

PARENTAL PERCEPTIONS OF APE TEACHERS & PROGRAMS FOR CHILDREN  
WITH AUTISM

by

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A Thesis

Submitted in Partial Fulfillment of the Requirements  
for the Master of Science in Education

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State University of New York  
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May 2010

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### Abstract

A collaborative effort between parents and teachers may assist in enhancing the quality of the instruction and services for children with autism in physical education (PE) settings. However, there is a paucity of research exploring parental perceptions of PE/APE teachers and programs for their children with autism. The purpose of this study was to validate an instrument in order to assess parental perceptions toward adapted physical education (APE) teachers and programs. Participants included two expert panels, one to assess content validity of the survey ( $n = 5$ ), and another to assess item content relevance of survey questions ( $n = 8$ ). Additional participants ( $n = 11$ ) were parents of children and youth with autism aged 6-20 currently enrolled in APE or General Physical Education (GPE) through their school districts. The Parental Perceptions Toward APE Teachers (PPTAPET) survey was developed using a multi- step approach and a Likert Scale design where parents rated their level of satisfaction regarding communication with APE teachers, qualifications of APE teachers, and rapport with the APE teacher. The culling down of the PPTAPET was done by way of a correlational pair wise matrix and Delphi Method. Lastly  $\alpha$  coefficients and split half reliability of the survey were determined. Based on the  $\alpha$  coefficients for each of the three subscales it was concluded that the PPTAPET survey had high internal validity. Each subscale on the PPTAPET survey possessed high  $\alpha$  values of .89, .89, and .92 respectively. Split half reliability of the scale was determined by the Spearman Brown Prophecy coefficient and determined  $r'' = .90$ . In conclusion preliminary evidence for validity and reliability of the PPTAPET was acceptable and demonstrated the survey may be a useful tool in assessing parental perceptions of their child's APE program and teacher.

## Dedication and Acknowledgments

In writing this thesis, I very quickly realized that there are several very important people in my life that gave me the support I needed to accomplish my goal of a Masters Degree in Adapted Physical Education. This thesis is dedicated to my family and husband who have always told me to shoot for the stars and never look back.

A special thank you goes out to my thesis committee consisting of Dr. Luis Columna, Dr. John Foley, and Dr. JoEllen Bailey. My thesis advisor Dr. Columna, gave me the support and guidance to always achieve my best work. He believed in me from day one and knowing he was supporting me the whole way means the world to me. Dr. John Foley spent countless hours helping me revise, and understand statistics. This was no easy task but he never gave up on me and I am forever grateful for that. Dr. Bailey ensured I was always on the right track and was constantly encouraging and supporting me. Without this committee my dream of a master's thesis would not have been possible. Thank you so much!

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## Chapter 1

In the United States autism spectrum disorders (ASD) are diagnosed in one in 110 children, affecting four times as many boys as girls. The prevalence of autism as of 2006 had climbed fifty-seven percent and the Centers for Disease Control and Prevention have referred to ASD as a national public health crisis whose cause and cure remain unknown ([www.autismspeaks.org](http://www.autismspeaks.org)). This alarming news calls for an increase in resources and responsibility on the part of both parents and educational specialists (Starr, Foy, Cramer, & Singh, 2006). With the number of children diagnosed with autism rising exponentially every year, it is especially important for parents to be educated about characteristics of this condition and the services their children are entitled especially in the school setting.

The disability of a child can change a family's dreams and affect their emotional, economic, and relationship status (Reichman, Corman, & Noonan, 2008). Professionals who provide services to families of children with disabilities need to understand that each family is unique and may have particular needs depending on their ethnicity, socioeconomic status, family composition, and disability of the child (Columa, Pyfer, Senne, Velez, Bridenthall, & Canabal, 2008; Fiorini et al., 1996; Kelly, 2006). Parents of children with disabilities such as emotional disturbances, attention deficit disorders, and autism historically have reported worries, depression, tiredness, feelings of incompetence, and marital conflicts (Brantlinger, 1991; Pelchat, Lefebure, Proulx, and Reidy, 2004; Yatchmenoff, Koren, Friesen, Gordon, & Kinney, 1998). The presence of any of these factors may have an effect on these families' daily activity preferences including participation in recreational and physical activities (Kasari, Freeman, Bauminger & Alkin, 1999).

Physical activity levels tend to be lower among children with disabilities and their families (Law, King, King, Kertoy, Hurley, & Rosenbaum, 2006). These families are constantly in need of support to be involved in physical activity opportunities. Even though children with disabilities participate in physical education at school, often there is a lack of generalization to the home environment. A reason for this may be a lack of parents' knowledge of activity modification and programs available to them (Downing & Rebollo, 1999). Therefore, adapted physical education (APE) teachers need to be active advocates not only for the child, but for the family as well (Law et. al., 2006). In order for teachers to be successful with the task of advocating for children with disabilities, they need to be knowledgeable on all current laws, programs, and regulations pertaining to students with disabilities and their families.

### **Individuals with Disabilities Education Improvement Act**

The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), states that all school-age children with a disability in the United States are entitled to a free and appropriate public education in the least restrictive environment (LRE), including physical education. IDEIA also states that parents of children with disabilities have a legal right to be involved in all facets of their child's education, including the multidisciplinary team (Block, 2007). This team of individuals strives for the well being of children with disabilities in a school setting.

Parents play a vital role as part of the multidisciplinary team. Parents may assist teachers and administrators to determine what content is appropriate, what goals should be stated in the student's IEP, and what the LRE for the student may be (Ryndak, Downing, Morrison, & Williams, 1996). Even though teachers should consider parental

feedback and knowledge, some parents who have voiced their opinion regarding the educational future of their children are not taken into consideration. A reason for this might be that traditionally, PE/APE teachers are taught how to interact with children in their training preparation programs, but too often they are not taught how to collaborate with other professionals, including parents (Samalot-Rivera & Porretta, 2009). For this reason, professionals teaching children with disabilities may struggle finding strategies that promote an open and ongoing collaboration with parents (Downing & Rebollo, 1996). Promoting a collaborative approach in the educational system may facilitate the decision-making process for children with disabilities. Moreover, in terms of the PE curriculum, collaboration may allow for everyone to be on the same page.

Parent and teacher collaboration involves providing equal opportunities for students with disabilities and creating successfully integrated physical education programs (Downing & Rebollo, 1996). The instruction in these programs must be provided by “highly qualified” teachers, who not only offer quality instruction for children with disabilities, but also possess the knowledge and skills to work in collaboration with other professionals (An & Goodwin, 2007).

### **Conceptual Framework**

The definition of a “highly qualified” APE teacher proposed by Lytle et. al, 2010 and the Adapted Physical Education National Standards (APENS) (Kelly, 2006), served as the conceptual framework for the current study. The three main areas discussed are knowledge/qualifications of the APE teacher, parent/teacher rapport, and communication. These three sections comprised the subscales on the Parental Perceptions Toward Adapted Physical Education Teachers (PPTAPET) survey.

**Teacher knowledge and qualifications.**

Physical Education teachers providing services to children with disabilities must be “highly qualified” (IDEIA, 2004; Lytle, Lavay, Robinson, & Huettig, 2003; Ryndak, Downing, Morrison, & Williams, 1996). However, it is up to each school district to determine and define what constitutes a “highly qualified” professional, including APE (Kelly, 2006). Ultimately, these professionals need to be able to provide a quality education for all students, while considering and trying to meet families’ needs (Columna et.al, 2008). In order to create uniformity across school districts in the US related to who should provide the PE services for children with disabilities, the Adapted Physical Activity Council (APAC) and the National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID) were responsible for writing a position statement that explains what constitutes a highly qualified APE teacher. This position statement defines and indicates that highly qualified APE teachers must have a comprehensive content knowledge in terms of pedagogical skills to be implemented for students with disabilities (Lytle, Lavay, & Rizzo, 2010).

Moreover, “highly qualified” professionals must possess a comprehensive content knowledge in disability studies, special education law, development of the IEP, assessment methods for service qualifications and instructional design (Lytle et.al., 2010). They must also be familiar with behavior management techniques, individual learning styles, advocacy, inclusion practices, instructional design and planning, community and family resources, professional leadership, assistive technology for physical education, and collaborative skills with different professionals including parents

(Kelly, 2006). Another competency needed for APE teachers to be “highly qualified”, is the knowledge of how to collaborate effectively with parents.

**Parent and teacher rapport.**

Parent satisfaction will vary greatly depending on the student’s disability (Starr, Foy, Cramer, & Singh, 2006). Professionals should understand and appreciate the feelings and needs of each family. Yet, some APE/PE teachers tend to focus only on the needs of the child and lack consideration toward family needs (Fiorini et al, 1996; Kozub, 2001). Considering family needs can be a step toward more effective relationships and likewise programs for students with autism. For example, due to the strict routine and actions of children with behavior issues, like some children with autism might present, there can be a great deal of stress in the home environment.

Sharing the decision-making process about appropriate education and collaboration as a united group may help alleviate unnecessary stress and help build positive relationships between parents and school personnel. Families tend to become more involved in the education of their child if they feel the programs are supportive and responsive to their needs (Unger, Wayne, & Park, 2001). Parent involvement is also more likely to occur if there are open lines of communication between the school and home environment. Therefore, another key component in being considered a “highly qualified” professional is the ability to communicate effectively with parents. It is evident that the role parents play in the educational achievement for children with assorted disabilities is recognized not only by IDEIA, but by the APENS as well (Kelly, 2006).

