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A COMPARISON OF PHYSICAL EDUCATION CONTENT PRIORITIES OF TEACHERS AND PARENTS OF CHILDREN WITH DOWN SYNDROME

A Manuscript Style Thesis Submitted in Partial Fulfillment of the Requirements for the Master of Science Degree in Exercise and Sport Science-Physical Education Teaching (Adapted Physical Education Concentration)

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A COMPARISON OF PHYSICAL EDUCATION CONTENT PRIORITIES OF TEACHERS AND PARENTS OF CHILDREN WITH DOWN SYNDROME

By Matthew Shutt

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ABSTRACT

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Students with Down syndrome (DS) have unique education and health needs that often require specially designed instruction such as adapted physical education. To ensure that students with DS receive appropriate and quality physical education services there must be adequate communication and agreement of curriculum content between general and adapted physical educators and parents of these students. This study examined the frequency of communication and agreement of physical education curriculum content between general (n = 16) and adapted (n = 93) physical educators and the parents (n = 53) of students with DS. Online surveys were sent via email to parents of children with DS, general and adapted physical educators. Results indicated that parents felt they are communicating less frequently with their child's APE teacher than the communication frequency that APE teachers reported. Social skills in physical education was rated the highest priority of all 12 content areas by all three groups. Disagreement between the parents and teachers was found on two content areas, transitioning from school-based to community-based programming and team sports. This study found high agreement among parents, APE, and GPE teachers on most physical education curriculum content areas for students with DS.

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INTRODUCTION

"Down syndrome (DS) is the most common chromosomal disorder with an estimated 5,400 infants with DS born each year in the United States" (Shin, Besser, Kucik, Lu, Siffel, & Correa, 2009). Given this high prevalence of DS and since the Individuals with Disabilities Education Act (IDEA) encourages participation in regular education programs to the maximum extent possible, students with DS attend public schools and are included in classes with nondisabled peers. With advances in technology and medical treatments, life spans among individuals with DS are increasingly longer (Carmelli, Barchad, Masharawi, & Coleman, 2004). However, the health status of adults with cognitive disabilities, including those with DS, is relatively poor and the rates of early morbidity and mortality are extremely high for this population (Fernhall & Pitetti, 2001).

School aged children with DS often have an Individualized Education Program (IEP) since many demonstrate specific learning traits and characteristics that qualify them for special education. It is also common for students with DS to qualify for adapted or specially designed physical education due to deficits in physical fitness and motor skill functioning. Shields, Dodd, and Abblitt (2009) found health concerns that linked congenital heart defects, muscle hypotonicity, joint hypermobility, low cardiovascular endurance, and decreased muscular strength to individuals with DS. Jobling and Cuskelly (2006) found that adults with DS have a range of significant health problems, including chronic medical conditions such as cardiovascular diseases, osteoporosis, obesity,

diabetes, musculo-skeletal problems, and respiratory disorders. "Increased physical fitness helps reduce the probability of a host of physical illnesses and conditions, from heart disease to diabetes" (Anderson & Heyne, 2010). Therefore, physical education teachers need to be aware of specific characteristics that are prevalent among students with DS and choose appropriate curriculum content based on individual needs.

"While physical activity is vital for all people, it is especially important for children and adults with disabilities, not only for improving physical health but also in terms of emotional and psychological benefits, social benefits, and even community and societal benefits" (Anderson & Heyne, 2010). Shields et al. (2009) found that individuals with DS develop skills and motor patterns in the same sequence but not at the same rate or extent as their nondisabled peers. In most cases the movement strategies of individuals with DS are not as efficient which often leads to less physical activity. With medical, cognitive, and developmental limitations hindering participation in physical activity, individuals with DS are more likely to be overweight or obese (Shields et al., 2009). "Furthermore, obesity is negatively correlated with motor performance, and is likely to decrease participation in physical activities" (Luke, Roizen, Sutton, & Schoeller, 1994). A noteworthy statistic from Shields et al. (2009) revealed that 45% of male subjects and 56% of female subjects with DS are overweight. These statistics compare to the overall self-reported national obesity prevalence in the U.S. which is currently 27% of the nation's population (CDC, 2010). Because of high prevalence rates of obesity and physical inactivity, it is especially important to teach children with DS the functional skills necessary to engage in recommended daily amounts of physical activity (Shields et al., 2009). When persons with DS are significantly overweight they are likely to be less

active which may affect their ability to participate in physical education and other health enhancing physical activities. "Once a person with DS has become overweight, he or she will have a difficult time losing the excess weight" (Pueschel, 2006, p. 12). Thus, it is imperative to teach students with DS how to be physically active, eat healthy, and manage their weight at early ages.

