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Aquatic Instructors' Beliefs Toward Inclusion

Phillip Conatser and Martin Block

This study examined the influence of moderating variables on aquatic instructors' beliefs toward teaching swimming to individuals with disabilities in an inclusive setting. One hundred eleven aquatic instructors from 25 states representing 108 U.S. cities participated in the study. Based on the theory of planned behavior (Ajzen, 1985, 1988), aquatic instructors' beliefs toward inclusion were investigated. Results indicated that instructors currently teaching aquatics classes to students with disabilities and who felt more competent, had more favorable beliefs (attitudes, subjective norm, perceived behavioral control) toward including students with disabilities. Further, instructors who felt competent and were currently teaching students with disabilities, significantly related to academic coursework and experience. Approximately, one-half of the surveyed instructors felt competent and were currently teaching students with disabilities.

KEY WORDS: *Inclusion, Aquatic, Beliefs, Disability*

Water recreation, education, and therapeutic values have long been recognized as a means for developing physical fitness, social skills, and self-esteem in individuals with disabilities (Bull, Haldorsen, Kahrs, Mathiesen, Mogensen, Torheim, & Uldal, 1985; Christie, 1985; Daniels, 1954; Fait, 1966; Grosse, 1996; Newman, 1997; Sherrill, 1998; Skinner & Thompson, 1983). Facilities for swimming and other water-related activities are widely available for individuals with disabilities (Beaudouin & Keller, 1994). Aquatic activity provides an avenue for inclusive opportunity that is socially acceptable and in the mainstream of society (Broach & Dattilo, 1996; Koury, 1996; Lepore, Gayle, & Stevens, 1998; Morris, 1999).

Conatser is a faculty member in the Department of Physical Education at Slippery Rock University and Block is on the faculty at the University of Virginia. Please send all correspondence to: Phillip Conatser, Physical Education Department, Morrow Field House, Slippery Rock University, Slippery Rock, PA 16057, philip.conatser@sru.edu.

Most experts concur that a key factor to a successful inclusive aquatic or physical education program is the instructor (Conatser, Block, & Lepore, 2000; Reid, 1979; Weiss, & Karper, 1980). Unfortunately, many aquatic instructors have limited training and experience in teaching students with disabilities (Conatser et al., 2000). Aquatic instructors, however, are expected to provide appropriate instruction to students with disabilities (American Red Cross, 1992). Insufficient training, experience, and specific instruction in conducting inclusive aquatic programs are the major reasons aquatic programs fail (Lepore et al., 1998; Priest, 1979). Furthermore, the lack of training and experience leads to unfavorable attitudes toward working with individuals with disabilities in inclusive aquatic programs thus decreasing the opportunities for participation (Conatser et al., 2000).

In recent years more individuals with disabilities are choosing inclusive aquatic programs, and this increased participation has created the need to understand attitudes and behaviors of aquatic instructors toward inclusion (Conatser et al., 2000). The key to changing behavior is knowing beliefs (Ajzen, 1991; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Critical parts of making an inclusive physical education, recreation, or swim program successful are the training and beliefs of the instructor (Block, 1994; Conatser et al., 2000; Kelly, 1994; Lepore et al., 1998; Rizzo, 1984). Research has shown that attitudes, social perceptions, training, and perceived competence are related to more positive beliefs toward teaching students with disabilities in a physical education class (Rizzo & Vispoel, 1991; Rizzo & Wright, 1988). For example, physical education teachers that exhibit (a) high degree of self competence toward teaching individuals with disabilities, (b) more academic preparation in adapted physical education and/or special education, or (c) experiences with individuals with disabilities are more likely to have favorable beliefs toward working with individuals with disabilities and in turn, are more likely to provide appropriate programs (Block & Rizzo, 1995; Rizzo & Vispoel, 1991; Rizzo & Wright, 1988; Weiss & Karper, 1980). In addition, as aquatic instructors achieve more training, attitudes about inclusion become more positive (Conatser et al., 2000).

Though some questions concerning beliefs of aquatic instructors toward inclusion and aquatics have been investigated, there remain many unanswered questions. This study attempted to determine which moderating variables predict favorable beliefs (attitudes, subjective norm, perceived behavioral control) toward teaching individuals with disabilities in inclusive swim programs.