**Communication skills.**

Professionals in the field of APE constantly do an “excellent job” communicating with their students; however, the same might not be true when trying to communicate with their students’ parents (Lytle, Lavay, Robinson, & Huettig, 2003). To ameliorate this situation, guidelines for professionals such as the APENS were developed. The APENS provide a reference to professionals in the field of APE during planning and instruction (Kelly, 2006). They consist of 15 standards that explore all aspects of the APE curriculum. Standard 15 indicates that a “highly qualified” professional must possess the skills to communicate effectively with parents and families of children with disabilities. The standard also states that professionals who provide PE services to children with disabilities should “understand the importance of family support during the IEP process, the individualized family service plan (IFSP), and other parent/teacher conferences/meetings” (p. 156). This standard clearly explains that APE teachers should be family advocates and also counselors of physical activity (Kelly, 2006).

A key component for effective collaboration with parents is to establish methods that promote effective communication with all members of the multidisciplinary team. The more open the communication between parents and school personnel about the child’s disability and the services he or she should receive, the greater the chances are that parental satisfaction with programming will increase (Law et al, 2003).

**Statement of the Problem**

There is a lack of assessment tools to assess parental perceptions toward APE/PE teachers. Obtaining parental perspective on programming will help to provide better APE/PE service for all children (An & Goodwin, 2007; Columna, Pyfer, Senne, Velez,

Bridenthall, & Canabal, 2008; Downing & Rebollo, 1999). This led the primary researcher to develop and validate the Parental Perceptions Toward APE Teachers (PPTAPET).

In addition to the lack of proper assessment tools there is also a paucity of research studies that have examined the perceptions and satisfaction of parents of children with autism, regarding their child's APE teacher and APE/PE programs in the U.S. (Downing & Rebollo, 1999; Loiacono & Valenti, 2010; Starr, Foy, Cramer, & Singh, 2006; Stoner & Angell, 2006; Tartar, & Horenczyk, 2000). Of those done, many have not concluded specifically what the parents would modify about their child's current PE/APE program (Starr et. al 2006; Tatar & Horenczyk, 2000; Whitaker, 2007). The results of this study may provide an insight into what parents of children with autism perceive as quality APE programs and what constitutes a quality APE teacher. Quality programming and teaching results from not only teacher knowledge but also the relationship the parents have with the school district.

Despite IDEIA regulations, true collaboration between school and parents has not been realized. Educational professionals should create an environment open to change and welcome parent ideas. Parental input may lead to a better working relationship between school and home. Involved parents are essential to the successful implementation of educational programs for children with disabilities.

Having parents as active members of the multidisciplinary team may assist teachers and administrators in determining appropriate content and the least restrictive environment. It is important to determine what parents view as positive characteristics of stable and successful programs (Ryndak et al., 1996). Unfortunately, the latest trends

have shown that parents are becoming less involved with the school personnel concerning the placement and education of their child. The majority of parents want to be involved in their child's education but a very small percentage of them actually feel that they are (Columna et al., 2008; Starr et. al, 2006).

### **Purpose of the Study**

The purpose of this study was to validate an instrument to assess parents of children with autism perceptions toward APE teachers and programs. The following research questions will guide the study:

- What are the parental expectations concerning their child's APE teacher?
- What are parental expectations concerning their child's APE program?
- What is an appropriate assessment tool to determine parental perceptions toward APE teachers?

The results of this study and survey may become a foundation for the increased positive interaction among APE teachers and parents.

### **Delimitations**

The following were delimitations for the study:

- Parents completing the survey have a son/daughter with Autism Spectrum Disorder (ASD) ages 6-20.
- The students with ASD were enrolled in a public/private school district.
- The surveys were kept confidential, and participation was voluntary.

## **Limitations**

The following were limitations of the study:

- A small sample size limits the generalization of the findings to a larger population.
- Survey answers were based on opinions.

## **Assumptions**

The following were assumptions made for this study:

- All participants thoroughly read and answered the questions on the survey.
- All participants honestly answered the questions on the survey.
- All participants answered the questions on the survey to the best of their knowledge.
- All parents had a son/daughter who had Autism Spectrum Disorder

## **Definition of Terms**

For the purpose of the study the following definitions will be used:

*Adapted Physical Education (APE)* – “The art and science of developing, implementing, and monitoring a carefully designed physical education instructional program for a learner with a disability, based on a comprehensive assessment, to give the learner the skills necessary for a lifetime of rich leisure, recreation, and sport experiences to enhance physical fitness and wellness (Auxter, Pyfer, Zittle, & Roth, 2009, p.8).

*Adapted Physical Education Teacher* – According to Kelly (2006) a “highly qualified APE teacher” is a professional who possesses the skills to communicate effectively with parents and families of children with disabilities. The APE teachers should “understand the importance of family support during IEP meeting, the

individualized family service plan, and other parent/teacher conferences/meetings (p.156)” and should be a family advocate and counselor of physical activity (Lytle, Lavay, & Rizzo, 2010).

*Autism Spectrum Disorder (ASD)* – The American Psychiatric Association defines Autism Spectrum Disorder as a pervasive developmental disorder characterized by qualitative impairment in social interaction, qualitative impairment in communication, restricted, repetitive and stereotypical patterns of behavior, interests and activities (www.autismspeaks.org, 2010).

*Individuals with Disabilities Education Improvement Act of 2004 (IDEIA)* – A law stating all school-age children with a disability in the US are entitled to a free and appropriate public education in the least restrictive environment, including physical education (<http://idea.ed.gov/>).

*Individualized Education Program (IEP)* – A document that contains all aspects of a student’s special education including educational needs, goals and objectives, placement, evaluation criteria, present levels of educational performance, and duration of programming modifications (Fish, 2006).

*Adapted Physical Activity Council (APAC)* – A professional group that supports both practical and theoretical endeavors in physical activity and recreation for people with disabilities in order to promote appropriate active lifestyles and a healthy quality of life. APAC advocates and encourages programs, policies, standards, and research that positively affect opportunities for people with disabilities to engage in physical activity and recreation (Lytle, Lavay & Rizzo, 2010).

*National Association for Sport and Physical Education (NASPE)* – Outlines the national standards for physical education. NASPE's mission is to enhance knowledge, improve professional practice, and increase support for high quality physical education, sport, and physical activity programs (<http://www.aahperd.org/Naspe/>).

*Adapted Physical Education National Standards (APENS)* – A collection of 15 national standards developed by members of the National Consortium for Physical Education and Recreation for Individuals with Disabilities. The goal of APENS is to promote nationally certified Adapted Physical Educators who can make meaningful decisions for children with disabilities in physical education within every school district in the country (Block, 2007; Kelly, 2006).

*National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID)* – A group that developed the adapted physical education national standards and a means for evaluating these standards. The Mission of the NCPERID is to promote research, professional preparation, service delivery, and advocacy of Physical Education and Recreation for individuals with disabilities (Kelly, 2006).

*American Association for Physical Activity and Recreation (AAPAR)* - Supports faculty, students, teachers, fitness trainers, recreation instructors, and community leaders who promote lifelong and inclusive physical activity and recreation. This group believes fitness and fun are for every one of all ages and abilities (<http://www.aahperd.org/aapar/>).

### **Significance of the Research**

Historically, there has been a scarcity of research studies focusing on parent attitudes and perceptions regarding the effects of adapted or integrated physical education programs for their children (Columna et al., 2008; Downing & Rebollo, 1999; Starr, Foy, Cramer, & Singh, 2006; Whitaker, 2007). Knowing parental expectations and attitudes regarding the current APE program and APE teachers may help to build a stronger APE/PE program. It has been demonstrated that children involved in programs that have established cooperative home-school relationships in both integrated and adapted physical education have yielded higher levels of achievement in school than those without similar programs (Downing & Rebollo, 1999; Tatar & Horenczyk, 2000). Results from this survey may assist in determining parental feelings and expectations toward all aspects of the APE program and teacher.

## **Chapter II**

### **Literature Review**

In the United States, 1 in 110 children are diagnosed with autism spectrum disorder, affecting four times as many boys as girls. The prevalence of autism as of 2006 had climbed fifty-seven percent and the Centers for Disease Control and Prevention have referred to ASD as a national public health crisis whose cause and cure remain unknown ([www.autismspeaks.org](http://www.autismspeaks.org), 2010). This alarming news calls for an increase in resources and responsibility on the part of both parents and educational specialists (Starr, Foy, Cramer, & Singh, 2006). With the number of children diagnosed with autism rising exponentially every year, it is especially important for parents to be educated about characteristics of this condition and the services their children are entitled especially in the school setting.

The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA) established that all school-age children with a disability in the US are entitled to a free and appropriate public education in the least restrictive environment (LRE), including physical education (<http://idea.ed.gov/>; Ryndak, Downing, Morrison, & Williams, 1996). This instruction must also be provided by highly qualified professionals who possess the knowledge and skills to work in collaboration with other professionals and parents. The ultimate goal of teachers and parents is to ensure the well-being of students with disabilities, while creating successful integrated physical education (PE) programs that meet the needs of diverse learners and their families (Castaneda & Sherrill, 1999; Downing & Rebollo 1996).

Parents are the very first advocates for their children, and they should be at the forefront of their child's education. Understanding parental perceptions and expectations

on what they feel to be appropriate services may assist professionals, including PE/Adapted Physical Education (APE) teachers, in implementing better programs and improve their curriculum (Ryndak, Downing, Morrison, & Williams, 1996).

Professionals in the field of APE/PE require a wide breadth of knowledge related to disabilities and appropriate curriculum.

Professionals who provide services to these families need to understand that each family is unique and may have particular needs depending on their ethnicity, socioeconomic status, family composition, and disability of the child (Columna, Pyfer, Senne, Velez, Bridenthall, & Canabal, 2008; Fiorini et al., 1996; Kelly, 2006). Parents of children with disabilities such as emotional disturbances, attention deficit disorders, and autism historically have reported worries, depression, tiredness, feelings of incompetence, and marital conflicts (Brantlinger, 1991; Pelchat, Lefebure, Proulx, and Reidy, 2004; Yatchmenoff, Koren, Friesen, Gordon & Kinney, 1998). The presence of any of these factors may have an effect in terms of the preference of these families in daily-life activities including participation in recreation and physical activities (Kasari, Freeman, Bauminger & Alkin, 1999). Although research has been done concerning parents' physical and emotional well being as it pertains to daily-life activities, there is a scarcity of research exploring desires and expectations of parents of children with disabilities, including those with autism, regarding inclusive PE programs or adapted physical education programs.

