

Physical Educators' Intention and Confidence in Teaching Students with Disabilities in Physical Education

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Abstract

The purpose of this study was to examine physical educators' teaching behavior in inclusive physical education settings. Two different models were proposed a) Theory of Planned Behavior (TPB) predicted intention and teaching behavior and b) Teachers' Professional Attributes predicted competence and teaching behavior in inclusive physical education. Participants were 125 Korean physical educators and completed the questionnaire. Multiple regression revealed that the Theory of Planned Behavior significantly predicted physical educators' intention, $F(3, 121) = 42.25, p < .01$. However, only intention had direct effect on educators' teaching behavior. Teachers' Professional Attributes predicted physical educators' competence $F(3, 106) = 17.67, p < .01$. Professional knowledge followed by competence had direct effects on teaching behavior. Finally, Teachers' Professional Attributes accounted for 32.5% of the total variance in teaching behavior, relatively high in comparison in with the Theory of Planned Behavior which showed 22.8% of the total variance in teaching behavior.

Key words: teaching behavior, teachers' professional attributes and theory of planned Behavior, inclusive physical education, students with disabilities

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Since the first Special Education law in 1975, students with disabilities have been successfully placed in general physical education (GPE) programs (Block, 2016). Inclusion has become a global phenomenon (Hodge et al, 2013) and has become a global phenomenon (Son et al., 2012) and has become prevalent in many countries over the past decade. Currently, approximately 6.4 million students in public schools are receiving special education services and this amounts is about 13% of the national school-aged population (U.S. Department of Education, 2011). As a result of the inclusion movement in the United States, more of these students are now being educated in physical education classes (Block & Obrunskova, 2007; Hodge et al., 2015; Lieberman & Houston-Wilson, 2013).

Many previous research supported the positive aspects of inclusive physical education settings which included improved skill development (Lieberman, Houston-Wilson, & Kozub, 2002), self-esteem (Martin & Smith, 2002), interactions with peers without disabilities (Goodwin & Watkinson, 2000), and attitudes of peers without disabilities towards their peers with disabilities (Slininger et al., 2000). However, some research studies reported that many physical educators may not be prepared to accommodate students with disabilities in their physical education programs (Hutzler et al., 2002). Some studies (Obrunskova, 2008; Tripp & Rizzo, 2006) reported that the most common physical educator-related variables associated with favorable attitudes toward teaching students with disabilities in general physical education included adequate academic preparation, having positive clinical experiences, receiving information about the student's disability and higher level of competence toward teaching students with disabilities. Similarly, Hersman and Hodge (2010) reported that challenges associated with accommodating students with different abilities and managing student behaviors in large physical education settings adversely influenced physical educator's self-confidence and perceived behavioral control.

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In South Korea, the term inclusion was introduced in special education in the late 1980s, and the term was clearly mentioned in Korean law in the third reauthorization of the Special Education Promotion Act (SEPA) in 1994 (Jeong & Block, 2011). Since the Special Education Promotion Act in 1994, Korean students with disabilities have gradually been transferred from segregated special schools to general schools. The shift from special schools to general schools has resulted in physical educators having more students with disabilities in their physical education programs. However, physical education teachers have not been adequately prepared for teaching students with and without disabilities together in general physical education programs (Jeong & Block, 2011) and addressed their lack of understanding of individuals with disabilities. In particular, insufficient knowledge, skills and understanding of how to teach inclusive physical education have been regarded as major problems for physical education teachers in South Korea.

According to The Theory of Planned Behavior (TPB), attitude (behavioral belief), subjective norm (normative belief), and perceived behavioral control (control belief) measures individuals' intention which serves as the most proximal determinant of behavior. In addition, the TPB allows inspection of demographic variables' influences on these relationships (Ajzen, 1991). One advantage using the TPB is that belief statements (behavioral, normative, and control beliefs) for the instrument come directly from a pilot study of people who will use the instrument. Therefore, the TPB model can provide insight into physical educators' concerns toward inclusion as well as information regarding what resources and supports they believe they need to include students with disabilities in their physical education programs. Several previous research studies showed that teachers' variables were related to teachers' attitude toward inclusion. Oh and colleagues' study (2010) revealed that teacher related variables found to affect attitudes toward teaching students with disabilities including perceived competence, experience teaching students with disabilities, and preparation in special education or adapted physical education. Also, other studies showed that teachers' competence (Conatser et al, 2002), experience (Hodge et al, 2015), attitude (Trip & Rizzo, 2006) were variables related to teachers' intentions as well as other attributes. However, little study has been done yet to link Korean physical education teachers' attributes with teaching behavior. The purpose of this study was to examine factors affecting physical educators' behavior in teaching students with disabilities in physical education using two different models: (a) Theory of Planned Behavior model (figure 1), and (b) Teachers' Professional Attribute variables on teaching behavior (figure 2).