Planned Behavior Theory

The theory of planned behavior is a comprehensive framework for understanding human behavior (Ajzen, 1985). Salient behavioral, normative, and control beliefs are theoretically the basic independent determinants of intention and/or actual behavior (Schifter & Ajzen, 1985). The theory of planned behavior indicates that behaviors begin in people's belief systems (Ajzen, 1985). The assumption of the theory is that people believe or reason about different ways to act by taking into account how much control they have over opportunities and resources (Ajzen, 1985). Therefore, if people can make conscious decisions about whether they want to achieve some desired behavior or not, then people can be taught to behave and to act in desired ways (Sherrill, 1998). Barring unforeseen events, people would be expected to act in accordance with their beliefs (Ajzen, 1987). The purpose of the planned behavior theory is to understand human behavior in specific situations and be able to predict behavior with some degree of accuracy (Ajzen, 1985).

The theory proposes that behavior is a function of salient information or beliefs relevant to the specific behavior (Ajzen & Madden, 1986). Three types of beliefs are presented: (a) *control beliefs* (resources, perceived control), which are viewed as determining perceptions of behavioral control; (b)

personal beliefs (i.e., outcome evaluation, belief strength), which are assumed to influence attitude towards the behavior; and (c) *normative beliefs* (i.e., social perception, motivation to comply), which constitute underlining determinants of subjective norm (Ajzen, 1991). These beliefs are used to try to assess what people would like to do or see happen based on their past experience, knowledge, and/or new information (Ajzen & Fishbein, 1990; Sherrill, 1998). These variables can have a direct, as well as an indirect, relationship with people's attitude, social, and control beliefs (Schifter & Ajzen, 1985).

Perceived behavioral control refers to how easy or difficult it is to perform a behavior considering a person's resources and opportunities. The more resources and opportunities an individual believes he/she possesses and the fewer obstacles or impediments anticipated, then greater should be perceived control over the behavior (Ajzen, 1991; Ajzen & Madden, 1986). A behavior may be under a person's complete control if he or she at his or her own volition can decide to perform a behavior or not. However, most behaviors are dependent on the presence of opportunities or adequate resources. Therefore, the behavior exists less under the person's volitional control (Ajzen, 1988).

Attitude toward the behavior refers to the degree to which a person has a favorable or unfavorable evaluation of the behavior in question (Ajzen, 1985). Aquatic instructors' attitudes toward a situation are determined in part by their evaluation of positive and negative outcomes associated with the activity. These outcomes may include safety issues, acceptance by students without disabilities, learning new skills, and whether or not the harmony of the class is disrupted. In theory, aquatic instructors will think about the consequences of their actions and make deliberate decisions to achieve some outcomes and avoid others.

The final predictor of intention is *subjective norm,* which refers to the perceived social pressure to perform or not to perform the behavior, as well as the strength of motivation to comply with these expectations (Ajzen, 1985). Subjective norm also is assumed to be a function of underlying beliefs, termed normative beliefs. Generally speaking, if a person believes that most people think she or he should perform the behavior, then this person will perceive social pressure to do so (Ajzen, 1987). Conversely, if a person believes that most people think he or she should not perform the behavior, then the subjective norm puts pressure on the individual to avoid performing that behavior (Ajzen, 1985).

Attitude and subjective norm determine intention to try the action (Ajzen, 1991). Intention to try the action and perceived control are combined to determine behavioral intention (Ajzen, 1991). Perceived behavioral control, attitude toward the behavior, and subjective norm are each weighed for relative importance and are assumed to jointly determine behavioral intention and behavior (Ajzen & Fishbein, 1980).

The theory of planned behavior has been supported by numerous studies in a variety of human situations. The studies range from very simple strategy choices in laboratory games to appreciable personally and socially significant behavioral actions such as abortion, smoking marijuana, losing weight, class attendance, exercise behaviors, predicting leisure activities, and sport preferences (Ajzen, 1985, 1988, 1991; Ajzen & Fishbein, 1980; Ajzen & Driver, 1991, 1992; Ajzen & Madden, 1986; Dishman, 1994; Fishbein & Ajzen, 1975; Gatch & Kendzierski, 1990; Godin, Valois, & Lepage, 1993; Greenockle, Lee, & Lomax, 1990; Kimiecik, 1992; Theodorakis, 1992; Theodorakis, Bagiatis, & Goudas, 1995). However, to date none of these studies used the model to analyze aquatic instructors' beliefs toward inclusion.

Method

Subjects

Participants were obtained from the National Swim School Association Membership Directory (NSSA, 1999). The directory contained a total list of 155 aquatic instructors from 35 states and 138 different cities in the

U.S.. The NSSA membership is comprised of aquatic instructors from privately run businesses, clubs, and schools that have aquatic programs.

