical educators and 13 (33%) were regular teachers.

Statistical analyses

An alpha coefficient, "a generalised reliability coefficient that is more versatile than other methods" and "probably the most commonly used method of estimating reliability in standardised tests" (Thomas & Nelson, 1996, p. 227) was utilised to determine the reliability of the PEATID-III and account for any change may have occurred as a result of the administration and the translation of the instrument from English to Flemish.

Cronbach's alpha test was computed for the internal consistency of the seven disabling conditioning subscales (mildly mentally retarded-M.M.R., moderately and severely mentally retarded-M.S.M.R., children with behavioural and emotional problems-C.B.E.P., physically handicapped-P.H., sick children-S.C., sensory impaired-S.I., children with learning difficulties-C.L.D.) as well as of the overall PEATID-III.

A Mann-Whitney U test was used to evaluate if there is significant difference between the groups of physical educators and regular class teachers. "The U test is one of the most powerful of the non-parametric tests, it can be used with very small or fairly large groups and requires only ordinal (rank) measurement" (Thomas & Nelson, 1996, p. 199). The fact that our groups were rather small and not equal concerning the number of subjects, and the ordinal scale of the PEATID-III led us to use the Mann-Whitney U test.

Pearson correlations were utilised to estimate if there is a relationship between each of the selected attributes and the teachers' attitudes.

Finally, a multiple regression analysis was applied to identify which of the selected teachers' attributes was the best predictor for favourable attitudes. Data were analysed using the STATISTICA 5 computer programme.

Results

Cronbach's alpha test that computed for the internal consistency of the seven disabling conditioning subscales gave the alpha coefficients of 0.80, 0.81, 0.87, 0.83, 0.85, 0.88, 0.81 for the mildly mentally retarded, moderately and severely mentally retarded, children with behavioural and emotional problems, physically handicapped, sick children, sensory impaired, children with learning difficulties respectively. For the overall PEATID-III the alpha coefficient was 0.84, which is considered very high.

Descriptive statistics in the form of mean attitudes scores and standard deviations for the overall attitude and separately the seven disability conditions (Table 2) shows that majors giving physical education were basically negative on teaching children with moderate and severe mental retardation ($M = 2.41$, $SD = 0.60$), children with behavioural and emotional problems ($M = 2.65$, $SD = 0.78$), physically handicapped children ($M = 2.77$, $SD = 0.70$) and children with sensory impairment ($M = 2.74$, $SD = 0.76$). They were undecided toward teaching sick children ($M = 3.05$, $SD = 0.74$) and they revealed positive attitudes toward teaching pupils with mild mental retardation ($M = 3.50$, $SD = 0.63$) and children with learning difficulties ($M = 3.41$, $SD = 0.67$).

Of the sample only 4 (10%) had taken a special course, they were physical educators and all of them felt somewhat competent toward teaching pupils with disabilities in integrated classes. When both, Physical Educators (P.E.) and Regular Teachers (R.T.), were asked to rate their perceived competence (not at all = 1, somewhat = 2, very = 3) in teaching pupils with disabilities, 67% (21 P.E., 5 R.T.) stated that they were not at all competent, 33% (5 P.E., 8 R.T.) stated that they were somewhat competent, and nobody felt very competent in teaching pupils with disabilities in regular physical education classes. In the question what type of handicapped children would they prefer to teach in their regular physical education classes if they were obliged by the law to execute the lesson of physical education having three children with disabilities, 13 (33%, 10 P.E.; 3 R.T.) preferred children with mild mental retardation, nobody moderately and severely mentally retarded, 3 (8%, 2 P.E. 1 R.T.) children with emotional and behavioural problems, 3 (8%, 3 P.E. & 0 R.T.) physically handicapped, 8 (21%, 6 P.E. & 2 R.T.) sick children, 1 (2%, 1 P.E. & 0 R.T.) sensory impaired, and 11 (28%, 5 P.E. & 6 R.T.) preferred children with learning difficulties. Finally, in the question what age (6-8 years old & 9-12 years old) of handicapped children they would prefer to teach in their regular

Table 2

Mean attitude scores and standard deviations for seven specific disabling conditions and overall attitude score.

Variable	P.E. (n = 26)		R.T. (n = 13)		P.E. & R.T.	
	M	SD	M	SD	M	SD
Mildly Mentally Retarded	3.70	.64	3.10	.41	3.50	.63
Moderately & Severely Mentally Retarded	2.48	.65	2.27	.50	2.65	.78
Children w. Emotional & Behavioural Problems	2.68	.80	2.60	.77	2.65	.78
Physically Handicapped	2.99	.64	2.34	.64	2.77	.70
Sick Children	3.34	.57	2.46	.71	3.05	.74
Sensory Impaired	2.91	.61	2.41	.94	2.74	.76
Children with Learning Difficulties	3.38	.65	3.46	.76	3.41	.68
Overall Attitude Score	3.06	.34	2.66	.44	2.93	.63

physical education classes, 23 (59%, 15 P.E. & 8 R.T.) preferred to teach younger children with disabilities (6-8 years old), and 16 (41%, 8 P.E. & 8 R.T.) preferred older children (9-12 years old).