According to the Individuals with Disabilities Education Act (IDEA), physical education is defined as, “the development of: (a) physical and motor fitness; (b) fundamental motor skills and patterns; and (c) skills in aquatics, dance, and individual

and group games and sports including intramurals and lifetime sports (<http://idea.ed.gov/>; Kelly, 2006). This federal law tries to ensure that all students with disabilities are provided with an individualized, developmentally appropriate, and personally challenging instructional education that will advance the knowledge, confidence, skills, and motivation needed to engage in a lifelong, healthy, and active lifestyle (Mason, 2003).

Physical education for students with autism not only has immediate health and social benefits, but it may prepare students for sport experience in the future, which encourages lifelong physical activity. Participation in PE also provides students with ASD opportunities for social acceptance and interaction between students both with and without disabilities (Samalot-Rivera & Porretta, 2009). These benefits cannot be achieved without careful planning especially from the PE/APE teachers. According to Auxter, Pyfer, Zittel, and Roth (2009) APE is defined as:

The art and science of developing, implementing, and monitoring a carefully designed physical education instructional program for a learner with a disability, based on a comprehensive assessment, to give the learner the skills necessary for a lifetime of rich leisure, recreation, and sport experiences to enhance physical fitness and wellness. (p.8)

These APE teachers should develop programs that meet the needs not only of the child with a disability, but the needs of their families as well. By meeting children's and families' needs, teachers may have an opportunity to develop positive attitudes by students and their families. This will assist in creating positive attitudes toward physical activity today, increasing the chances of voluntary activity in the future (Graham, 2008).

In order to promote physical activity into the life of parents and students laws and regulations are needed.

### **Adapted Physical Education Regulations**

Many professionals recommend that appropriate APE programs should mimic what students without disabilities do during regular PE (Graham, 2008; Starr, et. al., 2006). As outlined by the National Association for Sport and Physical Education (NASPE) standards the PE curriculum allows students to learn and practice motor skills, learn safe and effective ways to develop physical fitness, and focus on life skills such as cooperation, sportsmanship, and fairness (<http://www.aahperd.org/Naspe/>; Graham, 2008). Pertaining to students with disabilities, balance and coordination, gross motor skills, and physical skills/fitness were identified as critical elements of the learning process in PE classes (Auxter et. al., 2009; Downing & Rebollo, 1999). In order to provide the best services for students with autism careful considerations to different variables such as placement alternatives need to be considered.

Under IDEIA, PE services for children with disabilities must be provided in the LRE, or the environment that best supports the child's learning. IDEIA has provided a legal basis for APE regarding appropriate services for children with disabilities, however, educational teams are still left to decide for each particular student what appropriate content is and what the student's LRE should be (Columna, Davis, Lieberman, & Lytle, 2010; Kelly, 2006).

Appropriate student placement is critical to the success of any PE program, especially for students with autism. Considering the best placement option is not an easy task. Therefore, to ensure the needs of children are met several factors need to be

considered. Some of these factors include: assessment results, available resources and the preference of the students' families pertaining to their placements (Columna et al, 2010; Downing & Rebollo, 1999; Lieberman & Houston-Wilson, 2009).

Decisions about physical education placement and APE services should be based on comprehensive assessment data that helps to determine the students' present level of performance. Determining the present level of performance of a child with a disability may assist members of the Individualized Education Program (IEP) committee in deciding what the students' LRE environment should be (Columna, et al., 2010). In a research study conducted by Downing and Rebollo (1999) the researchers determined there were several roadblocks in determining a student's LRE environment. These roadblocks included: inadequate college undergraduate education for teaching students with special needs, a lack of qualified and willing APE teachers to mentor teachers in inclusive environments and conduct comprehensive individual assessments, higher teacher attrition rates at all levels of physical education, and student education placements that are not always conducive to optimal learning. These roadblocks pertaining to LRE make it very difficult to make forward progress in the best interest of the student.

The interpretations of appropriate education and LRE vary greatly among school districts. Each individual school may have their own ideas of meaningful education (Fidler & Lawson, 2003). Therefore, the determination of appropriate education and LRE is a decision that needs to be considered by a formal multidisciplinary team that is often composed of parents, regular education teachers, special education teachers, qualified representatives of the local education agency, any individuals who can interpret the

instructional implications of evaluation results, any individual who has knowledge or special expertise regarding the child (e.g., related service personnel), and when appropriate, the child with a disability (<http://idea.ed.gov/>). The multidisciplinary team has several functions. One of these functions is to keep the best interests for the students in mind and determine the best education possible for the student. As an integral part of the multidisciplinary team, parents have the right to voice their opinions and desires regarding placement options for their children. Parents may assist teachers and administrators to determine what content is more appropriate, what goals should be stated in the students Individualized Education Program (IEP) and what the LRE for that student would be (Ryndak et al., 1996).

### **Qualified Professionals**

Physical education is a direct service according to IDEIA and therefore all children with disabilities are entitled to receive specially designed instruction to meet individual needs. Furthermore, this instruction must be provided by a qualified professional. However, under IDEA a qualified professional could be any individual that has met requirements that apply to the area in which he or she is providing special education or related services. These requirements will vary depending on the state and school district the teacher is providing the services. Currently, there is no state or national guidelines constituting what a “highly qualified” teacher is for PE or APE (Lytle, Lavay & Rizzo, 2010).

For that reason each school district has the task to define what constitutes a “highly qualified professional” (Kelly, 2006). To ameliorate this situation, a position statement was written by the National Consortium for Physical Education and Recreation

for Individuals with Disabilities (NCPERID) and the Adapted Physical Activity Council (APAC) an organization with the American Association for Physical Activity and Recreation (AAPAR). The purpose of this position statement is to educate administrators in special education and PE/APE about the knowledge and skills that a “highly qualified” APE teacher must acquire in order to safely and successfully teach students with disabilities (Lytle, Lavay & Rizzo, 2010). This position statement defined and indicated that highly qualified APE teachers must have minimal requirements including but not limited to:

Knowledge and skills, as defined by NASPE, comprehensive content knowledge in disability studies, assessment methods for service qualifications and instructional design, special education law, development of IEP, adaptations and modifications for physical education, behavior management, individual teaching and learning styles, collaboration and consultation skills, advocacy, inclusion practices, instructional design and planning, community and family resources, professional leadership, and assistive technology for physical education. (Kelly, 2006 p. 2)

This content knowledge and background presented to the APE teacher is vital for students with disabilities to receive the best education possible. A crucial aspect to meaningful APE for students with disabilities is for the teachers to understand the nature and the characteristics of all the different disabilities. Teachers must be educated on a variety of different disabilities and teaching strategies, and be up to date on the current laws for students with disabilities to ensure that the needs and expectations of students with disabilities and their families are met (Starr et. al., 2006).

According to a study conducted by Columna et al. (2008), with Hispanic parents ( $N = 10$ ) of children with disabilities, parents wanted professionals who provided APE services to be qualified, possess the training necessary to work with their children with disabilities, have high expectations for their children, and to have an ongoing communication with families. The more competent the APE teachers are, the more parents seem to trust them instructing their child (Stoner & Angell, 2006).

Autism spectrum disorders can pose certain challenges to teachers in inclusive or separate PE settings. These challenges may be due to the characteristics of the condition such as lack of reciprocal social interaction, verbal and non verbal communication, and stereotyped and repetitive behaviors (Starr, et. al., 2006). Allowing students with autism to participate in group activities and providing activities for success are major responsibilities of the PE/APE teacher. Students with autism typically tend to function better in a controlled environment with minimal distractions, sounds, and routines (Autism Society, 2008). Therefore, teachers must be aware of different characteristics that students with autism may exhibit to provide an optimal learning environment (Starr, et. al., 2006). Positive attitudes on behalf of the teacher will assist in the learning proper teaching techniques for children with ASD.

Just because the teacher has a positive attitude toward teaching students with disabilities, it does not necessarily improve teacher efficacy or improve outcomes for the included students (Cook, Tankersley, Cook & Landrum, 2000). Some teachers may even exhibit higher levels of rejection due to behavior problems. However, if the behaviors problems are minimal, teachers may view the student or the behavior as a healthy challenge that can be overcome. In a quantitative study done by Cook, Tankersley, Cook

& Landrum (2000) researchers found that a teacher's instructional tolerance can be greatly increased with extra instructional assistants, years of experience teaching in inclusive classrooms, training in special education and inclusion, time collaborating with special education personnel outside of class, and presence of special education personnel in inclusive classrooms. In addition, teachers are more likely to be tolerant of students with disabilities when the class size is smaller and more time can be devoted to each child. However, smaller class size and more one on one attention are not always attainable and teachers are left to deal with what is realistic at the time.

### **Collaboration with Parents**

A major stressor teachers may face in addition to teaching children with autism is meeting family expectations. The role parents play in the educational achievement for children with disabilities is recognized not only by IDEIA, but by other professional groups such as APAC and the National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID). APAC is responsible for supporting practical endeavors in physical activity and recreation for people with disabilities and NCPERID promotes advocacy of PE and recreation for individuals with disabilities (<http://www.ncperid.org/>; Lytle, Lavay, & Rizzo, 2010).