Data collection followed standard survey techniques (Ajzen & Fishbein, 1980; Dillman, 1978; Krathwohl, 1998; Miller & Smith, 1983). Each aquatic instructor was mailed the questionnaire, cover letter, and a consent form with a stamped, return-addressed envelope. Five days from the first mailing, a reminder postcard was sent to all participants. Nonrespondents were sent a third mailing 10 days after the postcard reminder with a new copy of the questionnaire, cover letter, and a stamped, return-addressed envelope. After 8 days from the third mailing, a reminder postcard was sent to all nonrespondents. The study participants were asked to respond to each item on the questionnaire, sign the consent form, and place both in the enclosed, self-addressed, stamped envelope and return it in the mail.

At the end of one month, 132 questionnaires had been returned, representing an overall return rate of 85%; however, 21 of the questionnaires were unusable or not completed. Aquatic instructors expressed a variety of reasons for not completing the questionnaire, such as: (a) did not have the time; (b) did not feel comfortable doing the study; (c) our program only teaches private swim lessons, therefore the questionnaire does not apply; (d) not interested; (e) no knowledge of students with disabilities; and (f) the questionnaire is too long. Because there were no consistent themes or explanations expressed by instructors as to why they did not complete the questionnaire, no additional investigation of these instructors was needed.

Instrument

The instrument used to measure beliefs was the Aquatic Instructors' Beliefs Toward Teaching Individuals with Disabilities (AIBTID), a modified version of Conatser et al.'s Physical Educators' Attitude Toward Teaching Individuals with Disabilities—Swim (PEATID-SWIM; 2000). The AIBTID questionnaire consisted of two parts. The first part consisted of information about the theory of planned behavior (attitude, subjective norm, perceived control), and perceived competence, and the second portion included demographic/moderating questions. The questionnaire consisted of statements that required aquatic instructors to convey their beliefs toward teaching an inclusive swim class to individuals with mild and severe disabilities. Individuals with mild disabilities were defined as individuals with learning disabilities, mild/moderate mental retardation, mild behavior problems, partial vision, mild autistic tendencies, and hearing loss or deafness. Individuals with severe disabilities were defined as individuals with severe/profound mental retardation, severe behavior problems, blindness, physical disabilities, multiple disabilities, or severe autism. Conatser et al. (2000) validated these definitions and showed that aquatic instructors' beliefs toward inclusion were significantly different when they taught students with mild verses severe disabilities. Therefore, each category was analyzed independently for all components of the questionnaire.

Attitudes toward behavior. Attitude toward the behavior was measured with 20 belief statements designed to measure aquatic instructors' attitudes toward such issues as acceptance of individuals with disabilities by their non-disabled peers, self-concept, rate of learning, best practices, motivation, training of instructors, benefits, safety, and behavior disruptions. For example, one statement read: "I believe individuals with mild and/or severe disabilities will learn more rapidly if they are taught with individuals without disabilities." Aquatic instructors were then directed to rate each statement for individuals with mild disabilities and individuals with severe disabilities on a 4-point scale (i.e., 4 = *strongly agree,* 3 = *agree,* 2 = *disagree,* 1 = *strongly agree*). Scores for belief statements that were negatively phrased were reversed to obtain proper scale means. The 20 belief statement scores were summed for each disability category (i.e., mild and severe) and then divided by the total

number of statements to obtain a final score that could be interpreted with reference to the original 4-point scale.

Subjective norm. Subjective norm was assessed in two ways (Ajzen, 1988; Conatser et al., 2000). The first measure was based on normative beliefs concerning the expectations of three referents: instructor, parents of students with disabilities, and parents of students without disabilities. Aquatic instructors' normative beliefs first indicated their agreement or disagreement with each referent (i.e., most parents of students with disabilities think their child should be taught in regular swimming classes) on a 3-point scale from *yes to no* for both mild and severe disabilities. After each normative belief statement in the questionnaire, their likelihood of compliance with each statement (i.e., the strength of their motivation to comply) was assessed on a 3-point scale from *strong to weak.* The second measure assessed their perception of social pressure in a more global fashion. Using the same 3-point scales, normative beliefs and motivation to comply were assessed with respect to "most people who are important to me think I should teach students with a disabilities in my regular swimming class." Normative belief was then multiplied by motivation to comply with the referent, and the sum of the products constituted the belief-based measure of subjective norm. The subjective norm score was divided by the total number of statements to obtain a final score that could be interpreted with reference to the original 3-point scale.

Perceived behavioral control. Following Ajzen's (1988) suggestion for developing a measure of perceived behavioral control, a pilot study was conducted in which 17 experienced aquatic instructors were asked to list specific external factors that could prevent them from instructing inclusive swim classes. The most frequently mentioned factor was resources. Aquatic instructors rated this factor (I believe I have the resources required to teach students with disabilities in an inclusion class) from *strongly agree to strongly disagree* on a bipolar 4-point scale.

