Applying the Theory of Planned Behavior Toward Teaching Physical Education to Students with Disabilities: PE Teachers’ Point of View

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Received: 10 July 2017 Accepted: 21 August 2017 Published: 01 September 2017

Abstract
The present study aims to investigate the beliefs and intentions of PE teachers concerning inclusion of students with disabilities in physical education classes using the theory of planned behavior. To this end, a number of statistical techniques including correlation method, regression analysis, confirmatory factor analysis and structural equation modeling were drawn upon. This an applied research conducted as a field study using Teachers’ Beliefs and Intentions toward Teaching Students with Disabilities questionnaire. The participants consisted of a number of 227 full-time PE teachers in public schools in Tehran. Of these, 59.5 percent were female and 40.5 percent were male teachers (Mean age=37.18; SD=4.59). About 81.9 percent of them had graduated with a degree in physical education while 18.1 percent had studied other fields at university. 38.3 percent of the subjects reported that they had taught students with disabilities while 61.7 percent reported that they had either no student with disabilities in their classes or they had excluded them from the PE class. Interestingly, 57.3 percent of the PE teachers observed that they were entitled to exclude students with disabilities while 61.7 percent reported that they had either no student with disabilities in their classes or they had excluded them from the PE class. The main findings may be encapsulated as follows: (a) attitudes, subjective norms, perceived behavioral control as well as behavioral, normative and control beliefs tended to predict the PE teachers’ intention to include and teach students with disabilities, and (b) the PE teachers’ control behavior and intention were found to predict their self-reported behavior concerning inclusion of students with disabilities.

Keywords: Students with Disabilities; PE Teacher; Intention; Inclusion; Theory of Planned Behavior

How to cite the article:

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1. Introduction
Over the last 30 years, more and more students with disabilities have been included in general physical education programs successfully, which is typically referred to as the integration process and recently termed the inclusion process [1]. Researchers have widely supported the positive aspects of inclusive physical education including improved skill development [3], self-efficacy [4,5], interaction with non-disabled peers [6] and the attitudes of non-disabled peers towards the disabled ones [7-9].

Inclusion does not mean leaving the disabled students free and unsupported or not having them participate in the special PE programs designed for this kind of students [10,11]. Rather, it denotes the provision of a specifically developed set of

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instructions, including the necessary supporting services, for students with disabilities in common educational settings [12]. In the context of physical education, inclusion refers to a pattern of embracing a variety of students in general physical education classes, whereby the PE teachers need to make necessary changes in their educational practice and lesson planning so that they would make sure that all students might achieve their physical education goals and experience safety, happiness, comfort and success [13,14]. Providing teaching for all students in a general physical education class exposes the teacher to a broad range of issues beyond the immediate setting of the class [15]. In this context, teachers play a crucial role as both the learning facilitators and managers of inclusive educational settings [15]. As far as program development and educational complexities are concerned, researchers have suggested a deeper concern for teachers’ beliefs and behavior and their influence on educational quality [16,17]. Accordingly, several studies have addressed teachers’ attitudes in the context of inclusive physical education. Block (1999) and Goodwin and Watkinson (2000) have raised serious concerns [6,10]. They contend that following two decades of the passing of Individuals with Disabilities Education Act, there have not been significant improvements in the attitudes of both pre- and in-service PE teachers toward students with disabilities [18]. Research has consistently shown that various factors contribute to PE teachers’ favorable or unfavorable attitudes toward including students with disabilities [2,19-22]. Attitude, as an idea associated with a series of activities related to a specific class of social situations, include three cognitive, emotional and behavioral components that are typically concerned with attitudes toward disability [23]. The most recent theory about changing attitudes toward people with disabilities is the theory of planned behavior [14]. It is considered as an important theory within the inclusive physical education context [24-26]. Besides, the significance of this theory has been emphasized in contributing to PE teachers’ behaviors as well as subjective and control beliefs that lead to their inclusion of students with disabilities in general physical education classes [26]. The theory of planned behavior tends to predict intentional behavior as the behavior may be intentional and planned. To the degree people hold positive attitudes toward a certain behavior (or attitude), others may consistently expect them to involve in that behavior (subjective norm) and to be able to perform the behavior (perceived behavioral control), which together constitute the main components of the intention to perform the behavior. Each of these three factors is influenced by indirect determinants that are based on a set of profound beliefs and assessment of these beliefs. Measurement and assessment of indirect factors help identify the expected value of the theory [27]. Moreover, the theory of planned behavior shows that demographic variables influence these relations [28]. Research and comparison of models has shown that the theory of planned behavior provides researchers with better guidelines so that it is considered as a more logical alternative for behavioral prediction [29-33]. Iranian PE teachers have been reported as an exceptional case in the application of the theory of planned behavior since they are entitled to decide to either include students with disabilities in their classes or exclude them. This situation allows the researchers to measure the beliefs and intentions of PE teachers toward inclusive physical education adequately. Thus, the present study set to investigate Iranian PE teachers’ beliefs and intentions toward including students with disabilities using the theory of planned behavior.