Physical education, adapted if necessary, is crucial for the development of motor skills, physical fitness, and sport related skills for all students including those with DS. Physical educators should teach individuals with DS to be physically active to maintain a healthy lifestyle during and after the school years. Individuals with DS often need more motivation to regularly engage in physical activity than their nondisabled peers. Research by Peterson et al. (2007) found that participation in leisure activities for individuals with intellectual disabilities, including DS, can be highly motivating for participants and can facilitate skill development, social benefits, and improved adaptive behaviors. Several studies (Fernhall & Petetti, 2001; Jobling & Cuskelly, 2006; Shields et al., 2009) indicate that individuals with DS have specific areas of need related to physical education curriculum content. Since each child has unique needs, the focus to individualize physical education should be a priority.

Adapted (APE) and general physical education (GPE) teachers need to carefully review and prioritize curriculum content to meet the needs of students with DS. These teachers determine the least restrictive environment in physical education for students with DS, whether in a segregated setting or an inclusive environment with their nondisabled peers. Lytle and Collier (2002) found that over the past few decades a trend has occurred from teaching students with disabilities in segregated environments to teaching these

students in more inclusive settings. Thus, inclusion practices have resulted in a shift that encourages the physical education team to move away from segregated APE classes to continuously consulting and communicating in order to properly educate students with and without disabilities in inclusive classrooms where appropriate. Regardless of whether physical education for students with DS is in a segregated or an inclusive setting, the content should meet the specific needs of individuals and much communication is necessary among the IEP team and other education professionals. "Many professionals are involved in the development and implementation of a student's IEP. In fact, IDEA mandates that a student's IEP be developed by a team that includes the student (when appropriate), student's parents, student's teachers, student's therapists, and a representative from the local education agency" (Block, 2007, p. 30).

"To develop appropriate educational and service plans that achieve educational objectives, teachers, physicians, therapists, and families must collaborate. Cooperation from home, community, and school is necessary to ensure informed decisions are made according to the child's educational needs" (Horvat, Kalakian, Croce, & Dahlstrom, 2011, p. 53). This is true for all academic subjects including physical education. Parents should be made aware of the curriculum content in physical education for their child with DS. Parents should also convey their opinions on the perceived importance of each content area to the physical education teacher. Effective communication among IEP team members results in better physical education programs for students (Lytle & Collier, 2002).

Columna et al. (2008) found that "...parents deemed it important for professionals who provide adapted physical education services to be qualified, to possess the training

necessary to work with children with disabilities, to have high expectations for their children, and to continually communicate with the parents." Wisconsin's State Performance Plan reported the desired percentage for "parents with a child receiving special education services who report that schools facilitated parent involvement as a means of improving services and results for children with disabilities" was not met for 2008 (U.S. Department of Education, 2008). These schools and teachers within them need to constantly communicate with one another and parents to ensure that students with disabilities are receiving the most appropriate education for their specific needs. A study by Hodge, Ammah, Casebolt, Lamaster, and O'Sullivan (2004) reported that "teachers believed that communication between them, the IEP team, and school administration was needed to enhance their efficacy. Lack of such effective communication was viewed as adversely impacting their efficacy in teaching students with disabilities." This communication includes physical education and its curriculum content.

Sharing expertise and resources among professionals assists with problem-solving and allows all individuals involved in the student's educational plan to make use of best teaching practices (Block, 2007, p. 30). A variety of methods for communication between parents of adolescents with DS and physical education teachers are used in schools. Teachers and parents may have face to face parent-teacher meetings, phone conversations, or notes through email or letters. However, the actual amount and type of communication between the parents of students with disabilities and physical education teachers is unknown.

Although current research has identified multiple social, health, and physical fitness needs for individuals with DS, there are no specific data to determine whether

those needs are being discussed and prioritized for physical education. Furthermore, there are no specific data to determine whether there is agreement among APE, GPE, and parents on the physical education curriculum content that best prepares persons with DS for physically active lifestyles during and after their school years. The purpose of this study was to compare the physical education program content priorities of APE, GPE, and parents of children with DS.

METHODS

Pilot Study

A pilot study was conducted on the teacher and parent surveys to refine study procedures and the surveys. The teacher survey was sent to one APE and one GPE teacher to complete and give feedback to the researcher regarding the clarity, instructions, and content. Both teachers responded that the content was appropriate and the directions were clear and easy to understand. A parent survey was sent to a parent of a school-aged child with DS to complete and provide feedback regarding the clarity, instructions, and content. The parent stated that the survey had good content, was easy to follow, and only took 5 minutes to complete. Both the GPE teacher and the parent gave feedback regarding the last two sections of the survey being relatively the same as one another. The research team decided not to make changes to the surveys because they felt confident in the overall content of the survey, along with the data that would be collected using the teacher and parent surveys. The teacher and parent surveys were also reviewed by multiple professionals in higher education with expertise in adapted and general physical education who deemed the surveys as valid instruments to determine teacher and parent priorities of physical education curriculum content for students with DS.

