

# Athletic Trainers' Beliefs Toward Working With Special Olympics Athletes

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**Context:** Certified athletic trainers (ATs) are often the first health care providers to treat injured athletes. However, few researchers have studied ATs' beliefs concerning working with Special Olympics athletes.

**Objectives:** To examine ATs' beliefs toward working with Special Olympics athletes by using the theory of planned behavior model and to examine the influence of moderator variables.

**Design:** Cross-sectional survey.

**Setting:** Athletic Trainers' Beliefs Toward Special Olympics Athletes survey instruments were mailed to 147 directors of Commission on Accreditation of Allied Health Education Programs–accredited athletic training education programs (ATEPDs) in 43 states and 120 cities.

**Patients or Other Participants:** One hundred twenty ATEPDs (44 women, 76 men).

**Main Outcome Measure(s):** We used stepwise multiple regression analysis to determine whether attitude toward the behavior, subjective norm, and perceived behavioral control predicted intention and to determine which moderator variables predicted attitude toward the behavior, subjective norm, and perceived behavioral control. Pearson product moment correlations were used to determine ATEPDs' beliefs about how competent they felt working with Special Olympics athletes and whether they were currently working with these athletes.

**Results:** We found that subjective norm, attitude toward the behavior, and perceived behavioral control predicted intention ( $R = 0.697$ ,  $R^2 = 0.486$ ,  $F_{3,112} = 35.3$ ,  $P < .001$ ) and that intention predicted ATEPDs' actual behaviors ( $R = 0.503$ ,  $R^2 = 0.253$ ,  $F_{1,118} = 39.995$ ,  $P < .001$ ). Moderator variables that predicted attitude toward the behavior included more years of experience working with Special Olympics athletes, completion of 1 or more courses in adapted physical activity, ATEPDs' competence, completion of 1 or more special education courses, and sex ( $R = 0.589$ ,  $R^2 = 0.347$ ,  $F_{5,111} = 11.780$ ,  $P < .001$ ). Moderator variables that predicted subjective norm included more experience working with Special Olympics athletes and more Special Olympics certifications ( $R = 0.472$ ,  $R^2 = 0.222$ ,  $F_{2,112} = 16.009$ ,  $P < .001$ ). Moderator variables that predicted perceived behavioral control included ATEPDs' competence, more years of experience working with Special Olympics athletes, and a higher educational degree ( $R = 0.642$ ,  $R^2 = 0.412$ ,  $F_{4,113} = 19.793$ ,  $P < .001$ ).

**Conclusions:** Certified athletic trainers had favorable attitudes about the behavior beliefs toward working with Special Olympics athletes; however, their subjective norm, perceived behavioral control, and intention beliefs were unfavorable. The ATEPDs reported they did not feel competent to work with Special Olympics athletes.

**Key Words:** disability sport injury, intellectual disabilities, autism, theory of planned behavior, attitude research

## Key Points

- Attitudes about the behavior, subjective norm, and perceived behavioral control predicted athletic trainers' intentions toward working with Special Olympics athletes, and intentions predicted actual behavior.
- The most important predictors of intention and actual behavior were subjective norm and the amount of experience working with Special Olympics athletes.
- Five moderator variables predicted attitude toward the behavior, 2 variables predicted subjective norm, and 4 variables predicted perceived behavioral control that resulted in athletic trainers exhibiting more favorable beliefs toward working with Special Olympics athletes.
- Years of experience working with Special Olympics athletes, courses in adapted physical activity, perceived competence, and a higher educational degree influenced predictors for a positive outcome with the Athletic Trainers' Beliefs Toward Special Olympics Athletes survey instrument.
- Athletic training education programs need to include at least a minimal amount of coursework in adapted physical activity and special education and experiences in working with athletes who have special needs.