2. Methodology

The present study is an applied research adopting a descriptive-correlational method. The data was collected through field study techniques using a questionnaire. A number of 310 full-time PE teachers in public schools in Tehran were selected as the participants. Among teachers on the original participant list, only 249 teachers completed the questionnaire and due to missing data points the final sample consisted of 227 PE teachers.

Attitude, subjective norm, perceived behavioral control, behavioral beliefs, normative beliefs and control beliefs were considered as the predictive variables for the criterion variable intention. Subsequently, intention was considered as the predictive variable for the criterion variable behavior. With regard to the research objectives, the best available instrument to collect the data was chosen to be Teachers’ Beliefs and Intentions toward Teaching Students with Disabilities questionnaire (TBITSD) developed by Jeong and Block (2008). The construct validity of the scale was examined using confirmatory factor analysis. The reliability of the scale was measured and approved using Cronbach alpha formula, which yielded the coefficient of $\alpha=0.84$. As to the statistical analysis of the data, Kolmogorov-Smirnov test was run to examine the normality of data, correlational analysis was used to examine the correlation among the variables and multiple regression analysis was run to predict the PE teachers’ behavior. Moreover, the research model was examined by structural equation modeling (SEM)
using path analysis. The statistical analysis was conducted using SPSS 19 and Lisrel 8.80.

3. Results

Table 1 illustrates the results of regression analysis to investigate the linear relationship between intention and attitude, subjective norm and perceived behavioral control. The results show that attitudes towards behavior, subjective norm and behavioral control are significant predictors of PE teachers’ intention to include students with disabilities. Considering the obtained coefficients, the regression equation may be written as follows:

\[ y = 0 \cdot 176x_1 + 0.106x_2 - 0.087x_3 + 18.668 \]

Table 2 illustrates the results of regression analysis to examine the linear relationship between intention and behavioral beliefs, normative beliefs and control beliefs. The results show that behavioral, normative and control beliefs are significant predictors of PE teachers’ intention to include students with disabilities. Considering the obtained coefficients, the regression equation may be written as follows:

\[ y = 0 \cdot 74x_1 + 0 \cdot 034x_2 - 0 \cdot 030x_3 + 13 \cdot 46 \]

Table 3 illustrates the results of regression analysis to investigate the linear correlation among self-reported behavior, control behavior and intentions. The results show that control behavior and intentions are significant predictors of self-reported behavior in PE teachers. Considering the obtained coefficients, the regression equation may be written as follows:

\[ y = 1 \cdot 006x_1 + 0 \cdot 094x_2 \]

The researcher determined the path coefficients in the proposed model using standardized beta coefficients and then calculated the path coefficients and their significance using stepwise multiple regression analysis consistent with the conceptual framework of the study. As shown in Figure 1, concerning the strength of relationship between direct and indirect variables, there are stronger relations between behavioral beliefs and attitude toward the behavior than between other variables (r=0.611). With regard to the influence of directly-measured variables on intention, subjective norm was found to have the strongest influence (β=0.269) while perceived behavioral control had the lowest influence (β=0.150). The coefficient of the effect of intention on behavior was found to be 0.482 so that a single unit variation in intention results in 0.482 variations in behavior. E is the variance that is not accounted for by independent variables.

Table 1. Results of linear regression analysis to predict intention through direct measurement.