A second measure of perceived behavioral control approached the issue directly by asking aquatic instructors to judge the degree to which they felt in control of teaching an inclusive class. Ajzen (1991) suggested constructing these three questions to assess the internal dimension: (a) "How much control do you have over whether you do or do not teach an inclusive class?" (*complete control to no control*), (b) "For me to teach an inclusive class is *extremely easy to extremely difficult,*" and (c) "If I wanted to I could easily teach an inclusion class" (*extremely likely to extremely unlikely*) on a bipolar 4-point scale. The three items assessing the internal dimension of control were summed with the one item assessing the external dimension then divided by the total number of statements to obtain a final score that could be interpreted with reference to the original 4-point scale to produce the measure of perceived behavioral control.

Competence. Following Rizzo, Bishop, and Tobar's (1997) suggestion, perceived competence was assessed by use of one question that dealt with aquatic instructors' ability and skill to each an inclusive class. The statement: "How competent do you feel teaching students with disabilities in an inclusive swim program?" was rated on a 3-point scale from *very to not at all.* The responses served as the measure of aquatic instructors' competence toward teaching an inclusion class.

Demographic/moderating variables. The second portion of AIBTID contained aquatic instructors' responses to eight demographic/moderator questions that had previously been shown to influence aquatic instructors' behaviors toward inclusion and/or behaviors of the physical education teacher toward inclusion (Conatser et al., 2000; Rizzo, 1984; Rizzo, Bishop, & Tobar, 1997; Rizzo & Kirkendall, 1995; Rizzo & Vispoel, 1991). The following statements were asked:

- "Are you male or female?"
- "How many years have you been teaching swimming?"

- "How many years experience teaching students with mild or severe disabilities?"
- "Are you currently teaching swimming to students with mild and/or severe disabilities?"
- "How many Water Safety Instructor or similar certifications in aquatics do you have?"
- "How many adapted aquatic instructor or similar certifications do you have?"
- "How many undergraduate or graduate courses have you taken in physical education for students with disabilities?"
- "How many undergraduate or graduate courses have you taken (outside of physical education, e.g., special education) that have dealt specifically with students with disabilities?"

Aquatic instructors were asked to fill in the blank accordingly and check the appropriate response.

Validity. Evidence of content validity of the AIBTID was provided through a review by a panel of seven nationally known leading experts in the field of aquatics. All aquatic experts agreed that (a) the format and statements did measure beliefs of aquatic instructors toward teaching swimming to students with disabilities, and (b) no changes were needed. Evidence of construct validity for the items on the AIBTID was provided by the results of a principal axis factor analysis (SPSS version 9.0), which is considered the appropriate model for instrument validation (McArdle, 1990). The results of factor analysis supported a single factor for each dimension: (a) attitudes (mild and severe), (b) subjective norm (mild and severe), and (c) control (mild and severe). Factor loading ranged from .45 to .96 and explained an average of 60% of the total variance. Discussion concerning partial validation of AIBTID is described elsewhere by Conatser et al. (2000), and Rizzo (1984).

Reliability. Reliability for the AIBTID was evidenced in two ways. First, internal consistency was measured using Cronbach's alpha test (Cronbach, 1951) for the two subscales (mild disability and severe disability) on all multiple measures for the theory of planned behavior. Alpha score results showed that attitude toward behavior was .91 for mild, .95 for severe; subjective norm was .74 for mild, .67 for severe; perceived behavior control was .78 for mild, .78 for severe. Second, stability across time was measured by test-retest reliability for AIBTID. A second copy of the questionnaire was mailed to 20 randomly selected aquatic instructors from the 111 who had returned their questionnaires one month after the first mailing. Intraclass correlation (ICC) formula (2, 1) by Shrout and Fleiss (1979) for test-retest reliability was computed with a standard error of measurement (SEM). ICC (SEM) values were as follows: (a) attitude for mild r = .93 (.15), attitude for severe r = .90 (.24); (b) subjective norm for mild r = .53 (.49), for severe r = .79 (.18); and (c) control for mild r = .74 (.30), for severe r = .94 (.21). The overall test-retest reliability for the AIBTID for mild was r = .73 (.31), and for severe was r = .88 (.21). Note that because of the limited variance between subjects, the reliability estimates are depressed for subjective norm "mild" category; however, the SEM is rather small given the measurement technique. Results suggest a relatively high reliability and precision of measurement (Deneger & Ball, 1993) and appear consistent with other comparable studies (Block & Rizzo, 1995; Conatser et al., 2000; Rizzo, 1984).