Nearly 60 million people in the United States, or 1 in 5, have a disability.<sup>1</sup> Special Olympics is the largest sport organization for people with intellectual disabilities and autism.<sup>2,3</sup> It provides opportunities for people with disabilities to be physically active and competitive in a variety of athletic settings. Recently, participation has increased in Special Olympics; by 2005,

the organization had experienced a 30% growth in the number of athletes (2.2 million) worldwide.<sup>3</sup> Due to greater participation, more athletes are being treated by medical personnel for injuries that occur at practices and competitions before and during Special Olympics.<sup>3</sup> These injuries and conditions include but are not limited to strains, sprains, contusions, heat illnesses, cardiovascular condi-

tions, seizures, and spinal conditions. Certified athletic trainers (ATs) are often the first health care providers to treat injuries in these athletes. However, few researchers have studied ATs' beliefs about working with Special Olympics athletes.

Special Olympics athletes can compete in many sporting events, ranging from track and field to volleyball, gymnastics, downhill skiing, badminton, and bocce.<sup>2</sup> To participate in Special Olympics, a person must meet several criteria. The athlete must be at least 8 years old, have an intellectual disability determined by an agency or professional, and have a severe communication disorder.<sup>2</sup> Before competing, these athletes must complete a physical examination and at least 8 weeks of formal sports training.<sup>2,4</sup> With millions of athletes competing and preparing for competition, more medical and emergency care is needed and should be provided by trained professionals, such as ATs. Unfortunately, most athletic training students are apprehensive about working with athletes who have disabilities.<sup>5</sup>

Indeed, the key to changing behaviors is knowing peoples' beliefs.<sup>6</sup> Understanding the antecedents of a given behavior is the first step in developing educational intervention to change that behavior.<sup>7-9</sup> If professionals can understand in detail the potentially negative beliefs that people have toward working with individuals who have disabilities, then they can begin to address the concerns and focus training on changing these beliefs.<sup>10,11</sup> Increased favorable beliefs lead to more opportunities for individuals with disabilities to receive better and more appropriate intervention and care.<sup>12-14</sup> These beliefs can be evaluated using the theory of planned behavior (TPB).<sup>15</sup>

The TPB is an extension of the theory of reasoned action, with the construct of perceived behavioral control included in the TPB. It provides a framework for understanding the effects of factors, such as the relationships among attitude toward the behavior, subjective norm, perceived behavioral control, intention, and behavior.<sup>15</sup> The theory is designed to predict and explain human behavior related to specific situations.<sup>16</sup> These beliefs are connected to what people would like to do or see happen and how much perceived control they feel when performing the behavior of interest.<sup>17</sup> Salient behavioral, normative, and control beliefs are theoretically the basic independent determinants of intention and actual behavior.<sup>18</sup> Therefore, the beliefs and attitudes that an AT has about a given task lead him or her to perform or not to perform the behavior. The theory postulates that behaviors are a function of accessible information pertinent to the behavior.<sup>8,19</sup>

The TPB proposes relationships between the various constructs (attitude toward the behavior, subjective norm, perceived behavioral control, and intention) regarding actual behavior (Figure).<sup>7</sup> *Attitude toward the behavior* pertains to how a person perceives an outcome, such as good or bad and pleasant or unpleasant, and the degree to which the person thinks the outcome will really happen.<sup>15</sup> *Subjective norm* beliefs are composed of a person's perceptions of how other people feel about a given behavior and how these feelings motivate the person to comply with these beliefs.<sup>15</sup> *Perceived behavioral control* beliefs reflect how easy or difficult a person perceives performing a behavior of interest to be, given his or her

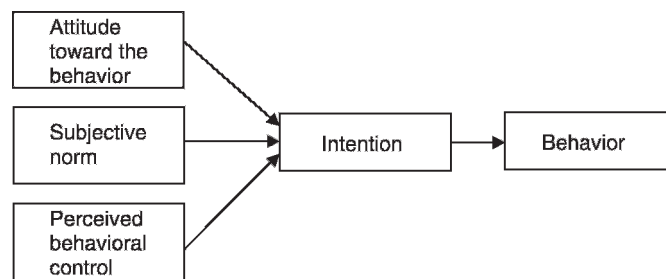


Figure. Theory of planned behavior.<sup>7</sup> Reprinted from *Organizational Behavior and Human Decision Processes*, 50, Ajzen I, The theory of planned behavior, 179-211, 1991, with permission from Elsevier. <http://www.sciencedirect.com/science/journal/07495978>.

resources and opportunities.<sup>8</sup> For example, an AT has an unfavorable attitude toward the behavior and subjective norm beliefs toward working with athletes who have disabilities; the coaches, however, are requiring that the AT tape the athletes' ankles before practice. This would have a decreased perceived behavioral control effect on the AT's beliefs and actual behavior.