<table>
<thead>
<tr>
<th>Source of variations</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>664.362</td>
<td>3</td>
<td>221.454</td>
<td>0.066</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
<tr>
<td>Remainder</td>
<td>2052.069</td>
<td>223</td>
<td>9.202</td>
<td>49.202</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
</tbody>
</table>

Table 2. Results of linear regression analysis to predict intention through indirect measurement.

<table>
<thead>
<tr>
<th>Source of variations</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1081.908</td>
<td>3</td>
<td>360.636</td>
<td>49.202</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
<tr>
<td>Remainder</td>
<td>1634.524</td>
<td>223</td>
<td>7.330</td>
<td>7.330</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
</tbody>
</table>

Table 3. Results of linear regression analysis to predict self-reported behavior using control behavior and intentions.

<table>
<thead>
<tr>
<th>Source of variations</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean of squares</th>
<th>F</th>
<th>P</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>5600.877</td>
<td>2</td>
<td>2800.438</td>
<td>0.940</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
<tr>
<td>Remainder</td>
<td>14956.926</td>
<td>224</td>
<td>66.772</td>
<td>66.772</td>
<td>0.000</td>
<td>Rejected hypothesis</td>
</tr>
</tbody>
</table>

Figure 1. Final research model together with path coefficients.
Discussion and Conclusion

The researcher drew on two types of measurement including direct measurement of attitude, subjective norm and perceived behavioral control as well as indirect measurement based on beliefs such as behavioral, normative and control beliefs to help predict the PE teachers' intention. The results showed that both direct and indirect measurements of PE teachers' intention to include students with disabilities accounted for 24 and 40 percent of the total variance of intention, respectively. This is consistent with the findings of Jeong and Block (2011), Fournidou et al. (2011) [14], Kudláček et al., (2007) [34], Tripp and Rizzo (2006) [35], Conatser et al., (2002) [24], Kudláček et al., (2002) [2] and Theodorakis et al., (1995) [36]. Kudláček et al., (2002) investigated the attitudes of pre-service Czech teachers toward the inclusion of students with disabilities and reported that the three components of the theory of planned behavior could predict 23 percent of the total variance of intention. This estimation is rather consistent with the direct measurements of the present study, 24 percent [2]. However, this percentage is rather low comparing with the indirect measurements of the present study, 40 percent, as well as comparing with the findings of Jeong and Block (2011), Fournidou et al., (2011) [14] and Conatser et al., (2002) [24]. Jeong and Block (2011) addressed Korean PE teachers’ beliefs and intentions to include students with disabilities and reported that either type of measurement – direct and indirect- could account for the teachers’ intentions to include such students. Accordingly, they reported that direct and indirect measurements accounted for 35.5 and 44.3 percent of the total variance, respectively. Fournidou et al., (2011) studied the Cypriot PE teachers’ attitudes toward inclusion of students with disabilities [14]. They reported that the subscales of attitude and perceived behavioral control accounted for 55 percent of the total variance of intention. They also found the strongest correlation between intention and perceived behavioral control while the second strong correlation was held between attitudes toward behavior and intention. Conatser et al., (2002) estimated a significant amount of intention variance [24]. They investigated the swimming coaches’ beliefs toward the inclusion of students with severe and mild disabilities. The three components of the theory of planned behavior were found to be good predictors of the coaches’ intention to include the students with severe and mild disabilities so that they accounted for 62 percent of the total variance of intention. Moreover, both behavioral and control behaviors were found to be significant predictors of the coaches’ intention to include such students so that they predicted 47 percent of the total variance of intention though normative belief was not a significant predictor of intention. In other words, they found that the coaches’ intention to include students with severe and mild disabilities was not significantly influenced by perceived social pressure.