Data analysis. Data from respondents were analyzed using inter-correlations and a forward stepwise multiple-regression (Norusis, 1997) to (a) observe relationships that existed between the demographic variables and (b) to predict which demographic variables yielded more favorable beliefs (i.e., attitude, subjective norm, perceived behavioral control) toward including students with disabilities in inclusive aquatic programs. Data analysis was consistent with Rizzo (1984), Conatser et al. (2000), and Ajzen (1991) procedures.

Results

Participants

Aquatic instructors (82 females and 29 males) were from 108 different cities in 25 states. Each of the completed surveys represented a different swimming program/pool, with 104 coming from private and 7 from public aquatic facilities. Aquatic instructors' average experience teaching swimming was 21 years, with a range of 4 to 45 years of experience (SD = 10.2). Ninety nine percent of the aquatic instructors had experience teaching swimming to students with disabilities. Of these, 95% had background in mild disabilities, averaging 13 years experience (SD = 10.4) and 71% of these aquatic instructors had taught students with severe disabilities, averaging 9 years experience (SD = 10.7). In addition, 89% of the aquatic instructors reported they were currently teaching swimming to students with mild disabilities and 35% reported teaching students with severe disabilities. Aquatic instructors held an average of one adapted aquatic certification and an average of three non-adapted aquatic certifications from a variety of national organizations (e.g., American Red Cross, YMCA, AAALF, Aquatic Therapy & Rehabilitation Institute, United States Water Fitness Association). Also, 36% of the instructors had one or more college courses in adapted physical education, and 37% had one or more special education courses.

Mild Disabilities

Inter-correlation and stepwise multiple-regression analyses were conducted for the following demographic variables for *mild disabilities:* gender, coursework in adapted physical education, coursework in special education, number of adapted aquatic certifications, number of general aquatic certifications, whether instructors are currently teaching students with mild disabilities, years experience teaching mild disabilities, overall years of experience teaching swimming, and instructors' competence toward teaching an inclusive swim program; and the following determinants: attitude, subjective norm, and control.

Inter-correlation coefficients among the demographic variables and instructors' attitude, subjective norm, and control beliefs toward teaching an inclusive swim program to students with *mild disabilities* are provided in Table 1. Results showed two demographic variables significantly correlated with attitude, five variables with subjective norm, and six variables with control. Significant correlations resulted in instructors bearing more favorable beliefs. Results indicated instructors currently teaching students with mild disabilities significantly correlated with attitude ($r^2 = 0.04, p < .01$), subjective norm ($r^2 = 0.05, p < .01$) and control ($r^2 = 0.12, p < .01$). Instructors' competence toward teaching an inclusive swim program had a significant relationship with attitude ($r^2 = 0.02, p < .05$), subjective norm ($r^2 = 0.10, p < .01$) and control ($r^2 = 0.19, p < .01$). Coursework in adapted physical education and coursework in special education were significantly correlated with subjective norm ($r^2 = 0.03, p < .04$ and $r^2 = 0.04, p < .03$, respectively) and control ($r^2 = 0.03, p < .03$ and $r^2 = 0.03, p < .03$, respectively). Number of adapted aquatic certifications were correlated with subjective norm ($r^2 = 0.03, p < .04$). Further, overall years of experience teaching swimming ($r^2 = 0.07, p < .01$) and years experience teaching mild disabilities ($r^2 = 0.05, p < .01$) were correlated with control. No other significant relationships between aquatic instructors' beliefs toward mild disabilities and demographic variables were found.

Furthermore, multiple-regression analysis for *mild disabilities* revealed one significant predictor each for attitude and subjective norm, and three predictors for control that resulted in instructors exhibiting more favorable beliefs. The best predictor for attitude was aquatic instructors who were currently teaching students with mild disabilities, $R = 0.21$, $R^2 = 0.04, F(1, 103) = 4.86, p < 0.03$; and the best predictor for subjective norm was instructor's competence toward teaching an inclusive

Table 1.

Inter-correlations Among Aquatic Instructors' Attitudes (A), Subjective Norm (S), and Control Belief (C) Toward Teaching Students With Mild Disabilities and Aquatic Instructors' Demographic Variables