Methods

Participants and Data Collection

In this study, 125 physical education teachers completed the questionnaire. Target population for this study was physical educators who had experience working with students with disabilities in physical education at secondary schools in Korea. The main recruitment for the survey was by visiting in-service programs. This study was reviewed and approved by a university institutional review board. The investigator visited four different in-service programs in South Korea. The investigator introduced the study and handed out the questionnaire to teachers at the in-service programs. Once physical education teachers agreed to participate in the survey, they completed it. The teachers were asked to return their survey into a box placed in the corner of the room.

Instrument

From the pilot study guided by Ajzen (2004), the top 75% of the responses was included for the main study to examine the TPB components. The main questionnaire contained detailed instructions, questions of the TPB components, intention statements, questions related to teachers' professional attributes, and demographic questions. A seven point Likert-type rating scale was used with each belief, intention, behavior, and other questions.

Behavioral Belief

There were 8 questions with belief statements designed to measure physical educators' attitudes toward such issues as positively changing how students without disabilities feel about students with disabilities, encouraging cooperation between students with and without disabilities, and taking teaching time away from students without disabilities. All questions were rated on a 7 point Likert scale.

Normative Belief

There were 6 normative belief questions. Normative beliefs were measured with belief statements based on normative belief concerning the expectations of referents (administrators, parents of students *with* disabilities, special education teachers, general physical education teachers, classroom teachers, parents of students *without* disabilities). An example of normative belief statements was “Most parents of students with disabilities think that I should teach students with disabilities in my general physical education class” and rated on a 7-point Likert scale.

Control Belief

For control belief, 8 questions were measured with belief statements based on statements relating to factors and circumstances that might make the inclusion of students with disabilities easier or more difficult. Control belief statements included items such as 1) having professional knowledge, 2) appropriate class size, 3) having a teaching assistant, 4) adapted equipment, 5) accommodations, 6) administrative support, and 7) having access to in-service programs.

Intention and Behavior

Intention

Four questions were used to assess intention dealt with the likelihood that a behavior would occur. Intention statements included items such as: (a) I intend to, (b) I will try to teach, (c) I plan to teach, and (d) I am determined to teach students with disabilities in my physical education class.

Behavior

Curricular and instructional modification items were used to ask teachers about their teaching behavior, e.g. do you repeat directions, assign a peer tutor, change a rule of the game, adapt for safety, give child adapted equipment, provide extra instruction on the skill, modify a fitness test, and/or give special reinforcement? (Block, 2016).

Professional Attributes and Competence

For teachers’ professional attributes, three questions of in-service, previous teaching experience, and professional knowledge were included and used as factors to measure teachers’ competence in teaching students with disabilities.

Examination of Reliability and Validity of the TPB

Confirmatory factor analysis using a principal component extraction method was performed on belief strength items of each belief: behavioral belief (8 items), normative belief (6 items), and control belief (8 items). The first factor (eigenvalue = 4.94) referring to behavioral belief accounted for 21.48%, the second factor (eigenvalue = 3.97) referring to control belief accounted for 17.26%, and the third factor (eigenvalue = 2.68) referring to normative belief accounted for 11.66% of total variance. The reliability of behavioral belief, control belief, and normative belief was .86, .83, and .73, respectively. The entire reliability was .87.

Data Analysis

To compute all statistics, SPSS PC 24.0 was used. Descriptive statistics and Pearson correlations were performed. Standard multiple regression was conducted to determine if the TPB components of behavioral, normative, and control beliefs predict intention and if in-service, previous teaching experience, and professional knowledge predict teachers’ confidence. Also, path analysis was chosen to identify direct effects of the independent variables of the TPB and intention on teachers’ teaching behavior and the teachers’ professional attributes and competence on teachers’ teaching behavior.

Results

Descriptive Information

Of the 125 physical educators, 21.6% were female and 78.4% were male. The age composition of the teachers (M age=37.44, SD =7.81, range= 23 to 55) were 15.3% age 23 to 29; 46.0% age 30 to 39; 38.7% age 40 to highest.