Participants

The study included 55 parents of children with DS, 48 mothers (87.3%) and 7 fathers (12.7%). The mean age of the parents was 45 ± 6 years. Of these parents, 37

(67.3%) reported having a male child with DS while 18 (32.7%) reported having a female child with DS. Six parents (10.9%) reported their child was currently enrolled in early childhood or preschool, 23 (41.8%) reported their child was enrolled in elementary school, and 26 (47.3%) reported their child with DS was enrolled in a secondary level of education, which included middle and high school.

A total of 128 physical education teachers completed the online survey. Of these, 109 (85.2%) had a license in APE and 19 (14.8%) were GPE teachers because they did not have a Minnesota or a Wisconsin license in APE. To qualify as an APE teacher, the participant needed to be certified with either a Wisconsin 860 or Minnesota 8700.5502 license in APE. The mean age of all teachers was 41 ± 11 years. The majority of teachers reported they were full-time, 116 (90.6%), while only 12 (9.4%) were part-time physical education teachers. Four (3.1%) teachers reported that they primarily taught at the preschool or early childhood level, 69 (53.9%) reported teaching primarily at the elementary level, 45 (35.2%) reported teaching at either the middle or high school level, and 9 (7%) teachers reported that they taught at multiple levels and did not teach at any one level exclusively.

Procedures

Before the study began, approval was received from an Institutional Review Board to complete research with human participants. Surveys were then developed, piloted, and sent to APE teachers, GPE teachers, and parents of children with DS. Surveys were sent to teachers and parents who worked or lived in Wisconsin or Minnesota. A cover letter accompanied the survey to provide details about informed consent and the purpose of the study. All surveys were sent via email and included a cover letter with specific directions

and information regarding the purpose of the study. The email also included an online link, where participants accessed the survey.

The "Physical Education Teacher Priorities of Curriculum Content for Students with Down Syndrome" (teacher) surveys (see Appendix B) were sent to APE and GPE teachers on Wisconsin and Minnesota electronic mailing lists. Professional teaching organizations and personal contacts aided this study by sending the email out to their electronic mailing lists of APE and GPE professional colleagues. Teacher surveys had different demographic questions than the parent surveys and only APE teachers responded to the section on frequency of communication.

The "Parent Priorities of Physical Education Curriculum Content" (parent) surveys were sent to parents of children with DS (see Appendix B). The child with DS had to be within ages 4-21 years old and currently enrolled in a PK-12 school district. Both parents of a child with DS were asked to complete the online survey separately from their spouse which in some cases resulted in two completed parent surveys from a single family household. The majority of parent surveys were sent out by various human services agencies and DS associations via electronic mailing lists. Parent surveys were also sent via email to the parents of a child with DS that participated in adapted physical activity programs at the University of Wisconsin-La Crosse.

The procedure for both parent and teacher participants took approximately 10 minutes to (a) read the cover letter in the email, (b) read the instructions to the survey, and (c) complete the survey. Sections (c) and (d) of the teacher and parent surveys included drop down menus with definitions of each physical education curriculum content area when the participant used the cursor and placed it over the content area that was

highlighted. Participants were encouraged to call or email the researcher with any questions regarding the survey or project at any time during completion of the survey.

Measures

Teacher Survey

The teacher survey was created by the research team to gather (a) demographics, (b) frequency of communication between APE teachers and parents of students with disabilities, (c) priority rankings of curriculum content in physical education for students with DS, and (d) priority ratings of curriculum content in physical education for students with DS. The teacher survey was designed for both GPE and APE teachers with the one difference being that only APE teachers answered section (b) frequency of communication between APE teachers and parents of students with disabilities. Section (a) requested demographic information on the GPE and APE teachers. This information requested gender, age, if they were currently a full-time teacher, what percent they taught both GPE and APE, what level of education they primarily taught, and if they held a Wisconsin 860 or Minnesota 8700.5502 license in APE. If the participant answered yes to holding a license in APE they were asked to answer section (b) and estimate the amount of times in an academic school year that they communicated with the parents of a student with a disability (not specifically DS) via phone, letter, email, or in-person. This question was asked in this way to avoid the chance of APE teachers not having any students with DS on their case load. A note accompanied the question that provided teachers quick examples of how many combined times throughout a school year they might communicate with parents.