As reported by Conatser et al., (2002) and Fournidou et al., (2011), subjective norm was not found to be a significant predictor of teachers’ intention to include students with disabilities [14,24]. This is rather inconsistent with the present findings and the findings of Jeong and Block (2011) and Kudláček et al., (2002) who reported all three components of the theory of planned behavior to be significant predictors [2]. Still, Conatser et al., (2002), Stewart (2006) and Fournidou et al., (2011) did not found normative beliefs to be significant predictors of intention [14,24,37]. Stewart (2006) investigated the PE teachers’ attitudes toward the administration of physical fitness test and reported that subjective norm was not a significant predictor of intention [37]. The results also showed the lack of intention in PE teachers to include students with disabilities but their intention to administer physical fitness test to such students. His study also revealed a significant correlation of attitude, subjective norm and perceived behavioral control with intention so that this combination estimated 31.2 percent of the total variance of intention. Besides, attitude was found to be the best predictor of intention followed by perceived behavioral control. However, when attitude and perceived behavioral control were controlled, subjective norm did not play a significant role. This may relate to the fact that American PE teachers’ intention is less influenced by stakeholders or social pressure. Interestingly, while Conatser et al., (2002) [24], Stewart (2006) [37] and Fournidou et al., (2011) [14] reported that subjective norm was not a significant predictor of American and Cypriot PE teachers’ intentions, the present findings along with the findings of Qi and Ching Ha (2012) [17], Jeong and Block (2011) and Kudláček et al., (2002) revealed that subjective norm was a significant predictor of PE teachers’ intention in other countries. This inconsistency may relate to cultural or educational differences [2].

Qi and Ching Ha (2012) investigated PE teachers’ beliefs in Hong Kong toward teaching students with disabilities [17]. They conducted a qualitative analysis of basic beliefs – behavioral, normative and control- that could lead to the inclusion of students with disabilities in normalization of physical education programs. They found that PE teachers were intended to implement the inclusion programs due to their willingness to follow
inclusion practices, significant sources (normative belief) and perceived behavioral control (control beliefs). However, the PE teachers showed less favorable attitudes toward inclusive education of the students with disabilities. These findings support the effect of subjective norms and perceived behavioral control on teachers’ decisions to include students with disabilities in the inclusive physical education settings. According to Ajzen (2005) [38], the individual assessment of outcomes related to behavior and the strength of these relations determine the attitude toward behavior. This may be the reason why the participants of Qi and Ching Ha (2012) showed unfavorable attitudes, as they believed that the inclusion of students with disabilities in general physical education programs would damage the self-efficacy of such students or hinder their motor skill development [17].

Other important findings from the present study indicated that: (a) two types of measures, the direct measures and indirect measures, were predictors of teachers’ intention; as well as (b) these measures were highly correlate. As results, this study showed high correlations between attitude and behavioral belief ($r = 0.611, p < 0.01$), subjective norm and normative belief ($r = 0.257, p < 0.01$), and perceived behavioral control and control belief ($r = 0.502, p < 0.01$). Previous research showed similar results [25]. Therefore, if more research shows that there is a significant correlation between the direct measure and the indirect measure predicting teachers’ intentions, and if both measures predict teachers’ intentions in a similar, then it would make sense to choose either the direct or the indirect measure to measure intentions and behaviors using the TPB. Interestingly, one finding was that teachers’ intentions may be influenced differently by the subjective norm in cultures. So, the present study as well as Jeong and Block (2011) supported Ajzen’s (1991) proposition that the more favorable the attitude and subjective norm, and the greater the perceived control toward teaching students with disabilities, the stronger the teacher’s intention to teach students with disabilities [28].

Most of the adaptive PE studies were not successful to assess the educational behavior of PE teachers, revealing that PE teachers’ intention is not a good predictor of teachers’ behavior [14,17,35,36,42]. Consistent with the findings of Jeong and Block (2011), the present findings showed that intention and control belief (perceived behavioral control), as proposed by Ajzen in his model of planned behavior, were significant predictors of behavior. A different aspect of the present study and of Jeong and Block (2011) is that they used TBITSD questionnaire to examine the PE teachers’ self-reported behavior in physical education classes. According to the model proposed by Ajzen, the three components of planned behavior are considered as significant predictors of PE teachers’ intention. Still, these components did not separately predict the teachers’ self-reported educational behavior directly so that teachers’ intention was the only predictor of their self-reported educational behavior. Even though the three components of planned behavior were not direct predictors of teachers’ self-reported educational behavior, they may exert an indirect impact on their self-reported educational behavior through intention, which is illustrated in the final model of this research accompanied by path coefficients.