Attributes	A	S	C	2	3	4	5	6	7	8	9	10
1. Beliefs Scores	—	—	—									
2. Gender	−.08	−.02	.11	—								
3. Overall Years	.01	.02	.27**	−.03	—							
4. Years Mild	−.10	.11	.22**	.07	.65**	—						
5. Current Mild	−.21**	−.22**	−.36**	−.12	−.04	−.03	—					
6. Certifications in Aquatic	.04	.05	.02	.16*	.07	.07	−.05	—				
7. Certifications in Adapted Aquatic	.10	.18*	.06	−.09	.22**	.34**	.01	.20	—			
8. Coursework in Adapted P.E.	−.14	.18*	.18*	−.02	.37**	.53**	−.13	.28**	.28**	—		
9. Coursework in Special Educ.	−.02	.19*	.18*	.01	.25**	.38**	−.19*	.22**	.25**	.65**	—	
10. Competence Mild	−.15*	−.31**	−.44*	−.25**	−.23**	−.36**	.18*	.03	−.09	−.22**	−.29**	—

Inclusion: Gender: 1 = male, 2 = female; Overall Years of Experience (range 4–45); Years experience teaching swimming to students with mild disabilities (range 0–42); Instructors currently teaching inclusive aquatic programs for mild disabilities: 1 = yes, 2 = no; Certifications in aquatics (range 0–20); Certifications in adapted aquatics (range 0–5); Adapted P.E. courses: 1 = no courses, 2 = one or more courses; Courses in special education: 1 = no courses, 2 = one or more courses; Competence: 1 = Very, 2 = Somewhat, 3 = Not at all.

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

swim program, $R = 0.31$, $R^2 = 0.09$, $F(1, 92) = 9.74$, $p < 0.01$. The first predictor of control was instructor's competence toward teaching an inclusive swim program, $R = 0.44$, $R^2 = 0.20$, $F(1, 103) = 24.93$, $p < 0.01$; the second predictor was aquatic instructors who were currently teaching students with mild disabilities, $R = 0.53$, $R^2 = 0.28$, $F(1, 102) = 11.33$, $p < 0.01$; and the third predictor was length of experience teaching swimming, $R = 0.56$, $R^2 = 0.31$, $F(1, 101) = 4.79$, $p < 0.03$. All other predictor variables for attitude, subjective norm, and control did not significantly influence aquatic instructors' beliefs toward teaching students with mild disabilities.

Severe Disabilities

The theory of planned behavior determinants (attitude, subjective norm, control) for *severe disabilities* were analyzed by a stepwise multiple-regression analysis and inter-correlations with the following demographic variables: gender, one or more courses in adapted physical education, one or more courses in special education, number of adapted aquatic certifications, number of general aquatic certifications, whether instructors are currently teaching students with severe disabilities, years experience teaching severe disabilities, overall years of experience teaching swimming, and instructors' competence toward teaching an inclusive swim program.

Table 2 provides inter-correlations among the demographic variables and attitude, subjective norm, and control toward teaching an inclusive swim program to students with *severe disabilities.* Significant correlations among variables support more favorable beliefs. Results showed instructors currently teaching students with severe disabilities and instructors competence toward teaching an inclusive swim program were significantly correlated with attitude ($r^2 = 0.08$, $p < 0.01$; $r^2 = 0.08$, $p < .01$), subjective norm ($r^2 = 0.10$, $p < 0.01$; $r^2 = 0.19$, $p < .01$), and control ($r^2 = 0.21$, $p < .01$; $r^2 = 0.17$, $p < .01$). Coursework in special education was significantly correlated with subjective norm ($r^2 = 0.03$ $p < .04$) and control ($r^2 = 0.02$, $p < .05$). In addition, instructors' years of experience teaching severe disabilities significantly correlated with control ($r^2 = 0.06$, $p < .01$). No significant relationships between aquatic instructors' beliefs toward severe disabilities and other demographic variables were found.

Multiple-regression analysis for *severe disabilities* showed instructors' competence toward teaching an inclusive swim program significantly predicted attitude, $R = 0.29$, $R^2 = 0.08$, $F(1, 101) = 9.19$, $p < 0.01$; and subjective norm, $R = 0.44$, $R^2 = 0.19$, $F(1, 88) = 21.11$, $p = 0.01$. Aquatic instructors' control beliefs were significantly influenced by current teaching engagement with students with severe disabilities, $R = 0.46$, $R^2 = 0.21$, $F(1, 100) = 26.74$, $p < 0.01$, and how competent they felt toward teaching an inclusive swim program, $R = 0.52$, $R^2 = 0.26$, $F(1, 99) = 7.64$, $p < 0.01$. No other predictor variables significantly contributed to more favorable attitude, subjective norm, and control beliefs for severe disabilities.