Both GPE and APE teachers were asked to answer questions in section (c) priority rankings of curriculum content in physical education for students with DS. Teachers had to place content areas in rank order, using 1 for the most important and a 12 for the least important content area for a student with DS. The 12 content areas were locomotor skills, non-locomotor skills, object control skills, health-related physical fitness, social skills in physical education, transitioning from school-based to community-based programming, team sports, individual sports, aquatics, educational gymnastics/creative movement/dance, adventure education/outdoor pursuits, and physical activity video games. A note was included for teachers to reference a definition of each content area that was highlighted in blue text. To access the definition the teacher had to hold their cursor over the blue content area and a description of the content area along with examples would appear on screen. Section (d), priority ratings of curriculum content in physical education for students with DS, was the last section for teachers to complete. Teachers used screen sliders to rate the 12 content areas by moving the analog web sliders from side to side to quantitatively express their priorities of each content area for students with DS from 0 (not a priority) to 100 (highest priority) for each content area. The content areas were the same 12 areas as section (c) and again the teachers could scroll and hold their cursor over a blue highlighted content area for a description and examples of that content area.

Parent Survey

The parent survey was created by the research team to gather (a) demographics, (b) frequency of communication between parents of students with DS and their APE teachers, (c) priority rankings of curriculum content in physical education for students with DS, and (d) priority ratings of curriculum content in physical education for students with DS.

Section (a) requested demographic information on the parents and their child with DS. This information revealed the parents gender, age, their relationship to the student with DS, the gender of their child with DS, the age of their child with DS, and the current level of education their child with DS was receiving. The parents were then asked to answer section (b) and estimate the amount of times in an academic school year that they communicated via phone, letter, email, or in-person with their child's APE teacher. A note accompanied the question that provided parents with examples of how many times throughout a school year they communicate with the APE teacher.

Parents were then asked to answer section (c) priority rankings of curriculum content in physical education for students with DS. The parent had to place each content area in rank order, using 1 for the most important and a 12 for the least important content area for their child with DS. The 12 content areas were locomotor skills, non-locomotor skills, object control skills, health-related physical fitness, social skills in physical education, transitioning from school-based to community-based programming, team sports, individual sports, aquatics, educational gymnastics/creative movement/dance, adventure education/outdoor pursuits, and physical activity video games. A note was included for the parent to read the definition of each content area that was highlighted in blue text. When the parent held their cursor over the content area, a description of the content area along with examples appeared up on the screen. Section (d), priority ratings of curriculum content in physical education for students with DS, was the last section that the parent was asked to complete. Parents used analog web sliders to rate the 12 content areas by moving the analog web sliders from side to side to express their priorities of each content area for their child with DS from a 0 (not a priority) to 100 (highest priority) for

each content area. The content areas were the same 12 areas as section (c) and again the parents could scroll and hold their mouse cursor over the highlighted content area for a description and examples of that content area.

Reliability of Parent and Teacher Surveys

A Pearson Product-Moment Correlation coefficient was used to determine the internal consistency of sections (c) and (d) of both survey's. A high and significant association ($r = .78$, $p < .001$) was found between these sections.

Statistical Analysis

Statistical analyses were completed using Microsoft Excel 2007 and the Statistical Package for the Social Sciences (SPSS 17.0, Inc., Chicago, IL). Annual mean frequency of communication between parents and APE teachers was calculated using descriptive statistics in SPSS. Mean ranking and rating scores from sections (c) and (d) on both parent and teacher surveys were also calculated using descriptive statistics in SPSS. Data from sections (c) and (d) on both parent and teacher surveys were combined and the continuous data from section (d) were converted into rankings similar to data in section (c). These two sets of data were used in a Pearson Product-Moment Correlation coefficient to determine the internal consistency of sections (c) and (d) of both survey's combined.

RESULTS

A total of 93 APE teachers, 16 GPE teachers, and 53 parents of children with DS completed useable surveys. The data presented in this section are from surveys that were fully completed.

Frequency of Communication between Parents and APE Teachers

The mean frequency of communication with APE teachers reported by the 54 parents of children with DS was 5 times per academic year. The mean frequency of communication with parents of children with disabilities reported by the 108 APE teachers was 9 times per academic year. Using a Wilcoxon test, a non-parametric test similar to a t-test, a significant difference ($p < .001$) was found between the responses of the parents of children with DS and the APE teachers.

Priority Rankings of Curriculum Content

Fifty three parents of children with DS, 93 APE teachers, and 16 GPE teachers completed the priority rankings of physical education curriculum content. The mean rankings for each of the 12 curriculum content areas for parents, APE, and GPE teachers are shown in Table 1. Each group is broken down by level of education for parents (child's current grade level in school) and for teachers (current grade level taught). Parents reported their child's current level of education and each teacher reported the primary level of education in which they currently teach. The ranking scale indicates an inverse relationship with priority of the content area. The lower the mean ranking, lowest

being a 1, the higher priority that content area was for that subject group. The higher the mean ranking score, 12 being the highest, the lower priority that content area was for that subject group.