Regarding education in adapted physical education, 53.3% reported that they had never taken a course focused on physical education for individuals with disabilities or related to adapted physical education class, 30.5% had taken a course, and 16.2%

Had taken courses two or more times when they were undergraduate students. Also, 55.6% reported that they had never participated in any workshops, conferences, or in-service programs related to physical education for individuals with disabilities, 21.2% reported attending at least once, and 23.2% answered two or more times.

Table 1

Demographic Information and Physical Educators' Professional Attribute Variables

Variables	<i>n</i>	%	Total%
1. Gender (<i>n</i> = 125)			
Female	27	21.6	100%
Male	98	78.4	
2. Age (<i>n</i> = 124)			
23 - 29	19	15.3	100%
30 - 39	57	46.0	
40 or more	48	38.7	
3. Undergraduate APE course (<i>n</i> = 105)			
0	56	53.3	100%
1	32	30.5	
2	17	9.5	
3 or more	7	6.7	
4. APE in-service (<i>n</i> = 99)			
0	55	55.6	100%
1	21	21.2	
2	15	15.2	
3 or more	8	8.1	
5. Previous Teaching Experience (<i>n</i> = 116)			
Extremely bad to Bad	14	12.1	100%
Neutral	36	31.0	
Good	39	33.6	
Excellent	27	23.3	
6. Confidence (<i>n</i> = 116)			
Not at all	18	15.4	100%
Some what	71	60.7	
Confident	22	18.8	

Table 2

Correlations among Variables of the Theory of Planned Behavior and Teachers' Professional Attributes

	1	2	3	4	5	6	7	8	9
1. Beh	1								
2. Inte	.47**	1							
3. BB	.32**	.69**	1						
4. SN	.28**	.57**	.66**	1					
5. CB	.30**	.44**	.46**	.36**	1				
6. Con	.42**	.40**	.34**	.35**	.35**	1			
7. Inse	.16	.17	.15	.05	.18	.26*	1		
8. PTE	.34**	.48**	.49**	.31**	.40**	.48**	.14	1	
9. PK	.44**	.42**	.41**	.20*	.64**	.37**	.32**	.23*	1

Note. 1. Behavior; 2. Intention; 3. Behavioral Belief; 4. Normative Belief; 5. Control Belief; 6. Confidence; 7. In-service; 8. Previous Teaching Experience; 9. Professional Knowledge

* $p < .05$, ** $p < .01$

When the teachers who had taught students with disabilities were asked what the quality of previous teaching experience with students was in their physical education classes, 12.1% reported extremely bad to bad, 31.0% reported neutral, 33.6% reported good, and 23.3% reported very good. When teachers were asked how confident they felt to teach students with disabilities in their physical education classes, 15.4% of the teachers reported not being confident at all, 60.7% reported being somewhat confident, 18.8% reported being confident; and only 5.1% reported being very confident. Demographic information, teaching experience, and pre-conceived notions are presented in Table 1.

Table 2 represents Pearson correlations of the variables for this study. Most of the construct relationships were moderate to high relationship between teaching behavior except in-service between teaching behavior and other variables.

Behavioral, Normative, Control Beliefs, Intention, and Teaching Behavior

The results of multiple regression indicated that all three variable of behavioral, normative, and control beliefs explained 51.2% of the variance, $F(3, 121) = 42.25, p < .01, R^2 = 51.2\%$. It was found that behavioral belief significantly predicted intention followed by normative and control beliefs. The multiple regression results are summarized in Table 3.

Figure 1 shows the path diagram and standardized path coefficient for TPB. In the results, intention ($\gamma_{Intention, Behavior} = .43$) had a significant direct effect on teaching behavior at $p < .01$ but behavioral, normative, and control beliefs did not have significant direct effects on teaching behavior. However, the three components of the TPB had indirect effects on teaching behavior via intention: behavioral belief on behavior via intention ($\gamma_{BB, Intention, Behavior} = .21$), normative belief on teaching behavior via intention ($\gamma_{NB, Intention, Behavior} = .09$), and control belief on teaching behavior via intention ($\gamma_{CB, Intention, Behavior} = .06$). Therefore, total effects of coefficient of behavioral belief, normative belief, control belief, and intentions on teaching behavior were .21, .09, .06, and .43, respectively. Overall variance in teaching behavior explained by the model was 22.8%.

In-service, Previous Teaching Experience, Professional Knowledge, and Competence

Evidence from the multiple regression indicated that previous teaching experience and professional knowledge predicted competence, $F(3, 106) = 18.08, p < .01, R^2 = 33.9\%$. Previous teaching experience significantly predicted teachers' confidence followed by previous teaching experience. The multiple regression results are summarized in Table 3.