Nevertheless, a Mann-Whitney U test (Table 3) showed significant differences on the overall attitudes between Physical Educators and Regular class Teachers as well as, for the group of mildly mentally retarded, physically handicapped and sick children at the $p < .01$ and $p < .05$ (Table 3). Physical Educators had more favourable attitudes ($M = 3.06$, $SD = 0.39$) toward teaching individual with disabilities than the Regular class Teachers ($M = 2.66$, $SD = 0.43$). The means of 3.06 and 2.66 indicated that physical educators were undecided toward teaching pupils with disabilities whereas regular teachers were disagreed.

Because the Mann-Whitney U test showed that physical educators' and regular class teachers' attitudes toward teaching individuals with disabilities were significantly different, each group had to be analysed separately. Now the fact that the number of the regular teachers were rather low made us to analyse only the data for the group of the physical educators.

Pearson correlation among physical educators' attributes and attitudes are given in Table 4. Only one variable had statistically significant correlation with attitudes, i.e., perceived competence toward teaching pupils with disabilities.

Results from a multiple regression analysis showed that perceived competence also was a significant predictor ($p < .02$) of favourable attitudes toward teaching individuals with disabilities. The multiple R for overall equation was .76, $R^2 = 57$, $F(9,16) = 2.41$, $p < .06$. For the perceived competence β was .489.

Finally, a Mann-Whitney U test was applied for attitudinal differences in the group of the physical educators according to their attributes, i.e., age, gender, perceived teaching competence, years teaching physical education (P.E.), experience with individuals with disabilities etc. The participants concerning the age and years teaching P.E. were split in two groups. For both, from a number of 26 physical educators, were selected the 11 lower and higher extreme scores. The first 11 lower age scores were considered the group of the younger participants and the 11 higher age scores the group of the older ones. The same procedure was followed for the years of teaching physical education, a group of few years teaching P.E. and a group of many years teaching P.E.

Table 3
Physical Educators' (P.E.) vs. Regular Teachers' (R.T.) attitudes

Variable	P.E. (n = 26)		R.T. (n = 13)		U	Z	ES
	M	SD	M	SD			
Overall Attitude score	3.06	.34	2.66	.44	82.00	-2.5921**	1.04
Mildly Mentally Retarded	3.70	.64	3.10	.41	80.50	-2.6437**	1.02
Mildly & Severely Mentally Retarded	2.48	.65	2.27	.50	143.50	0.7619	0.34
Children with E. & B. Problems	2.68	.80	2.60	.77	152.50	0.4922	0.10
Physically Handicapped	2.99	.64	2.34	.64	87.50	2.4318*	0.99
Sick Children	3.34	.57	2.46	.71	60.00	3.2521**	1.39
Sensory Impaired	2.91	.61	2.41	.94	111.00	1.7304	0.67
Children with Learning Difficulties	3.38	.65	3.46	.76	160.00	0.2685	-0.11

Note: Children with E & B. Problems = Children with Behavioural and Emotional Problems

* $p < .05$; ** $p < .01$.

Table 4

Intercorrelations among physical educators' attributes and attitudes

Attribute	1	2	3	4	5	6	7	8
1. Attitude Score								
2. Sex	.17							
3. Age	.36	.12						
4. Experience with I.D.	-.17	-.05	.21					
5. Years of Teaching P.E.	.21	-.18	.92	.20				
6. Perceived Competency	.45*	-.12	-.09	-.29	-.13			
7. Preferable Disability Age	.01	-.06	.02	.16	.00	-.17		
8. Hours per Month Teaching P.E.	.03	.19	.24	.13	.38	-.06	-.17	
9. Course Work in S.E.	-.25	-.24	.27	.59	.26	-.17	.06	-.17

Note: Experience with I.D. = Experience with Individuals with Disabilities; P.E. = Physical Education; Course Work in S.E. = Course Work in Special Education

* $p < .05$

Significant differences were found concerning the age, $p < .03$, and the perceived competence, $p < .02$. More specifically, the older ($M = 46.6$, $SD = 4.38$) physical educators held more positive attitudes ($M = 3.29$, $SD = 0.41$) than the younger ones ($M = 29.72$, $SD = 5.49$) ($M = 2.88$, $SD = 0.35$). The physical educators ($n = 21$) who felt somewhat competent held more favourable attitudes ($M = 3.15$, $SD = 0.39$) than the others ($n = 5$) who felt not at all competent ($M = 2.69$, $SD = 0.08$).

Discussion

The purpose of the present study was to examine the attitudes of teachers teaching physical education towards teaching pupils with disabilities in regular primary school classes. We especially tried to extend previous research on the topic of inclusion and integration of individuals with disabilities in regular school programs and examine whether there are attitudinal differences concerning some teachers' attributes such as gender, age, years of teaching physical education etc. We also tried to identify whether there are differences in teachers' attitudes according to the type of the children's disability such as the physically handicapped, children with learning difficulties etc.