These accessible beliefs (attitude toward the behavior, subjective norm, perceived behavioral control) constitute the aggregates of *intention*.<sup>15</sup> In turn, intention predicts actual behavior. That is, the immediate antecedent of a particular behavior is the intention to perform the behavior in question.<sup>7</sup> Therefore, the theory suggests that a person's intention to perform (or not to perform) a behavior is the immediate determinant of that action.<sup>16</sup> Measuring actual behaviors can occur by simple observation or by a self-report of the individual's performance.<sup>15</sup>

To our knowledge, no one has determined empirically the relationships that exist between ATs and Special Olympics athletes. Therefore, the purposes of our study were to (1) examine ATs' beliefs toward working with Special Olympics athletes by using the TPB model to determine whether these beliefs relate to their intentions for intervention and to determine whether intentions predict their actual behaviors and (2) examine the influence of demographics and moderator variables on ATs' attitude toward the behavior, subjective norm, and perceived behavioral control beliefs.<sup>15,16,20</sup>

## METHODS

### Participants

A survey instrument was mailed to 147 directors of Commission on Accreditation of Allied Health Education Programs-accredited athletic training education programs (ATEPDs) in 43 states and 120 cities. A total of 120 ATEPDs (44 women, 76 men) completed and returned the survey instrument, yielding an 82% participation rate. Participants implied consent by completing the survey instrument, and the study was approved by the institutional review board of each university.

### Instrumentation

We used the Athletic Trainers' Beliefs Toward Special Olympics Athletes (ATBTSOA) questionnaire, which has been shown to be both valid and reliable.<sup>21-23</sup> The ATBTSOA consists of 2 parts: (1) questions about the

TPB and (2) questions about the moderator variables, including a question concerning ATs' competence. The TPB construct contains statements that require ATs to rate their beliefs toward working with Special Olympics athletes. All constructs of the ATBTSOA follow the Ajzen model for constructing a standard questionnaire for the TPB.<sup>15,24</sup>

**Attitude Toward the Behavior.** Attitude toward the behavior was measured with 5 belief statements about ATs' attitudes (ie, pleasant or unpleasant, good or bad, beneficial or harmful, valuable or worthless, and enjoyable or unenjoyable) toward working with Special Olympics athletes. The ATEPDs responded using a 4-point unipolar scale, ranging from *favorable to unfavorable*.

**Subjective Norm.** Subjective norm was assessed by measuring social expectations (ie, other ATs', coworkers', superiors', and other valued peoples' opinions) and their willingness to comply with 4 belief statements. The ATEPDs responded to each referent using a 4-point unipolar scale, ranging from *strongly agree to strongly disagree*.

**Behavioral Control.** To develop a measure of perceived behavioral control, we conducted a pilot study in which we instructed a sample of 12 experienced ATs to list specific external factors that could prevent them from working with Special Olympics athletes. Factors such as staffing, training, time, and special equipment emerged and enabled us to establish 4 belief statements. The ATEPDs were instructed to rate their agreement or disagreement with these influencing factors on a 4-point unipolar scale, ranging from *strongly agree to strongly disagree*. Three more-direct belief statements were measured to assess the degree to which ATEPDs felt in control to work with Special Olympics athletes. The ATEPDs rated these statements on 4-point unipolar scales, ranging from *very much control to very little control*, *extremely easy to extremely difficult*, and *extremely likely to extremely unlikely*.