Table 1. Parent, APE, and GPE Mean Rankings (1-12) on Curriculum Content

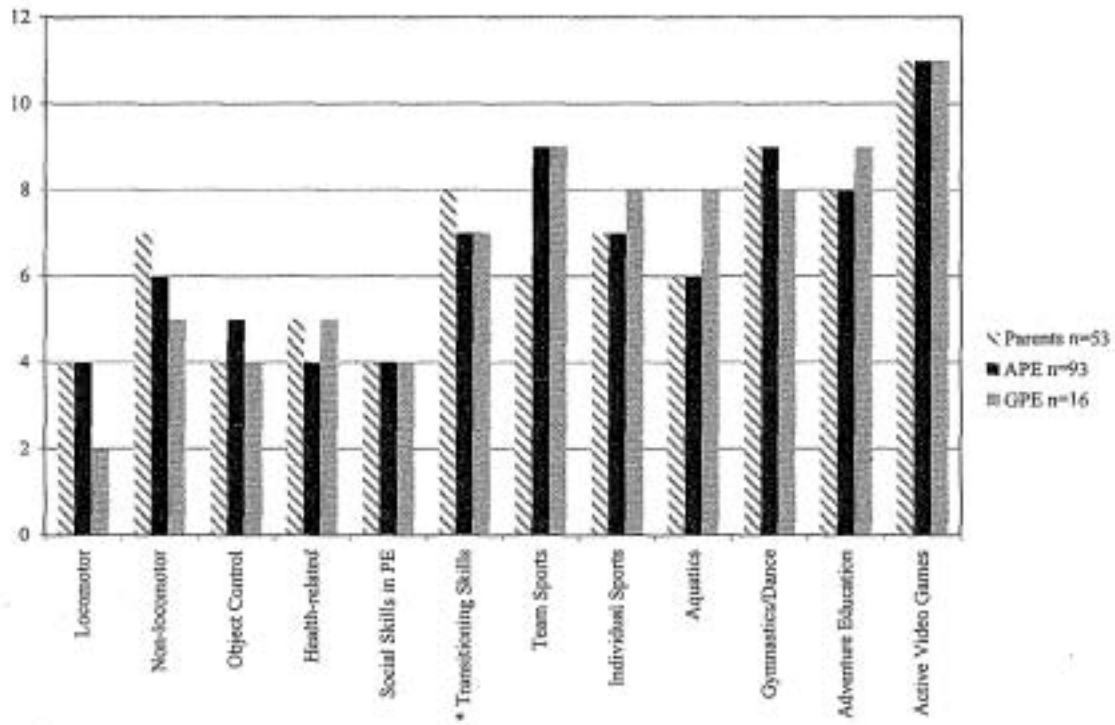
Participants	Locomotor Skills	Non-locomotor Skills	Object Control Skills	Health-related Physical Fitness	Social Skills in PE	Transitioning into community based programs	Team Sports	Individual Sports	Aquatics	Educational Gymnastics/Dance	Adventure Education	Physically Active Video Games
Parents (total) n = 53	4	7	4	5	4	8	6	7	6	9	8	11
Early Childhood n = 6	4	7	4	3	5	7	7	6	5	8	9	12
Elementary n = 22	3	6	5	6	3	8	5	7	7	9	8	11
Secondary n = 25	5	7	4	4	4	9	6	6	5	9	8	10
APE (total) n = 93	4	6	5	4	4	7	9	7	6	9	8	11
Early Childhood n = 4	4	5	3	5	3	7	9	8	6	11	8	12
Elementary n = 50	4	6	4	5	3	7	9	7	7	8	8	10
Secondary n = 31	5	7	6	3	4	5	8	7	5	9	8	11
Combination n = 8	2	4	3	4	5	8	8	6	8	10	9	11
GPE (total) n = 16	2	5	4	5	4	7	9	8	8	8	9	11
Elementary n = 11	2	4	4	4	3	7	10	8	8	9	9	11
Secondary n = 5	2	7	2	7	4	7	8	8	7	6	9	10
All Teachers n = 119	4	6	5	4	4	7	9	7	6	9	8	11
All Participants n = 172	4	6	4	4	4	7	8	7	6	9	8	11

Note: 1 = high priority; 12 = low priority

Results showed that GPE teachers prioritized locomotor skills as a higher priority with a mean rank of 2 than APE teachers and parents with a mean rank of 4. The only content area that differed in mean ranking scores across each group was non-locomotor skills as parents ranked it as 7, APE as 6, and GPE as 5. The biggest difference found between the parents and the teachers was on team sports. Parents mean ranking for team sports was 6 while both APE and GPE teachers mean ranking was 9 for team sports. GPE teachers reported a mean ranking of 8 for aquatics while both parents and APE teachers

ranked aquatics as 6. The other content areas were similar in ranking means. Figure 1 presents the mean ranking data in bar graph form.