Collaboration between families and schools pertaining to students with disabilities is so critical it is even outlined in the Adapted Physical Education National Standards (APENS) developed by NCPERD (Kelly, 2006). Standard 15 indicates that,

A highly qualified APE teacher must possess the skills to communicate effectively with parents and families of children with disabilities. This standard also states that the APE teachers should, understand the importance of family

support during IEP meeting, the individualized family service plan, and other parent/teacher conferences/meetings. (p. 156)

This standard clearly indicates that a highly qualified APE teacher should be a family advocate and also a counselor for physical activity. To be a counselor, the APE teacher should understand how important parents are when discussing physical activity programs for individuals with disabilities (Kelly, 2006).

Parents of children with disabilities have a legal right to be involved in all facets of their child's education. They have been found to serve an important role in successful intervention strategies for children with disabilities, including those with autism (Prupas, Harvey, & Benjamin, 2006; Stoner & Angell, 2006). In fact, intervention programs for children with autism have increased in the past few years because of a higher diagnosis rate and earlier identification of the disorder (Sayers, Cowden, & Sherrill, 2002).

Prupas et al., (2006) conducted a research study to explore intervention programs for children with autism. Researchers implemented an early aquatic intervention program for students with autism by including parents as a part of the intervention. Parents were included in the study because they were perceived as being a very important influence in the life of their child. This aquatic program encouraged professional collaboration with parents which was attained by giving parents a document outlining specific aquatic goals for their children. In order for the aquatic intervention to be effective professionals providing the information to parents needed to be qualified and knowledgeable regarding appropriate practices that work best for children with autism. The results of the study indicated that in order for early intervention programs for students with autism to be successful they needed to meet the following criteria: include parents, use age appropriate

activities, perform ongoing evaluations, use highly individualized and structured teaching approaches, use the promoting continuum when needed, encourage family leisure opportunities, and learn as much as possible about autistic spectrum disorders. According to researchers the program was very successful because both parents and teachers were supportive and had positive outlooks on the end result.

In 2002 Sayers et al. analyzed parental perceptions regarding their participation in a university-directed, parent-implemented, home-based pediatric strength intervention program for their children with Down syndrome. Parents ( $N = 22$ ) were asked a series of questions concerning an intervention program that used specialized home-based exercises that the researchers developed specifically for each child. Parents were given the specific exercises (e.g. neurodevelopment patterning and proprioceptive stimulation) their children were to perform including the frequency and number of sets and repetitions. Results from this intervention program found that parents felt empowered implementing the program in the home environment, their expectations about their children's improved motor development had been met, and the home based program was worthwhile. At the conclusion of the program parents stated they were pleased that the researchers and teachers kept them informed and constantly encouraged them. This constant communication and teamwork made this intervention program a "huge success".

Castaneda and Sherrill (1999) explored the social construction of Challenger Baseball League for children with disabilities in a select community. Participants ( $N = 15$ ) were families of children with disabilities. Through interviews and field notes the researchers identified several themes related to the success of the program. These themes were fun and enjoyment, positive affect related to equal opportunity, social networking,

baseball knowledge and skills, and social interaction with peers. This Challenger baseball league gave the coach as well as parents the confidence that they could create social change that would improve the quality of life for their children. It was noted that, “extensive sharing about desired outcomes of participation in Challenger baseball gave family members and coach a sense of equal status responsibility for achievement of goals” (p. 387). In essence, the results of the study demonstrate that the success of this Challenger baseball league was largely due to the parents remaining actively involved by coming to practices and games and helping the head coach come up with policies and procedures to be used with the children. Parents’ interactions with the coach who was also an APE teacher, gave them a better understanding of adapted physical activity, alternative forms of sport, and the importance of collaborating with an APE specialist.

Children involved in inclusive APE programs that have established cooperative home-school relationships have shown higher levels of achievement in school than children without similar programs. The better the relationship that the school and the parents share, the better the chances are for the child to grow and develop. The goal of an effective collaboration is to avoid a “we versus us” theme when dealing with parents. Parents want a positive environment in which the best options for their children can be available. After all, parents are their child’s first teachers and are already familiar with their habits, skills and abilities. Educators should use parents as alternative sources of information in the determination of their child’s educational experiences (Downing & Rebollo, 1999). Parents might be able to provide the teacher information they might otherwise have been unable to ascertain.

Even though parental involvement has been recommended by many professionals, parental desires and expectations are not always taken into consideration by teachers (An & Goodwin, 2007). A reason for this may be that teachers are taught how to interact with children in their training preparation programs but not how to collaborate with other professionals including parents (Columna et al., 2008; Samalot-Rivera & Porretta, 2009).

### **Parent and Teacher Communication**

A key component for collaboration with parents is the establishment of methods that promote an effective communication with all members of the multidisciplinary team. The more open the communication about the child's educational future, the greater the chance parental satisfaction will increase (Law, Hanna, King, et al., 2003). Without open and clear lines of communication no forward progress in the best interest of the student can be made. By having an open line of communication parents can practice at home what teachers are teaching their children in school (Sayers et al., 2002). Sharing the decision making process and collaborating as a united group may help alleviate unnecessary stress and help to build more a more positive relationships between parents and school personnel.

Even though communication is imperative to enhancing parental involvement, partnerships, and family-centered approaches to service delivery, parents of children with autism spectrum disorder (ASD) have reported major communication gaps between home and school (Stoner & Angell, 2006). Stoner and Angell conducted a qualitative study where they interviewed parents ( $n = 8$ ) of children with autism ( $n = 4$ ). The purpose of this study was to explore the roles parents play as they monitor their children's educational programs and communicate with school personnel. Researchers concluded

that the relationship between parents of students with ASD and educational professionals is not only necessary but is likened to “an arranged marriage with no possibility of divorce” (p. 177). Depending on the union, the relationship could be full of conflict or it can be supportive, and mutually rewarding. Therefore, appropriate teacher/guardian communication is crucial for the success of any child’s APE program. Good communication is practiced by committed professionals who value parental involvement. Success of programs is also dependent on the qualifications of the professional providing the instruction.

### **Parental Concerns Regarding their Child’s PE and APE Programs**

Historically, there have been very few studies that have examined parental attitudes and concerns in regards to the effect of integrated or APE for their children with disabilities (Columna et al., 2008; Downing & Rebollo, 1999; Starr, et. al., 2006; Whitaker, 2007). Although many parents have positive outlooks on the health benefits and social benefits of APE, they still have many concerns with PE programs; particularly safety and equal opportunity (An & Goodwin, 2007). In addition, parents may not be aware of the PE/APE services that are provided at schools for children with disabilities (Columna et al., 2008).

Downing & Rebollo (1999) administered a 21 item survey to parents of elementary students with disabilities ( $N= 75$ ). The purpose of this study was to explore the factors essential for placement of their children into integrated PE and in turn, provide a possible alternative for determining placements. The findings of this study highlight parents feeling that class size, teacher, parent and administrative support and interest,

physical health, and motivation as the most important factors for successful implementation of an integrated PE program.

There are several parental concerns presented on the literature pertaining to successful integration into a PE for children with disabilities. These concerns include but are not limited to, safety concerns, equipment, and instructional support (An & Goodwin, 2007; Columna et al., 2008). Professionals have reported that safety should be a top priority of the physical educator. It is their duty to check all equipment and facilities for potential hazards (Lytle et al., 2010). Also, to be safely involved, students may need modified or specialized equipment. Instructional support is a concern due to curriculum that is not adapted to children with special needs and teachers who are unprepared to teach these students. This lack of curricular adaptation leads to the students being taught in an environment that is not conducive to learning (An & Goodwin, 2007).

An additional quantitative study pertaining to parental concern was done by Starr et al. (2006) where they compared the perceptions of parents of children with ASD, Down Syndrome, or learning disabilities ( $N= 209$ ) by looking at educational practices and determining their efficiency. Researchers concluded that parents perceived that their child's inclusive education would be more beneficial if there was a knowledgeable and supportive staff, they felt more a part of the decision-making process concerning their child, and they had teachers who were willing to learn about the disability.

To promote learning in a positive environment both parents and teachers need to be on the same page. Communication between the home environment and school environment is vital to educational success. One way to determine parental perceptions would be through a survey to assess their level of satisfaction.

## **Development of the Survey**

There is a paucity of research studies exploring parental perceptions of PE/APE teachers and programs. One of the reasons for this is due to the absence of available assessments tools. To address this issue the primary researcher to develop and validate the Parental Perceptions Toward APE Teachers (PPTAPET) survey. The PPTAPET was developed after an extensive literature review on the topic of interest and was designed to help understand the perceptions of parents of children with autism toward APE teachers and programs.

The literature revealed several studies pertaining to survey development and validity. One of these studies was conducted by Yun and Ulrich (2002). The purpose of the study was to clarify the meaning of measurement validity, provide appropriate validation procedures for use by researchers in adapted physical activity, and raise the awareness of the limitations of the traditional views on measurement validity. From this qualitative study it was concluded that in order to provide content related evidence four steps need to be followed: defining the domain of interest, selecting a panel of judges, having the panel of judges evaluate the instrument based on specific criteria, and summarize the information and select appropriate items. The content validity of the PPTAPET was attained using Yun and Ulrich's steps.

A recent quantitative study pertaining to survey development and validity was conducted by Glazer (2009). The purpose of the study was to devise a unique scale to assess an athlete's readiness to return to sport's after an injury, and provide preliminary evidence of reliability and validity of the scale. To obtain content validity the researcher implemented the Delphi method. This method uses expert opinion to form a survey by

responding to a questionnaire. The first step in this type of methodology involves finding a expert panel and having those experts give their opinion on what should be included on the survey. Based on opinions received from the panel of experts, changes must be made and then the revised survey is redistributed for additional feedback. These steps continue until a consensus is reached. In the Glazer study the panel rated each item on a scale from 1 to 5, based on the degree of match between the content of test item and the construct to be measured. A response of 1 represents no match, and 5 represents an excellent match. Item content relevance was then assessed according to Dunn et al (1999). Results from the Glazer study were derived from a Pearson product moment correlation analyses. Relationships between the I-PRRS as scored by the athlete and the respective athletic trainer showed positive correlations before competition ( $r = 0.82, P < .001$ ) and after competition ( $r = 0.83, P < .0001$ ).