**Intention.** Intention was assessed with 3 belief statements suggested by Ajzen<sup>15</sup> that pertained to the likelihood a behavior would occur (ie, *I intend, I will try, and I am determined to work with Special Olympics athletes*). Each statement was rated on a 4-point unipolar scale, ranging from *strongly agree to strongly disagree*.

**Behavior.** The self-reported measure of behavior was based on the Ajzen<sup>7,15,20</sup> method by asking direct questions related to actual behavior. The ATEPDs responded to 2 statements of how often during the past 5 years they had worked with Special Olympics athletes. For 1 question, they used a 3-point unipolar scale with the extremes of *many times* and *never*. For the other question, they used a 5-point unipolar with the extremes of *every day* and *never*.

**Competence.** Perceived competence was assessed with 1 direct question that addressed ATEPDs' ability and skill to work with Special Olympics athletes. The ATEPDs responded using a 3-point unipolar scale, ranging from *very much to not at all competent*.

All belief statements that were negatively phrased were reversed to obtain proper scale means. Belief statement scores were summed for each category, and the sum was divided by the total number of statements to obtain a final score that could be interpreted with reference to the original scale.

**Moderator Variables.** The second portion of the ATBT-SOA contained ATEPDs' responses to the following 9 moderator statements and questions: (1) *Are you male or female?* (2) *How many years have you been an athletic trainer?* (3) *How many years [of] experience have you had working with Special Olympics athletes?* (4) *Are you currently working with Special Olympics athletes?* (5) *Highest degree of education attained?* (6) *List professional credentials.* (7) *List Special Olympics training.* (8) *How many undergraduate or graduate courses have you taken in physical activity for students with disabilities?* and (9) *How many undergraduate or graduate courses have you taken (outside of physical education, eg, special education) that have dealt specifically with students who have disabilities?* Participants were instructed to fill in the blank accordingly or to check the appropriate response.

**Reliability.** Following Ajzen's<sup>15</sup> suggestion for examining the reliability of a survey, the ATBTSOA was tested in 2 ways. First, internal consistency was measured using the Cronbach  $\alpha$ .<sup>24</sup> Results showed that attitude toward the behavior had a Cronbach  $\alpha$  of 0.88; subjective norm, 0.90; perceived behavioral control, 0.57; intention, 0.86; and actual behavior, 0.86. Second, stability across time was measured by test-retest reliability. Two months after the first mailing, we mailed a second survey to 15 randomly selected ATEPDs from the 120 who had returned their surveys. Intraclass correlation coefficient (ICC) formula (2,1) by Shrout and Fleiss<sup>25</sup> for test-retest reliability was completed with a standard error of measurement (SEM). The ICC (SEM) for attitude toward the behavior was 0.90 (0.16), for subjective norm was 0.95 (0.13), for perceived behavioral control was 0.77 (0.19), for intention was 0.98 (0.09), and for behavior was 0.73 (0.18). The ICC (SEM) for overall test-retest reliability of the ATBTSOA was 0.96 (0.16). The results of the ATBTSOA suggest a relatively high reliability and precision of measurement.<sup>22</sup>

**Validity.** The content validity of the ATBTSOA was established by a panel of 8 nationally known experts in athletic training. Criteria for selecting these experts were (1) head ATs of accredited programs and (2) 5 or more years of experience. After initial statements and moderator variables were constructed, all ATEPDs strongly agreed or agreed that the instrument measured beliefs toward working with Special Olympics athletes, and no more changes were needed. In addition, construct validity was examined for the ATBTSOA components by using principal axis factor analysis (SPSS, version 15.0; SPSS Inc, Chicago, IL), which is regarded as the appropriate analysis for confirmatory validation.<sup>21</sup> Results revealed 1-factor loading (eigenvalues >1) for each component: attitude toward the behavior, subjective norm, perceived behavioral control, intention, and actual behavior. Factor loadings on average were 0.68 and explained 70% of the total variance.