Figure 1. Parent, APE, and GPE Mean Rankings (1-12) on Curriculum Content



Note: * Transitioning from school-based to community-based programs.

All groups combined ranked locomotor skills, object control skills, health-related physical fitness, and social skills in physical education as the most important content areas in physical education for students with DS. Team sports, educational gymnastics/creative movement/dance, adventure education/outdoor pursuits, and physically active video games were the three highest ranked content areas and therefore considered to be the relatively low priority areas in physical education by all three groups.

Priority Ratings of Curriculum Content

Fifty three parents of children with DS, 93 APE teachers, and 16 GPE teachers responded to priority ratings of curriculum content in physical education. The mean ratings for each of the 12 curriculum content areas for parents, APE, and GPE teachers are

Table 2. Parent, APE, and GPE Mean Slider Scale Ratings (0-100) on Curriculum Content

Participants		Locomotor Skills	Non-locomotor Skills	Object Control Skills	Health-related Physical Fitness	Social Skills in PE	Transitioning into community based programs	Team Sports	Individual Sports	Aquatics	Educational Gymnastics/Dance	Adventure Education	Physically Active Video Games
Parents (total)	n = 53	78	62	72	79	80	58	66	59	68	35	57	22
Early Childhood	n = 6	92	74	85	91	83	76	56	79	84	55	63	18
Elementary	n = 22	84	64	77	72	79	46	69	55	68	30	54	19
Secondary	n = 25	69	57	65	82	80	63	65	57	55	36	59	25
APE (total)	n = 93	71	60	70	77	82	73	43	61	68	42	56	29
Early Childhood	n = 4	82	76	82	72	90	79	53	70	78	38	63	28
Elementary	n = 50	71	60	71	75	81	71	41	58	65	43	54	29
Secondary	n = 31	66	51	63	81	81	75	44	62	77	41	60	33
Combination	n = 8	81	77	88	75	80	79	45	70	46	33	48	19
GPE (total)	n = 16	89	75	76	78	89	74	48	59	68	58	60	40
Elementary	n = 11	93	84	78	84	91	72	45	58	77	61	65	42
Secondary	n = 5	79	55	72	64	81	78	53	59	48	52	50	36
All Teachers	n = 113	73	61	71	78	83	74	43	59	67	43	56	30
All Participants	n = 163	75	62	71	78	82	68	50	59	67	41	56	28

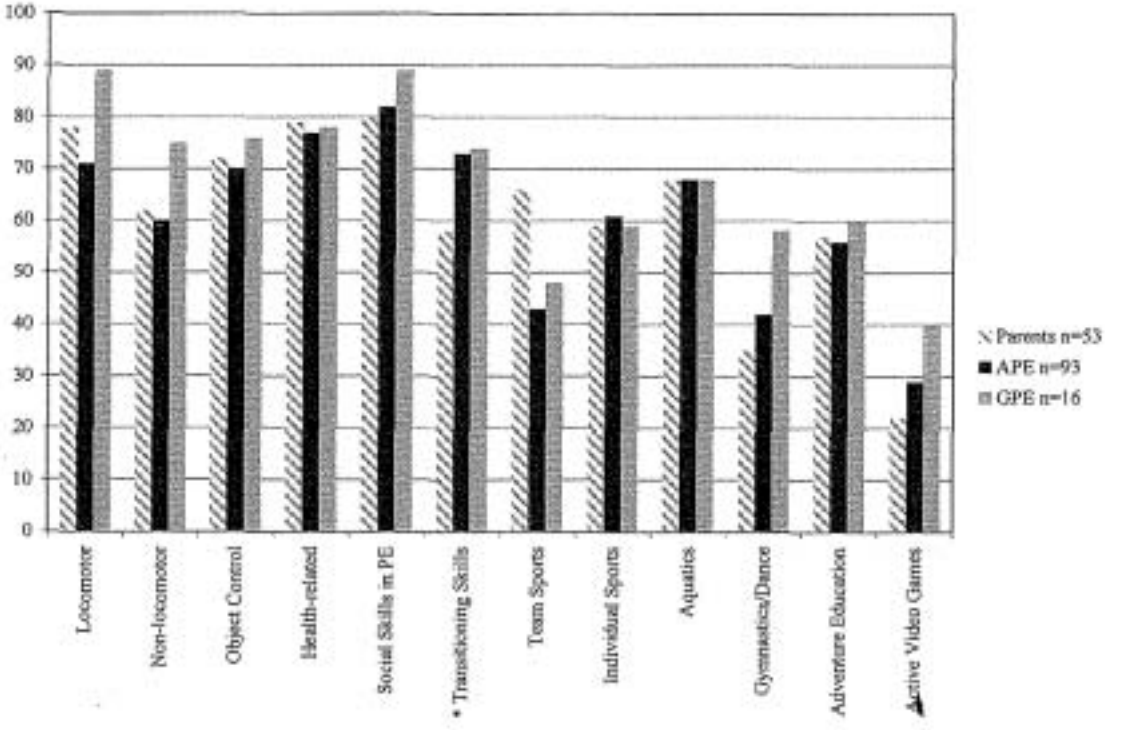
Note: The higher the rating score, the higher priority that content area is in PE.