The first important finding, related to the first research question was that the research instrument revealed a coefficient alpha of .84 indicating that the internal consistency of the PEATED-III instrument is sufficient. The result is consistent with the findings of other studies. Hodge and Jansma (1999) reported a reliability score of .88 with a number of participants $n = 474$ as well as Folsom-Meek, Nearing, Groteluschen and Krampf (1999) using a higher number of undergraduate students found an alpha of .88 ($n = 2943$).

The second important finding of this study was that attitudes between physical educators and regular class teachers were significantly different toward teaching pupils with disabilities in regular settings. More specifically, physical educators held more favourable attitudes than the regular teachers did, with physical educators being undecided to teach ($M = 3.06$, $SD = 0.39$), in general pupils with disabilities whereas regular teachers were negative ($M = 2.66$,

SD = 0.43). Significant differences can be seen on the group of children mildly mentally retarded, physically handicapped and sick children, where physical educators showed significantly more favourable attitudes than the regular teachers did. The above findings are in some contrast with the ones that Folsom-Meek, Nearing, Groteluschen and Krampf (1999) found. Their study showed that other majors (elementary education, therapeutic recreation) had more positive attitudes than students studying physical education did. In spite of the above finding we would expect that regular teachers would have revealed similar or more favourable attitudes towards the group of mildly mentally retarded than the physical educators. They showed significant less favourable attitudes ($M = 3.10$, $SD = 0.41$) than physical educators did ($M = 3.70$, $SD = 0.40$). Because mild mental retardation is a more cognitive impairment than physical retardation, we thought that it would fit more to the regular teachers' educational background and this is why we expected the regular teachers to show more favourable attitudes towards this group of handicapped pupils. Maybe this proves that the regular teachers don't have the appropriate educational background to teach pupils with disabilities.

The third important finding of this study was the presence of significant differences in attitudes of the physical educators and regular teachers towards teaching pupils with seven disabling conditions in Belgium (Flemish community). Physical educators revealed quite high scores towards teaching pupils with mental retardation ($M = 3.70$, $SD = 0.64$) following in their willingness to teach the children with learning difficulties ($M = 3.38$, $SD = 0.64$) and sick children ($M = 3.34$, $SD = 0.57$), showing that they had some agreement to teach these types of pupils in their regular physical education classes. Physical educators expressed negative attitudes towards moderately and severely mentally retarded ($M = 2.48$, $SD = 0.65$) and children with behavioural and emotional problems ($M = 2.67$, $SD = 0.81$) whereas regular teachers were negative for all disabling conditions except for the groups of children with learning difficulties ($M = 3.46$, $SD = 0.76$) and mildly mentally retarded ($M = 3.11$, $SD = 0.41$). Our results were in agreement with the results of Conatser, Block & Lepore (2000) and Rizzo (1984). The above findings were in conflict with the results of Zanandrea and Rizzo (1998), who found no significant attitudinal differences concerning the different types of disability, and to the results of Downs and Williams (1994) who pointed out in four European countries that undergraduate physical education students held more positive attitudes toward teaching individuals with physical disabilities than individuals with learning difficulties.

A fourth important finding was that among the variables investigated, perceived competence was the most strongly related to attitudes and it was the best predictor for more favourable attitudes. This finding is consistent with results in Europe (Downs & Williams, 1994), in Brazil (Zanandrea & Rizzo, 1998) as well as, in the United States (Rizzo & Vispoel, 1991; Folsom-Meek & Nearing, 1994), suggesting that the more competent the teacher the more he has a favourable attitude towards teaching individuals with disabilities.

Finally, another finding resulted from the present study. In the group of physical educators there were significant differences in attitudes according to age. The older physical educators revealed more favourable attitudes ($M = 3.29$, $SD = 0.41$) than their younger colleagues did ($M = 2.88$, $SD = 0.35$). This finding is also in conflict with the results of Rizzo (1985), who found that younger majors held more favourable attitudes than the younger ones did. Our finding concerning the age was unexpected because we presumed that younger physical educators would have shown more favourable attitudes since nowadays they have more opportunities to interact with individuals with disabilities than they had some years ago.

From the above we could express the opinion that children with mild mental retardation, children with learning difficulties and sick children would have better and more opportunities to be integrated in regular physical education classes.

Nevertheless more research is needed to be able to give a better profile of the person who is appropriate to teach pupils with disabilities in regular physical education classes. From our results we could claim that children with mild mental retardation and children with learning difficulties are the two groups who would meet the most chances to be assimilated in regular physical education programs.

We should mention that someone has to be careful on generalising and making easy conclusions based on the results presented, since they are quite fragile due to the rather low number of participants. They are also limited to the Flemish population and not the entire population of Belgium since there are big differences on the culture and administration between Flemish-, French- and German-speaking communities. In our opinion, further research has to be conducted with a higher number of participants and across the whole country.

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