Discussion

This investigation found that several demographic moderating variables were significantly related with improving aquatic instructors' beliefs (i.e., attitude, subjective norm, perceived behavioral control) toward including students with mild and severe disabilities in inclusive swim classes. The most consistent moderating variables for improving favorable beliefs toward inclusion were: (a) aquatic instructors who were currently teaching students with mild and severe disabilities, and (b) instructors who felt more competent teaching inclusive swim classes for students with mild and severe disabilities. Multiple correlation analysis further confirmed that the best predictor of favorable *attitudes* towards inclusion was instructors who were currently teaching students with mild disabilities. The best predictor for *attitudes* toward inclusion was instructors' competence toward teaching students with severe disabilities in an inclusive class. Multiple correlation analysis also

Table 2.

Inter-correlations Among Aquatic Instructors' Attitudes (A) Subjective Norm (S), and Control Beliefs (C) Toward Teaching Students with Severe Disabilities and Aquatic Instructors' Demographic Variables

Attributes	A	S	C	2	3	4	5	6	7	8	9	10
1. Beliefs Scores	—	—	—									
2. Gender	−.05	−.02	−.10	—								
3. Overall Years	.03	−.01	.14	−.03	—							
4. Years Severe	.06	.16	.24**	−.04	.52**	—						
5. Current Severe	−.29**	−.32**	−.46**	−.01	−.01	−.37**	—					
6. Certifications in Aquatic	−.05	−.14	−.07	.16*	.07	.10	.05	—				
7. Certifications in Adapted Aquatic	.07	.13	.11	−.09	.22**	.33**	−.25**	.20**	—			
8. Coursework in Adapted P.E.	−.05	.14	.10	−.02	.37**	.53**	−.17**	.28**	.28**	—		
9. Coursework in Special Educ.	.04	.19*	.16*	.01	.25**	.43**	−.19*	.22**	.25**	.65**	—	
10. Competence Severe	−.29**	−.44**	−.42**	−.09	−.23**	−.51**	.46**	−.07	−.25**	−.29**	−.39**	—

Inclusion: Gender: 1 = male, 2 = female; Overall Years of Experience (range 4–45); Years experience teaching swimming to students with severe disabilities (range 0–42); Instructors currently teaching inclusive aquatic programs for severe disabilities: 1 = yes, 2 = no; Certifications in aquatics (range 0–20); Certifications in adapted aquatics (range 0–5); Adapted P.E. courses: 1 = no courses, 2 = one or more courses; Courses in special education: 1 = no courses, 2 = one or more courses; Competence: 1 = Very, 2 = Somewhat, 3 = Not at all.

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

showed that the best predictor of favorable *social beliefs* toward both mild and severe disabilities was instructors' competence toward teaching an inclusion class. The best predictors of favorable *control belief* for mild disabilities were instructors' competence toward teaching an inclusive swim class, instructors who were currently teaching students with mild disabilities, and overall years of experience teaching swimming. The best predictors of favorable *control beliefs* for severe disabilities were instructors who were currently teaching students with severe disabilities and instructors' competence toward teaching an inclusive swim program.

Previous research supports the contribution that competence has toward improving favorable beliefs. For example, Rizzo and Kirkendall (1995), and Rizzo and Kowalski (1996) found that competence significantly enhanced favorable attitudes toward teaching students with disabilities for graduate/undergraduate physical education majors. Similarly, Rizzo, Bishop, and Tobar (1997) found that competence positively influenced attitudes for recreational soccer league coaches teaching students with disabilities. The findings from these studies support the results from this study, thus suggesting that as perceived teaching competence increases, individuals were more willing to teach students with a disability.

Many factors can influence perceived competence. According to Rizzo et al. (1997), experience and academic coursework about students with disabilities corresponds with perceived competence. The present investigation concurs with this proposition. Aquatic instructors with more experience (i.e., overall work experience, experience with mild disabilities, experience with severe disabilities) and coursework (i.e., one or more courses in adapted physical education, one or more courses in special education) perceived themselves to be more competent.

However, instructors' competence was not significantly influenced by aquatic certifications for either disability category. In addition, adapted aquatics certifications were not a significant influence on instructors' competence toward teaching students with mild disabilities, but adapted aquatics certifications did significantly relate to instructors who were more competent with people who had severe disabilities. One possible explanation why aquatic certifications were related with instructors' competence is the fact that aquatic certifications provide very little, if any, information about strategies for inclusive swim classes and/or hands-on experience. The present investigation also found that competence toward inclusion and aquatic instructors who were currently teaching students with disabilities were the highest correlated variables for both mild and severe disability groups.