Table 3

Standardized Multiple Regression Summary of Theory of Planned Behavior and Teachers' Professional Attribute Variables

Variables	Theory of Planned Behavior				Teaching Behavior			
	Intention							
	B	β	<i>t</i>	<i>p</i>	B	β	<i>t</i>	<i>p</i>
Behavioral Belief	.04	.49	5.46	.000	-.00	-.03	-.26	.798
Normative Belief	.02	.20	2.38	.019	.00	.01	.11	.941
Control Belief	.01	.14	2.00	.047	.01	.12	1.32	.189
Intention					.61	.43	3.72	.000
Variables	Teachers' Professional Attributes				Teaching Behavior			
	Competence							
	B	β	<i>t</i>	<i>p</i>	B	β	<i>t</i>	<i>p</i>
In-Service	.06	.14	1.64	.105	-.15	-.03	-.38	.704
Previous Experience	.26	.45	5.56	.000	1.05	.17	1.83	.071
Professional Knowledge	.10	.23	2.82	.006	1.63	.36	4.17	.000
Confidence					2.50	.24	2.42	.017

Figure 2 shows the path diagram and standardized path coefficient for teachers' professional attributes. In the results, professional knowledge ($\gamma_{ProfKnowl, Behavior} = .36$) had a significant direct effect on teaching behavior followed by teachers' confidence ($\gamma_{Confidence, Behavior} = .24$) at $p < .01$ and $p < .05$.

Both in-service and previous experience did not have significant direct effects on teaching behavior respectively. Indirect effects of previous experience ($\gamma_{PreExp.Intention.Behavior} = .11$) and professional knowledge ($\gamma_{ProfKowl.Intention.Behavior} = .05$) on behavior via confidence were significant but small.

Therefore, total effects of in-service, previous teaching experience, professional knowledge, and confidence on teaching behavior were .11, .05, .24, and .36. Overall variance in teaching behavior explained by the TPA variables of in-service, previous teaching experience, professional knowledge, and confidence was 32.5%.

Discussion

The purpose of this study was to examine factors affecting physical educators' teaching behavior in teaching students with disabilities in physical education class using two different models. With the TBP, the components in teachers' professional attributes were chosen teachers' professional attributes that highly related to teachers' intention and attitude toward teaching students with disabilities from previous research and highly related to teaching behavior in this data. There were important findings from this study.

In the present study, teachers' intention was explained by three components of the TPB, behavioral, normative, and control beliefs. Teachers' behavior in IPE was explained by the TPB, but only intention was a significant predictor for teaching behavior explaining 22.8%.

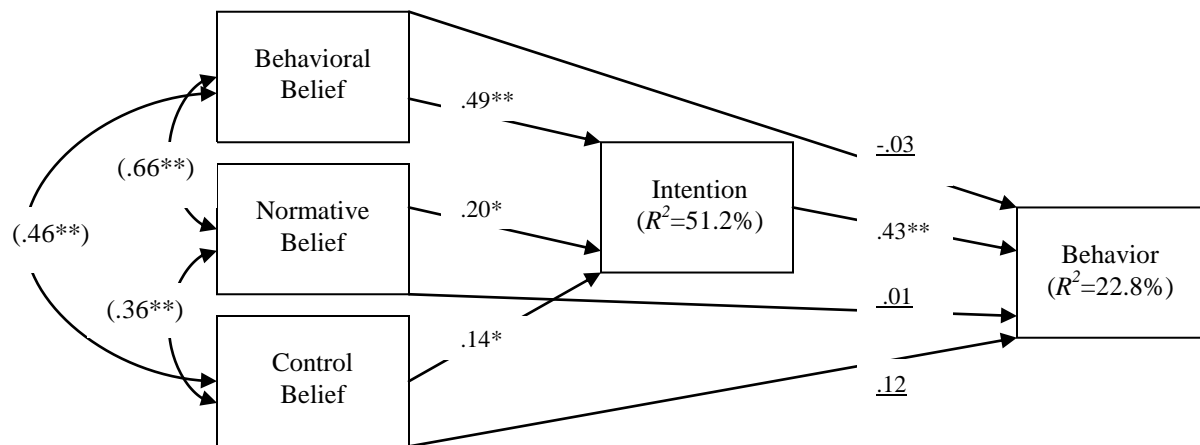
Some research revealed that confidence, teaching experiences, pre-service programs, and in-service were highly correlated with teachers' intention (Hodge et al, 2002; Tripp & Rizzo, 2006) but there was no way of knowing whether teachers' teaching behavior is directly influenced by those factors. This study was successful in predicting teachers' behavior based on those teachers' professional attributes. This study showed that teachers' competence was predicted by previous teaching experience and professional knowledge explaining 33.9%. In addition, teachers' professional knowledge was the most significant predictor for teaching behavior followed by competence explaining 32.8%. Even though there was no previous study used teachers' professional attributes as a model to measure teachers' teaching behavior, some previous studies (Conatser et al, 2002; Oh et al., 2010; Tripp & Rizzo, 2006) showed similar results indicating that teachers' competence and teaching experience were highly correlated with teachers' attitude and intention. Most of all, this study showed that both TPB and TPA were good tools to measure teachers' behavior. Interestingly, overall variance in teaching behavior explained by TPA (33.9%) was higher than the variance in teachers' behavior explained by the TPB (32.5%). This results showed that the more professional knowledge teachers have and the better teaching experience with students with disabilities teachers have the more confident teachers were. In addition, the more professional knowledge teachers have and the more confident teachers were the more effectively teachers teach students with disabilities in inclusive physical education. Therefore, findings show clearly importance of pre-service programs for future physical educators to be confident, needs of quality in-service programs for physical educators to effectively teach students with disabilities in inclusive physical education.