## Data Collection

A cluster sampling design was used.<sup>26</sup> Each ATEPD was mailed the ATBTSOA with a cover letter and a stamped, return-addressed envelope. The survey followed the techniques outlined by Dillman,<sup>27</sup> Miller and Smith,<sup>28</sup> and Porretta et al.<sup>29</sup> The ATEPDs were instructed to respond to each statement or question on the survey and return it

**Table 1. Stepwise Regression Analysis Findings for Predicting Athletic Trainers' Intention and Behavior Toward Working With Special Olympics Athletes**

Variable	R	R <sup>2</sup>	R <sup>2</sup> Change	β	F(df)	P
Athletic trainers' intention						
Subjective norm	0.562	0.316	0.316	.391	52.598 (1,114)	<.001
Attitude toward the behavior	0.684	0.478	0.162	.373	49.754 (2,113)	<.001
Perceived behavioral control	0.697	0.486	0.008	.146	35.300 (3,112)	<.001
Athletic trainers' behavior						
Intention	0.503	0.253	0.252	.503	39.995 (1,118)	<.001

by mail. Five days after the first mailing, we sent a postcard to each ATEPD, reminding him or her to complete and return the survey. Fifteen days after sending the postcard reminder, we sent a third mailing that included a cover letter, the survey instrument, and a stamped, return-addressed envelope to individuals who had not responded. Ten days after the third mailing, we sent a reminder postcard to each individual who had not responded.

### Statistical Analysis

We used stepwise multiple regression analysis to determine whether attitude toward the behavior, subjective norm, and perceived behavioral control predicted intention and to determine which moderator variables predicted attitude toward the behavior, subjective norm, and perceived behavioral control. We also used Pearson product moment correlations to determine ATEPDs' beliefs toward how competent they felt working with Special Olympics athletes and if they were currently working with Special Olympics athletes. We used SPSS for all statistical analyses. The  $\alpha$  level was set a priori at .05.

## RESULTS

### Descriptive

In our study, the ATEPDs' average experience was 15.00  $\pm$  8.28 years (range, 2–38 years). Their highest levels of education attained were undergraduate ( $n = 18$ ), graduate ( $n = 81$ ), and doctoral ( $n = 20$ ) degrees (1 participant did not respond). They also had an average of 2 professional certifications. Nonetheless, 51% ( $n = 18$ ) of the ATEPDs had no experience working with athletes who participate in Special Olympics, and 66% ( $n = 79$ ) had no formal Special Olympics training or certifications. Only 11% ( $n = 14$ ) of the ATEPDs reported they were currently working with Special Olympics athletes. Furthermore, 31% ( $n = 37$ ) had not completed college courses in adapted physical activity, and 74% ( $n = 89$ ) had not completed college courses in special education.

The average  $\pm$  SD value for attitude toward the behavior was 3.34  $\pm$  0.53; subjective norm, 2.04  $\pm$  0.73; perceived behavioral control, 2.41  $\pm$  0.47; intention, 2.36  $\pm$  0.81; and behavior, 1.37  $\pm$  0.68. The mean value for how competent ATEPDs felt toward working with Special Olympics athletes was 2.01  $\pm$  0.59.

### Predicting

Using a stepwise multiple-regression procedure,<sup>30</sup> we found that subjective norm, attitude toward the behavior, and perceived behavioral control ( $R = 0.697$ ,  $R^2 = 0.486$ ,

$F_{3,112} = 35.3$ ,  $P < .001$ ) predicted the ATEPDs' intentions toward working with Special Olympics athletes (Table 1). Results also revealed that intention predicted actual behavior ( $R = 0.503$ ,  $R^2 = 0.253$ ,  $F_{1,118} = 39.995$ ,  $P < .001$ ). Note that the predictions are positively related; therefore, as behaviors became more favorable, all the components of the model became more favorable.