Although the majority of aquatic instructors reported having experience teaching swimming, only aquatic instructors who were currently teaching swimming to students with mild or severe disabilities had the most favorable beliefs (i.e., attitude, subjective norm, control). These findings follow Ajzen's (1985) suggestion that attraction or repulsion to a goal may change as it distances itself from us, or as new information emerges. Instructors who have not taught students with mild or severe disabilities for some time have formed unfavorable beliefs. What is not clear, however, are the underlying reasons. Further research is needed to understand the complexities of this phenomena. Nonetheless, findings showed that instructors who were teaching students with mild and/or severe disabilities (a) felt more competent toward inclusion of students with mild or severe disabilities, and (b) had one or more courses in special education. In addition, instructors who had more years of experience teaching students with severe disabilities, had one or more courses in adapted physical activity, and had more certifications in adapted aquatics were the instructors currently teaching students with severe disabilities. However, this relationship was not found for mild disabilities. It appears that instructors who felt competent and were currently teaching students with disabilities were also knowledgeable and experienced. It is not surprising that

these instructors have favorable beliefs and included students with disabilities most of the time. As noted earlier, favorable beliefs toward a given behavior coincides with a strong possibility of that behavior/action occurring (Ajzen, 1988).

Other moderating variables that were significantly related to more favorable beliefs for mild disabilities were: (a) one or more courses in adapted physical education and special education, (b) more certifications in adapted aquatics, and (c) overall years of experience teaching swimming and years experience teaching mild disabilities. The following moderating were significant for severe disabilities: (a) one or more courses in special education, and (b) aquatic instructors with more years of experience teaching severe disabilities. The average variance explained by the contribution of all moderating variables toward instructors' attitudes, subjective norm, and control beliefs indicated only modest effects (Cohen, 1988).

Similar studies support these findings. For example, some research showed that training (Heikinaro-Johansson, & Sherrill, 1994; Rizzo & Vispoel, 1991) and experience (Block & Rizzo, 1995; Rizzo & Kowalski, 1996) significantly contribute to more positive beliefs toward teaching physical education to students with disabilities. Also, Conatser et al. (2000) found more coursework in adapted physical education or special education significantly related to aquatic instructors who held more favorable attitudes toward teaching inclusive classes. Certifications in aquatics were related to instructors with more favorable attitudes for both mild and severe disabilities.

Although moderating variables did variably contribute toward favorable beliefs (personal, social, control), several consistent findings were revealed, such as instructors' competence, current teaching experience, and academic preparation specific to disabilities. A logical conclusion would be that education and experience relate to feelings of competence. This relationship leads to favorable attitudes, social perceptions, and control beliefs, which result in more students with mild and severe disabilities being offered inclusive opportunities. Our findings also suggest a need for hands-on training in understanding and programming for students with disabilities in aquatics. Our findings support Priest's (1979) premise that insufficient training and/or experience in working with students who have disabilities leads to failed inclusive programs and eventually, inclusive program elimination. Furthermore, unsuccessful or failing aquatic programs could lead to negative beliefs and segregation (Conatser et al., 2000).

Conatser et al. (2000) found that female instructors had more favorable attitudes toward including students with mild disabilities compared to male instructors. However, the present investigation did not support this result. Seligman and Darling (1989), after years of empirical investigation and personal accounts of gender differences toward children with disabilities, concluded that gender differences were very inconsistent. Thus, making statements that one gender had more favorable beliefs toward students with disabilities than the other needs to be viewed with caution. Since the findings from this study do not concur with Conatser et al.'s study of male and female aquatic instructors' attitudes toward inclusion, more research is needed to clarify this topic.

Finally, a little more than half of the aquatics instructors in this study were currently teaching students with disabilities, and fewer than half felt very competent in teaching an inclusive swim class. These findings support the conclusion that instructors with current teaching experience, academic coursework, and who felt competent with students with disabilities were planning on including students with disabilities into their regular swim classes. One of the keys, then, to facilitating successful aquatic programs that include students with disabilities is to either (a) find instructors with current experience, training, and who were willing to teach an inclusive class; or (b) provide hands-on training to novice aquatics instructors.

Conclusion

The present study showed how the theory of planned behavior can advance our understanding of aquatic instructors' beliefs toward including students with disabilities into regular aquatic classes and implications for improving instructional design. Results of the present study revealed that instructors who were currently teaching aquatics classes to students with disabilities and instructors who felt more competent, had more favorable attitudes, subjective norm, and control beliefs toward including students with mild and severe disabilities. Certification in aquatics, academic coursework, and experience were related to instructors' competence. Instructors who felt competent, were knowledgeable, and had experience were significantly more likely to include students with disabilities into regular aquatic programs. The findings from this study must be viewed cautiously because identification of other aquatic populations, demographic variables, and cross-validation of aquatic instructors' self-reports may reveal different results. The limitations of the study underscore the need to promote more research about aquatic instructors' beliefs toward teaching people with disabilities in inclusive swim programs.

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