In a very pertinent study conducted by Dunn et al., (1999) researchers' primary focus was on item content relevance. The purpose of the study was to provide an illustrative example of how item content relevance can be assessed and reported as an integral part of the scale-construction process. According to Dunn et al., item content relevance refers to the degree to which the content contained within a test item is representative of the "targeted construct" that the item is designed to measure. Dunn et al., presents his study in the context of sports psychology scale- construction research and focuses his procedures on item development, expert judges, and rating scale procedures. During the development of the PPTAPET these three procedures were followed.

## **Summary**

As the prevalence of ASD rise parental involvement and education related to the services their children are entitled to is more important than ever. The comprehensive review of the literature related to both parental perceptions of APE programs and teachers and the assorted steps of survey development. According to IDEIA (2004) all students with disabilities have the right to be educated in the LRE by a highly qualified PE/APE teacher. The APE teacher needs to work in collaboration with both parents and other professionals to ensure the most appropriate curriculum for each child is being followed. Attaining parental feedback on how they perceive the services their child is receiving and the educator providing those services will help promote the field of APE. Also, due to the lack of proper assessment tools to rate parent satisfaction more research is needed in this area.

## Chapter III

### Research Manuscript

One in 100 children are diagnosed with autism spectrum disorder (ASD) in the United States (US), affecting four times as many boys as girls. The prevalence of autism as of 2006 had climbed 57% and the Centers for Disease Control and Prevention have referred to ASD as a national public health crisis whose cause and cure remain unknown (www.autismspeaks.org, 2010). This alarming news calls for an increase in resources and responsibility on the part of both parents and educational specialists (Starr, Foy, Cramer, & Singh, 2006). With the number of children diagnosed with autism rising exponentially every year, it is especially important for parents to be educated about characteristics of this condition and the services their children are entitled to receive especially in the school setting.

The disability of a child can affect a family's emotional, economic, and relationship status (Reichman, Corman, & Noonan, 2008). Professionals who provide services to families of children with disabilities need to understand that each family is unique and may have particular needs depending on their ethnicity, socioeconomic status, family composition, and disability of the child (Columna, Pyfer, Senne, Velez, Bridenthall, & Canabal, 2008; Kelly, 2006). Historically, parents of children with disabilities such as autism have reported worries, depression, tiredness, feelings of incompetence, and marital conflicts (Pelchat, Lefebure, Proulx, & Reidy, 2004). The presence of any of these factors may have an effect on these families' daily activity preferences including participation in recreational and physical activities (Havens, 2005).

Physical activity levels tend to be lower among children with disabilities and their families (Law, King, King, Kertoy, Hurley, & Rosenbaum, 2006). These families are constantly in need of support to be involved in physical activity opportunities. A reason for low activity levels at home may be due to a lack of parents' knowledge of activity modification and programs available to them (Downing & Rebollo, 1999). Additionally, even though children with disabilities may participate in physical education at school, often there is a lack of generalization of physical activity to the home environment. Therefore, APE teachers may need to assist parents with activity modifications while also being active advocates for the child and the family when it comes to physical activity and available recreational opportunities (Law et. al, 2006). In order for teachers to be successful with the task of advocating for physical recreational opportunities for children with disabilities, teachers should be knowledgeable on all current laws, programs, and regulations pertaining to students with disabilities and their families (Lytle, Lavay, & Rizzo, 2010).

### **Individuals with Disabilities Education Improvement Act (IDEIA) Regulations**

The Individuals with Disabilities Education Improvement Act of 2004 (IDEIA), establishes that all school-age children with a disability in the U.S. are entitled to a free and appropriate public education in the least restrictive environment (LRE), including physical education. IDEIA also states that parents of children with disabilities have the legal right to be involved in all facets of their children's education, including being a part of the multidisciplinary team. This group of professionals strives for the well-being of children with disabilities in a school setting. The multidisciplinary team is often composed of regular education classroom teachers, special education teachers, qualified

representatives of the local education agency, any individuals who can interpret the instructional implications of evaluation results, any individual who has knowledge or special expertise regarding the child (e.g., related service personnel), parents and when appropriate, the child with a disability.

Parents play a vital role as part of the multidisciplinary team. For instance, they may assist teachers and administrators to determine what content is appropriate, what goals should be stated in the student's individualized education program (IEP), and what the LRE for the student may be (Kasari et. al, 1999). Even though parental feedback may yield expertise about the educational future of their children, parents' opinions are sometimes not taken into consideration by the PE/APE teacher (Elkins, Van Kraayenoord, & Jobling, 2003). Traditionally, PE/APE teachers are taught how to interact with children in their training preparation programs, but too often they are not taught how to collaborate with other professionals, or parents (Samalot-Rivera & Porretta, 2009). For this reason, professionals teaching children with disabilities may have a difficult time finding strategies that promote an open and ongoing collaboration with parents.

Promoting a collaborative approach in the educational system may facilitate the decision-making process for children with disabilities. Effective collaboration between parents and teachers involves providing equal opportunities for all students and creating successfully integrated PE programs (Downing & Rebollo, 1996). The instruction in these programs must be provided by "highly qualified" professionals who not only offer quality instruction for children with disabilities, but also possess the knowledge and skills to work in collaboration with other professionals (Lytle & Collier, 2002).

Obtaining parental perspectives on programming may assist in providing better PE/APE services for all children. Of the studies that have been done, most have been conducted in the field of special education and have not specifically included the parents' perceptions toward the current PE programs (Starr et. al., 2006; Whitaker, 2007; Tatar & Horenczyk, 2000). There is a paucity of research and assessment tools that have examined the perceptions and satisfaction of parents regarding their child with autism's APE teacher and APE/PE programs in the U.S. (Columna et. al., 2008; Downing & Rebollo, 1999; Tartar, & Horenczyk, 2000). Therefore, the purpose of this study was to develop and validate an instrument to assess parental perceptions toward APE teachers and programs.

### **Conceptual Framework**

The definition of a "highly qualified" APE teacher proposed by Lytle et. al (2010) and the Adapted Physical Education National Standards (APENS) (Kelly, 2006), served as the conceptual framework for the current study. The Adapted Physical Activity Council (APAC) and the National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID) were responsible for writing a position statement that explains what constitutes a "highly qualified" APE teacher (Lytle et al., 2010). The three main areas discussed in the Lytle and APENS documents are knowledge/qualifications of the APE teacher, parent/teacher rapport, and communication. These three sections comprised the subscales on the PPTAPET survey.

#### **Teacher knowledge and qualifications.**

Physical Education teachers who provide services to children with disabilities including autism must be "highly qualified" (IDEIA, 2004; Lytle, Lavay, Robinson, &

Huettig, 2003; Lytle et. al, 2010; Ryndak, Downing, Morrison, & Williams, 1996).

However, each school district has the responsibility to define what constitutes a “highly qualified” professional, including those in APE (Kelly, 2006). Ultimately, these professionals need to be able to provide a quality education for all students, while considering and trying to meet families’ needs (Columna et.al, 2008).

To be considered “highly qualified” professionals must possess a comprehensive content knowledge in disability studies, special education law, development of the IEP, assessment methods for service qualifications and instructional design (Lytle et.al., 2010). They must also be familiar with behavior management techniques, individual learning styles, advocacy, inclusion practices, instructional design and planning, community and family resources, professional leadership, assistive technology for physical education, and collaborative skills with different professionals, including parents (Kelly, 2006).

#### **Parent and teacher rapport.**

Parental satisfaction with programs for their children will vary greatly depending on the student’s disability (Starr, Foy, Cramer, & Singh, 2006). To the maximum extent as possible, professionals should understand and appreciate the feelings and needs of each family. Yet, some APE/PE teachers tend to focus only on the needs of the child and lack concern toward family needs (Fiorini et al, 1996; Kozub, 2001). Consideration of family needs can be a step toward more effective relationships and likewise programs for students with autism. Sharing the decision-making process about appropriate education and collaboration as a united group may help alleviate unnecessary stress and build positive relationships between parents and school personnel.

Families tend to become more involved in the education of their child if they feel the programs are supportive and responsive to their needs (Unger, Wayne, & Park, 2001). Parent involvement is also more likely to occur if there are open lines of communication between the school and home environment. Therefore, another key component for a “highly qualified” professional is the ability to communicate effectively with parents. It is evident that the role parents play in the educational achievement for children with assorted disabilities is recognized not only by IDEIA, but by the APENS as well (Kelly, 2006).

### **Communication skills.**

Professionals in the field of APE constantly do an “excellent job” communicating with their students; however, the same may not be true when trying to communicate with their students’ parents (Columa et al., 2008; Downing & Rebollo, 1999). To ameliorate this situation, guidelines for professionals such as the APENS were developed. The APENS provide a reference to professionals in the field of APE during planning and instruction (Kelly, 2006). They consist of 15 standards that explore all aspects of an APE curriculum. Standard 15 indicates that a “highly qualified” professional must possess the skills to communicate effectively with parents and families of children with disabilities and professionals providing services to these students. This standard also states that professionals who provide PE services to children with disabilities should “understand the importance of family support during the IEP process, the individualized family service plan (IFSP), and other parent/teacher conferences/meetings” (p. 156). Standard 15 clearly explains that APE teachers should be

family advocates and also counselors of physical activity to ensure students are being active as much as possible (Kelly, 2006).