Conatser et al., (2002) studied swimming coaches’ behavior toward inclusion using the theory of planned behavior and found that intention would account for 37 and 51 percent of the behavioral variance concerning the inclusion of children with slight and severe disabilities, respectively [24]. Though Ajzen (1991) suggested that researchers should ask questions related to behavior [28], Conatser et al., (2002) put only one behavioral question to swimming coaches, which was too general a question to assess a specific behavior [24].

In the present study, the researcher used TBITSD questionnaire (Jeong, 2008) to study PE teachers’ educational behavior. The scale consisted of 8 items on a 7-point Likert scale ranging from Never (1) to Always (7). Jeong and Block (2008) developed eight questions to obtain more detailed information about teachers’ educational behavior that stands opposed to their perceived educational behavior. The findings of Roh (2002) caused concerns in Jeong and Block (2011) that PE teachers may believe that they should include the students with disabilities in their classes while not doing so in practice [39]. Thus, they not only asked PE teachers whether or not they included students with disabilities but also how effectively they would teach such students. In other words, the teachers were questioned about their educational behavior that included lesson planning and educational decisions.

The present findings revealed that intentions could predict 23.3 percent of the total variance of PE teachers’ self-reported educational behavior. This percentage is rather consistent with the findings of Jeong and Block (2011) who reported a percentage of 21.7. However, it was a small percentage comparing with the findings of Conatser et al. (2002), who reported that intention predicted 37 and 52 percent of the total variance for the inclusion of students with slight and severe disabilities, respectively [24]. Stewart (2006) reported that intentions and the combination of attitude, subjective norm and perceived behavioral control accounted for 2.4 and 7.3 percent of the behavioral variance, respectively [37]. The variance...
predictions of self-reported behavior may vary in different studies due to using different scales and imbalances between the questions on intention and behavior. The present findings showed that control belief (perceived behavioral control) was a direct predictor of PE teachers’ self-reported behavior (F=71.921, P<0.01). Conatser et al., (2002) and Stewart (2006) reported a direct relationship between control belief (perceived behavioral control) and educational behavior [24,37]. Jeong and Block (2011), however, contended that control beliefs (perceived behavioral control) were not a direct predictor of self-reported behavior so that the control belief could exert an indirect effect on behavior through teachers’ intention. This is inconsistent with the findings of Ajzen (1985) and Ajzen and Madden (1986), who reported that perceived behavioral control might affect behavior independent of the mediating effect of intention, so that it could predict both intention and behavior [40,41]. On the other hand, Ajzen (1985) observed that once perceived behavioral control is subdued by the individual, it will affect the behavior less [40]. Thus, Jeong and Block (2011) might not find perceived behavioral control as a direct predictor of PE teachers’ educational behavior due to the dominance of PE teachers’ perceived behavioral control over their intention. That is, the more people are certain about their control beliefs, the less their behavior will be affected by such beliefs. In this regard, it seems that as long as control beliefs (perceived behavioral control) dominate intention in PE teachers, there will not be a linear relationship between control beliefs and educational behavior in teachers. Maybe strong or weak control beliefs do not succeed as direct predictors of teachers’ educational behavior, as they guarantee a degree of certainty about educational setting. Overall, the present findings showed that PE teachers’ intentions and control beliefs were significant predictors of their self-reported educational behavior, exerting a direct impact on such behavior, so that they predicted 45 percent of variations in their self-reported educational behavior.

It is recommended that future studies not only address the fitness of the planned behavior model to examine teachers’ intentions toward their educational behavior but also investigate how the teachers’ intention to include students with disabilities may be influenced by significant stakeholders. Moreover, further studies are needed to validate the best measurement tool of educational behavior, which not only develop definitions of different educational settings but also develop questions on adequate scales.

Acknowledgement
This article is extracted from a PhD dissertation and supported by Islamic Azad University, Central Tehran Branch. Finally, I would like to acknowledge Dr. Ali A. Doroudian, Dr. Martin E. Block, Dr. Terry L. Rizzo and Engr. Seyed Vahid Bathaei. I respect and appreciate your kindness. Your positive attitudes are contagious.

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