Furthermore, stepwise multiple regression analysis revealed that 5 moderator variables predicted attitude toward the behavior, 2 variables predicted subjective norm, and 4 variables predicted perceived behavioral control that resulted in ATEPDs exhibiting more favorable beliefs (Table 2). Predictors for attitude toward the behavior were as follows (in descending order): more years of experience working with Special Olympics athletes, 1 or more courses in adapted physical activity, ATEPDs' competence, 1 or more special education courses, and sex ( $R = 0.589$ ,  $R^2 = 0.347$ ,  $F_{5,111} = 11.780$ ,  $P < .001$ ). The predictors for subjective norm were more years of experience working with Special Olympics athletes and Special Olympics training or certifications ( $R = 0.472$ ,  $R^2 = 0.222$ ,  $F_{2,112} = 16.009$ ,  $P < .001$ ). Perceived behavioral control was predicted by perceived competence working with Special Olympics athletes, more years of experience working with Special Olympics athletes, higher educational degree, and more years of experience as an AT ( $R = 0.642$ ,  $R^2 = 0.412$ ,  $F_{4,113} = 19.793$ ,  $P < .001$ ). All other predictor variables for attitude toward the behavior, subjective norm, and perceived behavioral control did not strongly influence ATEPDs' beliefs toward working with Special Olympics athletes. Not all moderator variables increased favorable beliefs (Tables 1 and 2).

### Correlations

Pearson product moment correlations were conducted for ATEPDs' beliefs toward how competent they felt working with Special Olympics athletes and whether they were currently working with Special Olympics athletes (Table 3). Results indicated that ATEPDs were more competent if they had more experience working with Special Olympics athletes ( $r = 0.534$ ,  $P < .001$ ), had Special Olympics certifications ( $r = 0.481$ ,  $P < .001$ ), had completed coursework in adapted physical activity ( $r = 0.291$ ,  $P < .001$ ), had completed coursework in special education ( $r = 0.384$ ,  $P < .001$ ), or were currently working with Special Olympics athletes ( $r = 0.341$ ,  $P < .001$ ). Furthermore, the following variables correlated with ATEPDs who were currently working with Special Olympics athletes: more years working with Special Olympics athletes ( $r = 0.646$ ,  $P < .001$ ), more years as an AT ( $r = 0.299$ ,  $P < .001$ ), Special Olympics certifi-

**Table 2. Stepwise Regression Analysis Findings for Moderator Variables Predicting Athletic Trainers' Beliefs Toward Working With Special Olympics Athletes**

Belief	Variable	R	R <sup>2</sup>	R <sup>2</sup> Change	β	F(df)	P
Subjective norm	Athletic training experience with Special Olympics athletes <sup>a</sup>	0.425	0.181	0.181	.554	24.891 (1,113)	<.001
	Special Olympics certifications <sup>b</sup>	0.472	0.222	0.041	-.242	16.009 (2,112)	<.001
Attitude toward the behavior	Athletic training experience with Special Olympics athletes	0.392	0.154	0.154	.252	20.910 (1,115)	<.001
	Courses in adapted physical activity <sup>c</sup>	0.457	0.209	0.055	-.334	15.040 (2,114)	<.001
	Athletic training competence <sup>d</sup>	0.540	0.291	0.082	.286	15.460 (3,113)	<.001
	Courses in special education <sup>e</sup>	0.567	0.322	0.031	.191	13.270 (4,112)	<.001
	Sex <sup>f</sup>	0.589	0.347	0.025	.163	11.780 (5,111)	<.001
Perceived behavioral control	Athletic training competence	0.566	0.320	0.320	.467	54.540 (1,116)	<.001
	Athletic training experience with Special Olympics athletes	0.611	0.373	0.053	.197	34.218 (2,115)	<.001
	Educational degrees <sup>g</sup>	0.627	0.393	0.020	.148	24.641 (3,114)	<.001
	Years as athletic trainer <sup>h</sup>	0.642	0.412	0.019	.145	19.793 (4,113)	<.001

<sup>a</sup> Range, 0 to 33 years.

<sup>b</sup> Range, 0 to 3 certifications.

<sup>c</sup> 1 indicated *no courses* and 2 indicated *1 or more courses*.

<sup>d</sup> 1 indicated *not at all*, 2 indicated *somewhat*, and 3 indicated *very*.

<sup>e</sup> 1 indicated *no courses* and 2 indicated *1 or more courses*.