A key component for effective collaboration with parents is to establish methods that promote effective communication with all members of the multidisciplinary team. The more open the communication between parents and school personnel about the child's disability and the services he or she should receive, the greater the chances are that parental satisfaction with programming will increase (Law et al, 2003).

## **Methods**

### **Participants**

Prior to the selection of the participants, permission was obtained from the Institutional Review Board Office from a local university to conduct this research. Three different sub groups participated in the validation process of the new survey. The first sub group was an expert panel consisting of professionals in the field of adapted physical education ( $n = 4$ ), and a parent of a child with autism to assess content validity. The second sub group were parents ( $n = 11$ ) of children with autism who were currently enrolled in PE/APE through their school ages 6- 20. For parent recruitment purposes, the lead investigator distributed flyers with a link to take the online version of the survey to assorted universities and colleges in the states of California, Florida, New York, Pennsylvania, and Texas. After collecting the surveys, a list wise deletion was done and three surveys were disregarded. The third sample population for this study consisted of a panel ( $n = 8$ ) who were nationally recognized professors in APE or had ten or more years of experience teaching APE in school districts. This panel implemented the Delphi method to analyze the revised survey (Glazer, 2009).

## **Instrument Development**

The Parent Perceptions Toward Adapted Physical Education Teachers (PPTAPET) survey was developed based on an extensive literature review (Aiken, 1985; Columna et. al, 2008; Downing & Rebollo, 1999; Dunn, Bouffard, & Rogers, 1999; Glazer, 2009; Kelly, 2006). A multi step approach was employed in the development and validation of the PPTAPET survey. This step by step procedure can be found in Figure 3.1. The first step in this process was to obtain the content validity of the PPTAPET. This was done by sending the initial survey questions developed by the researchers to an expert panel consisting of professionals in the field of adapted physical education ( $n = 4$ ), and a parent of a child with autism. This panel gave feedback on items they thought should be retained in the survey. The second step in the process was item reduction using a correlational pair wise matrix and Delphi method (Dunn, Bouffard, & Rogers, 1999). This process was completed by using a second panel of experts ( $n = 8$ ) who were nationally recognized higher education professors in APE or had ten or more years of experience teaching APE in the school setting. This panel used the Delphi method to analyze survey questions. Lastly,  $\alpha$  coefficients of each question were calculated to determine internal validity of the final questions.

The survey used a 5 point Likert Scale design where parents rated their level of satisfaction (strongly agree, agree) or dissatisfaction (strongly disagree, disagree) as well as a neutral selection where parents could select neither agree nor disagree with the statement. The original form of the PPTAPET contained 56 questions. The demographic/background section comprised 19 of the questions. The remainder of the survey was split among the following three different subscales: 1) the communication

subscale, comprising 20 questions, 2) the APE teacher knowledge/qualifications subscale, comprising 12 questions, and 3) the parent and teacher rapport subscale, comprising five questions. After all item reduction was completed the final version of the survey was composed of 12 questions, four from each subscale.

### **Data Collection**

The PPTAPET survey was taken one of two ways, either by means of a paper copy or online using the web address given on distributed flyers. Parents who wanted to complete the hard copy of the survey completed it while waiting for their children to complete a local university's gym and swim program. Parents who completed the survey online entered the web address on the flyer and followed the directions given online. All parents were informed that their participation was completely voluntary and that their answers to the surveys were to remain anonymous. The primary researcher took the hard copy surveys and input the data into Excel. The surveys were number coded for data analysis purposes.

### **Data Analysis**

After a panel of experts review to ensure content validity the survey was distributed to parents. When the original survey (56 question) was returned, data were entered into Excel and then converted into Stata v.10 (StataCorp, TX), using Stat Transfer v. 8 (Circle Systems, WA). Stata v.10 was used for all analysis purposes. To reduce the survey to a reasonable number of questions, item reduction was done by a multi trait/multi method using a pair wise correlational matrix. For each of the three subscales of communication, teacher knowledge, and rapport, matrixes were computed using a Pearson product moment correlation coefficients. Four questions per subscale

were selected and items under the same construct with a low correlation  $< .5$  were removed, and anything  $> .5$  was retained. Further question selection was based on question significance to the specific construct and each questions  $p$  value of  $<.05$ .

Once item reduction was complete, 12 questions remained and six spurious questions (two for each subscale) were added to comprise the revised survey. The 18 question survey was then given to the third panel of experts ( $n = 8$ ). This select panel used the Delphi method to analyze the revised 18 questions. The Delphi method has experts rate each item on a scale from one to five, with one representing *no match* to the construct and five representing “*excellent match*” to the construct (Table 3.1). Item content relevance was assessed according to the Delphi method. The Delphi method offers a justifiable and practical means for developing surveys (Dunn et al., 1999).

After implementing the Delphi Method the panel’s ratings were analyzed using content validity  $V$  coefficients, which represent the degree to which the panel of experts decided on the match of each item in the proposed construct (Aiken, 1985; Dunn et. al., 1999). As stated by Aiken the  $V$  coefficient is calculated for the ratings provided by  $n$  judges on the domain specific interest for each item. To calculate  $V$ , an item is evaluated by judges on a rating scale of  $c$  successive integers. In this case the number of judges was eight ( $n = 8$ ), and the successive integer was five ( $c = 5$ ). Designating the integer assigned to the lowest validity category as  $l_0$  (which in this study was 1), and the rater’s validity rating as  $r$ , the  $r$  values are transformed to the formula  $s = r - l_0$  (Aiken 1985, p.133). The values of  $s$  for all the raters are then added to yield  $S$ . The  $V$  coefficient is computed by the formula: \_\_\_\_\_.

Any questions in the survey with a  $V$  coefficient of  $>.75$  was accepted (Dunn, Bouffard & Rogers, 1999).

The final steps to validating the PPTAPET involved calculating the alpha coefficients for the four items left in each subscale. The  $\alpha$  value is determined by the following formula:

$$\alpha = \frac{\sum_{i=1}^n r_{ii}}{n}$$

According to Bland & Altman (1997),  $\alpha$  values of 0.70 to 0.80 are regarded as satisfactory and would support the surveys internal validity. The split half reliability was determined by the Spearman Brown Prophecy coefficient. The formula:

———— yielded the Spearman Brown coefficient of the scale.

## Results

During the initial phases of survey development questions that reflected the content to be assessed and had statistically significant  $p$  values of  $< .05$  were accepted for the final version. These correlations were calculated to support evidence of construct validity. The top four questions from each of the three subscales were retained based on their statistical significance and/or correlational coefficients and  $r$  values within the construct.

The Delphi method yielded  $V$  coefficients for each question and then each item was compared with a 1-tail probability table by Aiken (1985). From Aiken it was determined that items with  $V \geq 0.75$  ( $P < .05$ ); were accepted for the scale. The PPTAPET's revised 12 questions were retained based on their significant  $V$  coefficients and relevance with respect to the constructs they were intended to measure. These questions along with their  $V$  Coefficients are shown in Table 3.1. The six non significant

items were eliminated. By following guidelines set forth by Dunn et al (1999), item-content relevance was established.

The  $\alpha$  coefficients for each of the three subscales concluded that the PPTAPET survey had high internal validity. Each subscale of communication, APE teacher knowledge/qualifications, and parent/teacher rapport possessed high  $\alpha$  values of .89, .89, and .92 respectively. Split half reliability of the scale was determined by the Spearman Brown Prophecy coefficient of  $r'' = .90$ .

### **Discussion**

The purpose of this study was to validate an instrument (PPTAPET) to assess the perception of parents of children with autism toward APE teachers and programs. There is a growing need to have reliable and valid instruments available to assess parental attitudes regarding their child's education in physical education. Parents are students' very first teachers and have seen their skills, habits, and abilities since birth and should be used as a very important resource by professionals (Downing & Rebollo, 1999). The collaborative efforts between parents and teachers may assist in enhancing the quality of the instruction and services for children with autism in PE settings (An & Goodwin, 2007; Castaneda & Sherrill, 1999). Therefore, parental feedback is vital to improving programming for all students.

The current study used the Delphi method as one of the three justifiable and practical means for developing the survey. In a quantitative study pertaining to survey development and validity by Glazer (2009), the author intended to devise a unique scale to assess an athlete's readiness to return to sports after an injury, and provide preliminary evidence of reliability and validity of the scale. To obtain content validity, Glazer used

the Delphi method for item selection of the scale. As with the current PPTAPET survey, Glazer returned the revised survey to the panel of experts for the evaluation of relevance. In both the PPTAPET and Glazer study the panel rated each item on a scale from 1 to 5, based on the degree of match between the content of test item and the construct to be measured. A response of one represents no match, and five represents an excellent match. By utilizing the Delphi method, the content relevance of each question was attained. Pearson Product Moment correlation analyses were used to determine the strength of the relationship between athlete and athletic trainer assessments of readiness. The I-PRRS as scored by the athlete and the respective athletic trainer showed positive correlations before competition ( $r = 0.82, P < .001$ ) and after competition ( $r = 0.83, P < .0001$ ).

The results of the current study showed the PPTAPET instrument to have high internal validity based on the subscales  $\alpha$  values being higher than 0.80. Determining scale reliability and internal validity of the PPTAPET survey was similar to those reported by Bland and Altman (2007). In their research they propose a study done by McKinley et al where a scale was devised to measure patient satisfaction with calls made by general practitioners out of hours. Eight different constructs were analyzed including areas of overall satisfaction, communication, management, and attitude. The  $\alpha$  values for all eight constructs ranged from 0.61 to 0.88. It was stated that  $\alpha$  values of 0.70 to 0.80 are regarded as satisfactory. From those values, Bland and Altman concluded that the questionnaire had satisfactory internal validity due to the fact that five of the eight scores had an  $\alpha > 0.70$ . The results of the current study indicated that all three constructs of communication, APE teacher knowledge, and parent/teacher rapport had  $\alpha$  coefficients greater than 0.80.