shown in the table 2. Each rating is based on a scale from 0-100, with 0 labeled not a priority and 100 labeled highest priority. Each group is further broken down by level of education subcategories. Parents reported their child's current level of education and each teacher reported the primary level of education in which they currently teach. The mean ratings had a positive relationship with the priority level of each content area. The higher the rating, the higher the priority level was for that content area. If a participant placed a

100 for a content area, that participant felt that content area was the highest priority for their child or student in physical education.

Object control skills, health-related physical fitness, social skills in physical education, individual sports, aquatics, and adventure education/outdoor pursuits all have high levels of agreement among the three groups of participants. As shown in Figure 2, all three groups rated aquatics a 68 out of 100 respectively, which demonstrates an extremely high level of agreement between teachers and parents of children with DS.

Figure 2. Parent, APE, and GPE Mean Slider Scale Ratings (0-100) on Curriculum Content



General physical education teachers rated locomotor skills as an 89 while APE teachers rated locomotor skills at a 71. Parents rated locomotor skills as a 78 which was in the middle of GPE and APE teacher's ratings. APE teachers and parents rated non-locomotor skills similarly with a mean rating of 62 for parents and 60 for APE teachers.

GPE teachers rated non-locomotor skills at a 75 which was much higher than parents and APE teachers. The biggest differences between groups for the ratings of each content area again was in the transitioning from school-based to community-based programming and team sports content areas. Parents reported the mean rating for transitioning from school-based to community-based programming as a 58 while APE teachers reported a 73 and GPE reported a 74. The opposite occurred for the mean ratings on team sports. Parents reported a mean rating of 66 while APE teachers reported a 43 and GPE teachers reported a 48 for team sports.

All groups combined rated social skills in physical education as the most important content area in physical education for a student with DS. Health-related physical fitness, locomotor skills, and object control skills closely followed social skills in physical education as the highest rated content area by all participants combined. Physically active video games was the lowest rated content area. Educational gymnastics/creative movement/dance, adventure education/outdoor pursuits, and team sports were the next lowest prioritized content areas in physical education for students with DS by parents, APE, and GPE teachers.

DISCUSSION

The purpose of this study was to compare the physical education program content priorities of adapted physical educators (APE), general physical educators (GPE), and parents of children with DS. This study also determined how often the parents of children with DS and their child's physical education teachers (APE and GPE) communicated with each other.

Results indicate that parents felt they are communicating less frequently with their child's APE teacher than the communication frequency that APE teachers reported. Also, frequency of communication reported by APE teachers may have reflected communication with the parents of a student with a disability, but not specifically with parents of a child with DS. There is a possibility that APE teachers communicate with the parents of students with autism, cerebral palsy, or spina bifida more or less frequently than to the parents of a student with DS.

A study by Columna et al. (2008) found that "…parents deemed it important for professionals who provide adapted physical education services to continually communicate with the parents." The findings in this study suggest that while communication is occurring between parents and APE teachers, the reported frequency of reported communication between parents and APE teachers does not match. The frequency of communication between parties should be established during early meetings

in the school year. This would allow the APE teacher and the parents to be aware of each others expectations for frequency and forms of communication along with the content that will be discussed during communication, such as progress reports and desired curriculum content in APE.

In addition to communication, APE, GPE, and parents of children with DS should agree on the curriculum content in physical education for students. Interestingly, participants who ranked all 12 content areas had much disagreement on team sports in physical education for students with DS. Parents ranked team sports as a much higher priority than APE and GPE teachers. These parents may have felt that team sports lead to more appropriate social interactions with nondisabled peers during the school years. Team sports may also lead to more positive social interactions with siblings, friends, or other children in the neighborhood. Teachers may have felt that team sports are not a high priority in physical education for students with DS because they doubt that those students will continue to be physically engaged in team sports in and after high school.

The results from the priority ratings section were similar to the results from the priority ranking section. The largest difference in priority ratings was reported on team sports. Parents rated team sports a much higher priority than teachers. These parents may have experienced many team sports in physical education throughout their school years which may have impacted their view points on the importance of team sports for their child.