<sup>f</sup> 1 indicated *male* and 2 indicated *female*.

<sup>g</sup> 1 indicated *undergraduate*, 2 indicated *graduate*, and 3 indicated *doctorate*.

<sup>h</sup> Range, 2 to 38 years.

cations ( $r = 0.318, P < .001$ ), more professional credentials ( $r = 0.223, P = .015$ ), and greater feeling of competence ( $r = 0.341, P < .001$ ; Table 3).

## DISCUSSION

Predictors for intention (in rank order) were subjective norm, attitude toward the behavior, and perceived behavioral control. In turn, intention predicted actual

behavior. Therefore, subjective norm, attitude toward the behavior, and perceived behavioral control are the relevant predictors for increasing these positive behaviors. Specifically, our study revealed that the moderator variables for subjective norm were more experience working with Special Olympics athletes and Special Olympics certifications. Attitude toward the behavior had multiple moderator variables: more years of experience working with Special Olympics athletes, 1 or more courses in adapted

**Table 3. Intercorrelations Among Moderator Variables**

Attributes	Athletic Training Competence	Athletic Training Experience	Athletic Training Experience With Special Olympics Athletes	Professional Credentials <sup>a</sup>	Special Olympics Certifications	Courses in Adapted Physical Activity	Courses in Special Education	Currently working with Special Olympics Athletes <sup>b</sup>
Athletic training competence	1 <sup>c</sup>							
Athletic training experience	0.171	1 <sup>c</sup>						
Athletic training experience with Special Olympics athletes	0.534 <sup>d</sup>	0.35 <sup>d</sup>	1 <sup>c</sup>					
Professional credentials <sup>a</sup>	0.053	0.081	0.13	1 <sup>c</sup>				
Special Olympics certifications	0.481 <sup>d</sup>	0.231 <sup>e</sup>	0.6 <sup>d</sup>	0.095	1 <sup>c</sup>			
Courses in adapted physical activity	0.291 <sup>d</sup>	0.315 <sup>d</sup>	0.125	0.027	0.232 <sup>e</sup>	1 <sup>c</sup>		
Courses in special education	0.384 <sup>d</sup>	0.154	0.258 <sup>d</sup>	0.047	0.201 <sup>e</sup>	0.389 <sup>d</sup>	1 <sup>c</sup>	
Currently working with Special Olympics athletes <sup>b</sup>	0.341 <sup>d</sup>	0.299 <sup>d</sup>	0.646 <sup>d</sup>	0.223 <sup>e</sup>	0.318 <sup>d</sup>	0.032	0.139	1 <sup>c</sup>

<sup>a</sup> Range, 0 to 6 credentials.

<sup>b</sup> 1 indicated *no*, and 2 indicated *yes*.

<sup>c</sup> Indicates perfect correlation.

<sup>d</sup> Indicates  $P < .001$ .

<sup>e</sup> Indicates  $P < .05$ .

physical activity, ATEPDs' competence, and 1 or more special education course. Likewise, perceived behavioral control had multiple moderator variables: ATEPDs' competence, more years of experience working with Special Olympics athletes, a higher educational degree, and more years as an AT. Therefore, years of experience working with Special Olympics athletes, courses in adapted physical activity, perceived competence, and a higher educational degree clearly influence the predictors for a positive ATBTSOA (thus, positive behaviors mean more Special Olympics athletes are being served). Furthermore, perceived competence was correlated with ATEPDs who were currently working with Special Olympics athletes, had Special Olympics certifications, had completed coursework in adapted physical activity, had completed coursework in special education, and had more years of experience working with Special Olympics athletes. The ATEPDs who were currently working with Special Olympics athletes had more years of experience as ATs, more athletic training experience with Special Olympics athletes, more professional credentials, and more competence than other ATEPDs.