Due to the dramatic increase in diagnosed cases of autism or autism spectrum disorder (ASD) globally, there is an immediate need for parents and teachers to come together in order to provide the best possible programming for students (Loiacono & Valenti, 2010). The results of the current pilot study may assist in improving relationships between parents and teachers because it will bridge the communication gap between these two parties. The PPTAPET survey may help teachers to better understand what parents perceive and expect for their child with autism. This survey may also help the APE/PE with appropriate inclusion practices and how important inclusion is for all students, not just those with autism. It may also help to elevate any miscommunication issues between parents and their child's PE/APE teacher (Lieberman, James, & Ludwa, 2004).

### **Conclusions, Limitations, and Future Research**

In conclusion, results of the current study suggest the PPTAPET had adequate evidence for validity and reliability. The PPTAPET could be a useful tool in assessing parental perceptions of their child's APE program and teacher. By investing parental perceptions and family needs, educators may provide better APE services to children with autism. The results of this study need to be handled with caution due to certain limitations. One limitation to this pilot study was that it relied on a small sample size, when administered to parents of children with autism. However, this limitation was partially offset by using multiple stages in the validation process. An additional limitation was the study relied on parental perceptions, which is not necessarily concrete data.

Future research is needed in the form of a follow up study with a larger sample size extending to parents of children with various disabilities, not just autism. In addition

research is needed to explore teachers' perceptions toward parents' inclusion in their child's education.

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Figure 3.1 Survey Development Flow chart

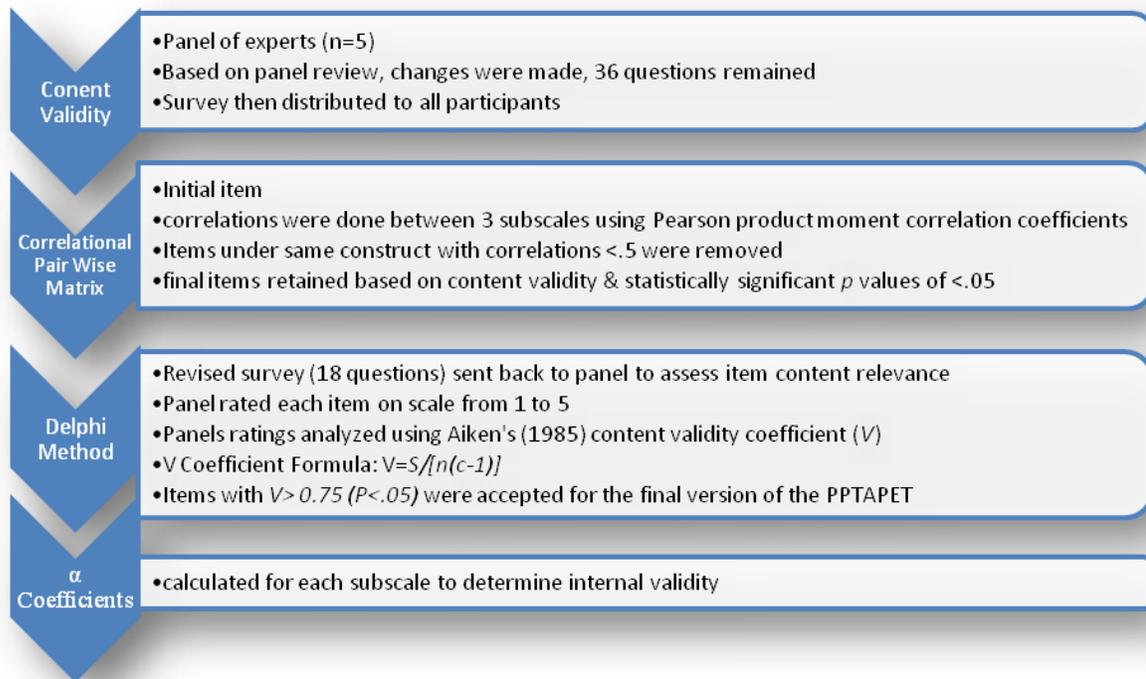


Table 3.1

*Summary of Item Content Relevance Ratings of the Panel of Experts of the Parents Perceptions Toward APE Teachers Survey*

ITEM	Mean	$\pm$ SD	V Coefficient
<u>Communication</u>			
1. I am satisfied with the frequency in which I communicate with my child's APE/GPE teacher.	3.63	$\pm$ 0.74	0.91
2. The APE/GPE teacher encourages me to participate in the decision making process regarding my child's PE program.	3.50	$\pm$ 1.07	0.88
3. The APE/GPE teacher provides useful information about PE services provided to my child.	3.38	$\pm$ 1.41	0.84
4. The APE/GPE teacher keeps me informed about my child's progress.	3.00	$\pm$ 1.60	0.75
<u>APE Teacher Qualifications</u>			
5. I feel the APE/GPE teacher is qualified to instruct children with Autism.	3.25	$\pm$ 1.49	0.81
6. I feel the APE/GPE instruction is always adapted to the needs of my child.	3.13	$\pm$ 1.46	0.78
7. I feel that the current instruction provided to my child in the APE/GPE class is appropriate.	3.25	$\pm$ 1.49	0.81
8. I feel instruction provided by the APE/GPE teacher to my child needs to be improved.	3.25	$\pm$ 1.49	0.81
<u>Parent and Teacher Rapport</u>			
9. The APE/GPE teacher shows a willingness to learn more about my child's needs.	3.38	$\pm$ 1.19	0.84
10. The APE/GPE teacher shows sensitivity to the needs of my child.	3.00	$\pm$ 1.41	0.75
11. The APE/GPE teacher understands my concerns regarding my child's performance at school.	3.63	$\pm$ 0.74	0.91
12. The APE/GPE teacher listens and values my concern regarding my child's education.	3.75	$\pm$ 0.71	0.94

Table 3.2

Aiken's Right-Tail Probabilities ( $p$ ) for Selected Values of the Validity Coefficient ( $V$ )

TABLE 1  
Right-Tail Probabilities ( $p$ ) for Selected Values of the Validity Coefficient ( $V$ )

No. of Items ( $m$ ) or Raters ( $n$ )	Number of Rating Categories ( $c$ )											
	2		3		4		5		6		7	
	V	p	V	p	V	p	V	p	V	p	V	p
2							1.00	.040	1.00	.028	1.00	.020
3							1.00	.008	1.00	.005	1.00	.003
3			1.00	.037	1.00	.016	.92	.032	.87	.046	.89	.029
4					1.00	.004	.94	.008	.95	.004	.92	.006
4			1.00	.012	.92	.020	.88	.024	.85	.027	.83	.023
5			1.00	.004	.93	.006	.90	.007	.88	.007	.87	.007
5	1.00	.031	.90	.025	.87	.021	.80	.040	.80	.032	.77	.047
6			.92	.010	.89	.007	.88	.005	.83	.010	.83	.008
6	1.00	.016	.83	.038	.78	.050	.79	.029	.77	.036	.75	.041
7			.93	.004	.86	.007	.82	.010	.83	.006	.81	.008
7	1.00	.008	.86	.016	.76	.045	.75	.041	.74	.038	.74	.036
8	1.00	.004	.88	.007	.83	.007	.81	.008	.80	.007	.79	.007
8	.88	.035	.81	.024	.75	.040	.75	.030	.72	.039	.71	.047
9	1.00	.002	.89	.003	.81	.007	.81	.006	.78	.009	.78	.007
9	.89	.020	.78	.032	.74	.036	.72	.038	.71	.039	.70	.045
10	1.00	.001	.85	.005	.80	.007	.78	.008	.76	.009	.75	.010
10	.90	.001	.75	.040	.73	.032	.70	.047	.70	.039	.68	.043
11	.91	.006	.82	.007	.79	.007	.77	.006	.75	.010	.74	.009
11	.82	.033	.73	.048	.73	.029	.70	.035	.69	.038	.68	.041
12	.92	.003	.79	.010	.78	.006	.75	.009	.73	.010	.74	.008
12	.83	.019	.75	.025	.69	.046	.69	.041	.68	.038	.67	.043
13	.92	.002	.81	.005	.77	.006	.75	.006	.74	.007	.72	.011
13	.77	.046	.73	.030	.69	.041	.67	.048	.68	.037	.67	.041
14	.86	.006	.79	.006	.76	.005	.73	.008	.73	.007	.71	.009
14	.79	.029	.71	.035	.69	.036	.68	.036	.66	.050	.66	.047
15	.87	.004	.77	.008	.73	.010	.73	.006	.72	.007	.71	.008
15	.80	.018	.70	.040	.69	.032	.67	.041	.65	.048	.66	.041
16	.88	.002	.75	.010	.73	.009	.72	.008	.71	.007	.70	.010
16	.75	.038	.69	.046	.67	.047	.66	.046	.65	.046	.65	.046
17	.82	.006	.76	.005	.73	.008	.71	.010	.71	.007	.70	.009
17	.76	.025	.71	.026	.67	.041	.66	.036	.65	.044	.65	.039
18	.83	.004	.75	.006	.72	.007	.71	.007	.70	.007	.69	.008
18	.72	.048	.69	.030	.67	.036	.65	.040	.64	.042	.64	.041
19	.79	.010	.74	.008	.72	.006	.70	.009	.70	.007	.68	.009
19	.74	.032	.68	.033	.65	.050	.64	.044	.64	.040	.63	.045
20	.80	.006	.72	.009	.70	.010	.69	.010	.68	.010	.68	.008
20	.75	.021	.68	.037	.65	.044	.64	.048	.64	.038	.63	.041
21	.81	.004	.74	.005	.70	.010	.69	.008	.68	.010	.68	.008
21	.71	.039	.67	.041	.65	.039	.64	.038	.63	.048	.63	.041
22	.77	.008	.73	.006	.70	.008	.68	.009	.67	.010	.67	.008
22	.73	.026	.66	.044	.65	.035	.64	.041	.63	.046	.62	.045
23	.78	.005	.72	.007	.70	.007	.68	.007	.67	.010	.67	.008
23	.70	.047	.65	.048	.64	.046	.63	.045	.63	.044	.62	.045
24	.79	.003	.71	.008	.69	.006	.68	.008	.67	.010	.66	.010
24	.71	.032	.67	.030	.64	.041	.64	.035	.62	.041	.62	.038
25	.76	.007	.70	.009	.68	.010	.67	.009	.66	.009	.66	.008
25	.72	.022	.66	.033	.64	.037	.63	.038	.62	.039	.61	.041

## Appendix A- Letter to Review Committee

Dear Review Committee,

My name is Allison Cook and I am a student in the process of completing my Masters degree thesis at SUNY Cortland. I am recruiting professionals in the field of Physical Education and Adapted Physical Education (APE) to review the survey that I have developed for my thesis. The title of my research study is "*Parental Attitudes and Expectations Toward Adapted Physical Education Teachers for Their Children with Autism.*" I thank you in advance for taking the time to review this survey.