Limitations and Suggestions for Future Study

There are several new findings from the present study. This study examined not only teachers' teaching behavior based on the TPB, but also based on other variables which were teachers' professional attributes. However, one direct question for each variable in teachers' professional attributes was used because the variables, in-service, previous teaching experiences, and professional knowledge variables were importantly addressed when physical education teachers in previous research studies related to physical education teachers' confidence and teaching behavior. Therefore, here are few suggestions. Future research need to 1) define physical education teachers' professional attributes, 2) examine the impact of specific variables like pre-service, in-service programs, and professional knowledge geared to inclusion on teachers' competence and teaching behavior. This examination could include determining what components of teachers' variables have the greatest impact on teachers' competence and teaching behavior. The results could then be used to provide quality pre-service and in-service programs and help physical educators effectively teaching students with disabilities in inclusive physical education.

Figure 1

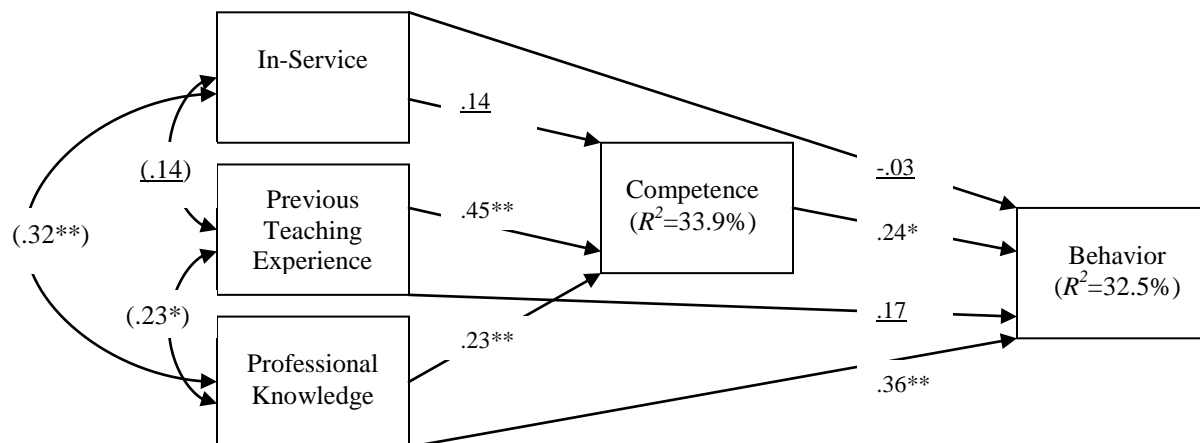
Path Diagram and Standardized Path Coefficients of the Theory of Planned Behavior



Note. Underline shows no significant effect. Coefficients associated with single-headed straight arrows are standardized regression weights that indicate the effect of one variable on another, whereas those associated with double-headed curved arrows represent correlations between variables. * $p < .05$, ** $p < .01$

Figure 2

Path Diagram and Standardized Path Coefficients of the Teachers' Professional Attributes



Note. Underline shows no significant effect. Coefficients associated with single-headed straight arrows are standardized regression weights that indicate the effect of one variable on another, whereas those associated with double-headed curved arrows represent correlations between variables. * $p < .05$, ** $p < .01$

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