The TPB determined what beliefs affect outcomes or behaviors for ATEPDs working with Special Olympics athletes. According to Fishbein and Ajzen<sup>31</sup> and Armitage and Conner,<sup>32</sup> the construct that is the most dominant predictor of intention should be the behavior that is targeted for intervention and behavior change. In our study, all predictors played roles in determining the intention and actual behavior of ATEPDs. The most important predictors were subjective norm and the amount of experience working with Special Olympics athletes. According to Armitage and Conner's<sup>33</sup> meta-analysis of 185 studies applying the TPB, the theory accounted for 27% of the variance in behavior and 39% of the variance in intention in different behaviors. The TPB's effectiveness for predicting behavior may be affected by other possibilities, such as stresses and demands of life, so it is also important to incorporate longitudinal studies or other measures over time to reduce the effect that the stress of life may have on a person due to the particular athletic training season.<sup>34</sup>

Based on our findings, it is apparent why ATEPDs had very little, if any, confidence. Only 14 ATs in our study currently work with Special Olympics athletes, half have never worked with Special Olympics athletes, and most have little or no Special Olympics training or special education training. The ATEPDs did not feel sufficiently trained on how to use specialized equipment for people with disabilities or on the AT-to-Special Olympics athlete ratio that might be effective. With these compounding factors, one might ask, "Who is providing the care and injury prevention on a daily basis?" We concur that Special Olympics athletes need ATs' guidance and help more than people who can self-regulate and intellectually determine good courses of action.

Consequently, it behooves athletic training educators to look at the courses and experiences required for athletic training students to determine whether at least 1 course in adapted physical education and special education should be required or at least strongly recommended and whether more hands-on experiences with athletes who have disabilities, including Special Olympics athletes, are needed. Because nearly 60 million Americans of all ages have

disabilities and because physical activity is nearly universally prescribed or encouraged as a health benefit, ATs clearly will be exposed to athletes with various physical, mental, behavioral, sensory, and health disabilities on a relatively regular basis.

Researchers<sup>4,35</sup> have shown that athletes who compete in Special Olympics present many challenges to the emergency medical and sports medicine staffs at these sporting events. These unique conditions often lead to many medical staff members, such as ATs, avoiding daily work with Special Olympics athletes or avoiding volunteering at competitions. With the use of the TPB, researchers can determine ATs' beliefs about Special Olympics athletes and their resulting medical conditions. With this knowledge, educational adjustments can be made to athletic training programs and can lead more ATs to participate in events in which Special Olympics athletes compete. In fact, this population has been shown<sup>36-38</sup> to improve in strength, endurance, and range of motion similar to their peers without disabilities. Thus, ATs could help to facilitate the participation of this population in rehabilitation, as well as strength and conditioning. More education and experience will lead to fewer injuries, reduced apprehension, and ultimately more and better medical coverage for all.<sup>5</sup>

The current Athletic Training Educational Competencies<sup>39</sup> require that ATs be able "to describe and know when to refer common congenital and acquired abnormalities, physical disabilities and diseases that affect people who engage in physical activity." The competencies do not mention working with or treating individuals with disabilities, such as mental retardation, autism, or severe behavior problems; partial sightedness or blindness; hearing loss or deafness; and specific physical disabilities. The examples provided<sup>39</sup> are disabilities such as arthritis and asthma. Special Olympics athletes may have these conditions, but they often have other disabilities as well.

Certified athletic trainers can and should seek out ways to become involved with Special Olympics, Paralympics, and other sporting events for athletes with disabilities. With minimal education about adapted sports and the various conditions that are present in Special Olympics athletes, ATs must pursue outside resources to educate themselves on disability sport until further educational competencies are in place in accredited athletic training education programs.

## CONCLUSIONS

More research is indicated to corroborate or refute our findings; however, it appears that at least a minimal amount of coursework in adapted physical activity and in special education and experiences working with athletes of all ages who have disabilities or special needs should be recommended, if not required, in our athletic training education programs. Special Olympics athletes practice and compete year-round in communities throughout the United States, so we encourage all ATs to get involved in sports for people with disabilities. It is a rewarding endeavor for everyone involved. In addition, ATEPDs should be encouraged to incorporate more adaptive and disability sport training in the educational and clinical aspects of certified athletic training preparation.

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