The survey itself is broken down into several sections. The first section is background information on the child and their current services. Then the survey enters into three different circle response sections entitled communication with the Adapted Physical Education Teacher (questions 12-31), APE teacher's Knowledge/Qualifications (questions 32- 40), and Care/Empathy (questions 41- 46). The survey concludes with a more in-depth look at the parent's communication with the APE teacher and some basic demographic information.

For the purpose of this survey communication is operationally defined as: the discipline that studies the principals of transmitting information and the methods by which it is delivered. A highly qualified Adapted Physical Education teacher is operationally defined as: a teacher that has been trained and has the content knowledge in the area of adapted physical education and meets the competences identified by Adapted Physical Activity Council (APAC) of the American Association for Physical Activity and Recreation the National Consortium for Physical Education and Recreation for Individuals with Disabilities (NCPERID).

I thank you again for taking the time to look at this survey.

Sincerely,

Allison Cook  
Masters Student, Dept. of Physical Education  
SUNY Cortland  
Cortland, NY 13045

## Appendix B – Parent/Guardian Cover Letter

February 2, 2010

Dear Parents/Guardians,

My name is Allison Cook and I am currently a physical education teacher for Homer Central Schools and a graduate student perusing my master's degree in Adapted Physical Education at SUNY Cortland. As a requirement of my Master Degree I have to complete a thesis. The purpose of my thesis is to identify parental perceptions toward Adapted Physical Education Teachers which I hope to do by means of a survey.

Attached you will find a flyer explaining more about the survey and how to take the survey via the internet or paper copy. I want to highlight that this survey is completely voluntary and has no affiliation with Homer Central Schools. In addition, your child's participation in the Adapted Physical Education or Physical Education program will not be jeopardized in any way if you choose not to participate. The results of the survey will be completely anonymous.

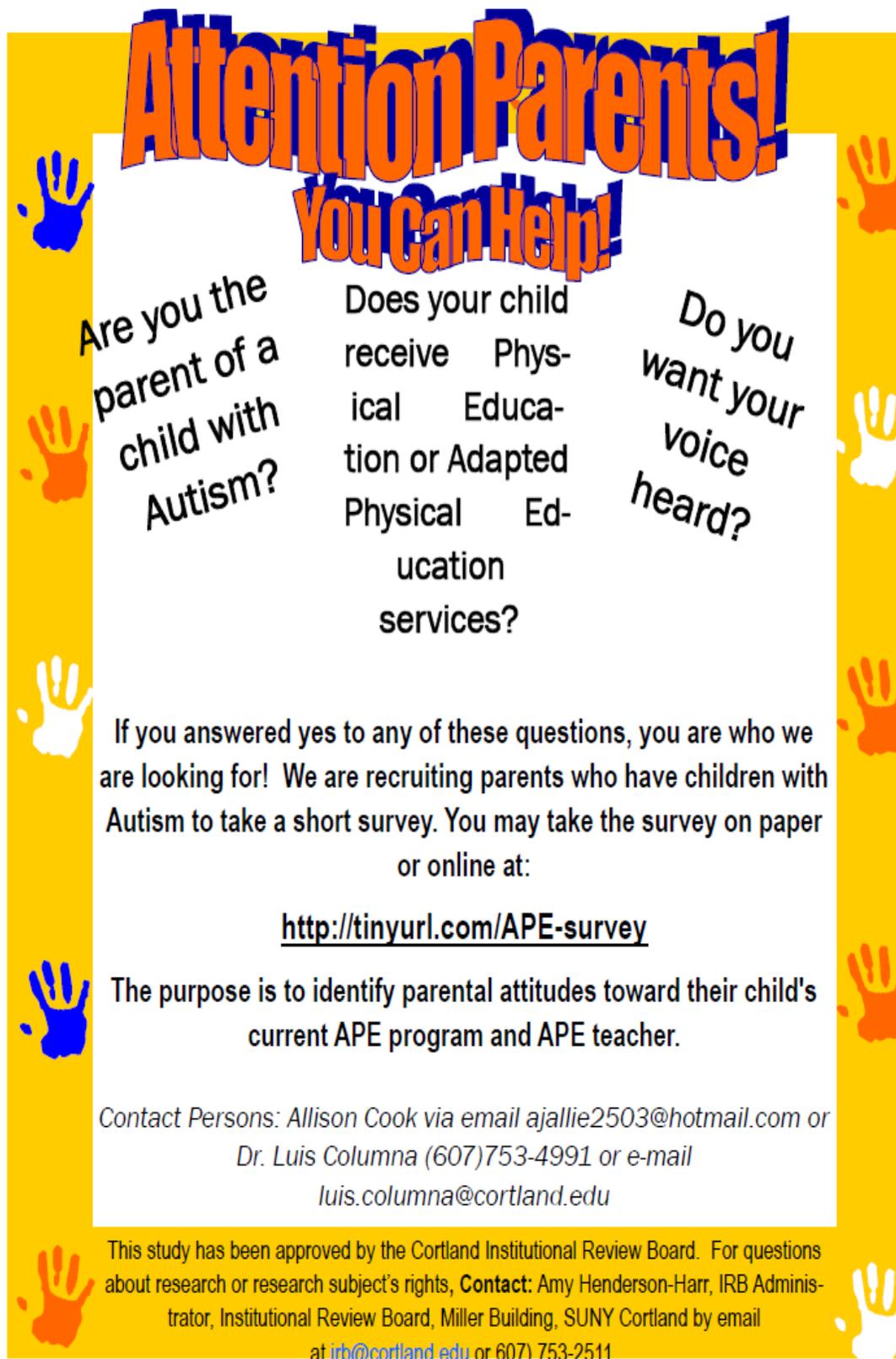
If you would like more information about the survey, please do not hesitate to contact me or my faculty advisor, Dr. Luis Columna from SUNY Cortland at 607-753-4991 or via email at [luis.columna@cortland.edu](mailto:luis.columna@cortland.edu)

This study has been approved by the SUNY Cortland Institutional Review Board. For questions about research or research subject's rights, Contact: Amy Henderson-Harr, IRB Administrator, Institutional Review Board, Miller Building, SUNY Cortland by email at [irb@cortland.edu](mailto:irb@cortland.edu) or 607) 753-2511.

Sincerely,

Allison Cook  
Physical Education Teacher  
[ajallie2503@hotmail.com](mailto:ajallie2503@hotmail.com)

## Appendix C – Survey Flyer



# Attention Parents!

## You Can Help!

Are you the parent of a child with Autism?

Does your child receive Physical Education or Adapted Physical Education services?

Do you want your voice heard?

If you answered yes to any of these questions, you are who we are looking for! We are recruiting parents who have children with Autism to take a short survey. You may take the survey on paper or online at:

<http://tinyurl.com/APE-survey>

The purpose is to identify parental attitudes toward their child's current APE program and APE teacher.

Contact Persons: Allison Cook via email [ajallie2503@hotmail.com](mailto:ajallie2503@hotmail.com) or Dr. Luis Columna (607)753-4991 or e-mail [luis.columna@cortland.edu](mailto:luis.columna@cortland.edu)

This study has been approved by the Cortland Institutional Review Board. For questions about research or research subject's rights, Contact: Amy Henderson-Harr, IRB Administrator, Institutional Review Board, Miller Building, SUNY Cortland by email at [irb@cortland.edu](mailto:irb@cortland.edu) or 607) 753-2511.

## Appendix D – Parental Perceptions Toward Adapted Physical Education Teachers Survey

**Directions: Please circle a response for each question**

**Communication with the Adapted Physical Education Teacher**

I am satisfied with the frequency in which I communicate with my child's APE/GPE teacher.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
The APE/GPE teacher encourages me to participate in the decision making process regarding my child's PE program.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
The APE/GPE teacher provides useful information about PE services provided to my child.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
The APE/GPE teacher keeps me informed about my child's progress.	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree

**APE Teacher Qualifications**

I feel the APE/GPE teacher is qualified to instruct children with Autism.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
I feel the APE/GPE instruction is always adapted to the needs of my child.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
I feel that the current instruction provided to my child in the APE/GPE class is appropriate.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
I feel instruction provided by the APE/GPE teacher to my child needs to be improved.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree

**Parent and Teacher Rapport**

The APE/GPE teacher shows a willingness to learn more about my child's needs.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
The APE/GPE teacher shows sensitivity to the needs of my child.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
The APE/GPE teacher understands my concerns regarding my child's performance at school.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree
The APE/GPE teacher listens and values my concern regarding my child's education.	Strongly Disagree	Disagree	Do Not Know	Agree	Strongly Agree