Teachers ranked transitioning from school-based to community-based physical education programming as a higher priority than parents. Parents of children with DS that were currently enrolled in secondary education unexpectedly ranked transitioning from

school-based to community-based programming a lower priority than parents of children with DS at the early childhood and elementary levels. These findings may be a result of parents misinterpreting what they surveys meant by transitioning from school-based to community-based physical education programming. The parent findings in this study contrast to the findings by Columna et al. (2008) that parents reported that they would like a smoother transition for their child within the school and from school into the community. The parents felt that the transition of grade levels from year to year often interrupted their child's goals and progress in physical education. Parents in the study by Columna et al. (2008) reported that was it important to give their child with a disability more opportunities to be physically active within the community.

The priorities of the APE teachers were completely opposite to the parents in this study as the secondary level teachers ranked transitioning from school-based to community-based programming as a much higher priority than teachers at the early childhood and elementary levels. It appears that in general, teachers valued the effects of physical education over the lifespan of a student rather than during the school years more strongly than parents. The parents in this study may have felt that it was more important for their child with DS to experience an immediate effect from their physical education instead of a lifelong physically active approach.

The second largest disagreement on priority ratings of content areas in physical education was transitioning from school-based to community-based programming. Teachers rated transitioning a much higher priority in physical education than the parents of students with DS. In a related study, Columna et al. (2008) found that parents lacked knowledge regarding special education services (including APE) provided to their

children with disabilities. Columna et al. (2008) reported that parents did not know how APE could motivate their child to engage in physical activity more frequently in the community. This is a good example of the necessity of effective communication between APE teachers and the parents of children with DS as both sides need to communicate effectively and often in order to capitalize on opportunities for successful physical activity in community settings.

Peterson et al. (2007) reported that self-efficacy and social support have strong correlations to physical activity for those with cognitive disabilities. The involvement of family in the transition from adolescence to adulthood for persons with disabilities plays a vital role for active and successful transition and long-term physical well being of that individual. As persons with DS get older, their health tends to decline at faster rates than individuals without DS (Peterson et al., 2007). The findings from Peterson et al. (2007) emphasize the importance of social support from family and friends during the transition from school-based to community-based programming.

The results in this study reveal that social skills in physical education was rated the highest priority of all 12 content areas by all three groups. Parents of elementary and secondary aged children rated social skills in physical education at almost the exact same priority that elementary and secondary APE teachers rated social skills in physical education. High agreement between parents and APE teachers was prevalent in the ratings of the 12 content areas. It was interesting that social skills in physical education was the highest rated content area. Parents and teachers must have felt an importance for students with DS to be able to socialize and have appropriate interactions with others. Social interactions among school-aged peers was a high priority in a student's APE as

reported by Columna et al. (2008). Positive social interactions help individuals with disabilities to enjoy participation in physical activities with peers. Learning how to interact appropriately with others in a game like setting, where winning and losing often take place can be extremely beneficial for students with DS. These interactions with their peers can help prepare them for other typical life situations such as working with a large group of people in various employment settings.

With all three groups rating social skills as the highest priority in physical education it would be interesting to see if parents and teachers will start implementing more goals in the affective domain on the IEP's of students with DS. The majority of the IEP goals made in physical education are in the psychomotor domain, which would include most of the content areas in this study other than social skills and transitioning from school-based to community-based programming. Since parents and teachers prioritized social skills in physical education above the other 11 content areas listed in this study, then there should be more of an emphasis on writing affective as well as psychomotor goals on the IEP's of students with DS.

After social skills in physical education, health-related physical fitness was rated the second highest priority in physical education by parents and APE teachers. Locomotor skills was the second highest rated content area by GPE teachers and the third highest rated content area by parents and APE teachers. Data from this study indicate that with both health-related physical fitness and locomotor skills being high priorities across all three groups, that teachers and parents are aware of common characteristics of DS and realize the benefits of being physically and emotionally fit. Frey et al. (2008) suggested that certain genetic traits found in persons with DS can impact physiologic, anatomic, and

performance variables of engaging in physical activity. Individuals with DS are less physically fit than their peers with cognitive disabilities without DS. This maybe due to neurological complications related to DS. The study by Frey et al. (2008) shows that individuals with cognitive disabilities demonstrate lower levels of cardiovascular fitness, muscular strength, and higher levels of obesity than their nondisabled peers. It is encouraging to see parents and both groups of teachers consider health-related physical fitness and locomotor skills, which are valuable skills needed to achieve and maintain good health-related physical fitness, as a top priority in physical education for students with DS.

While aquatics was not rated as a top priority in this study it was interesting to see that aquatics was rated equally by all three groups of participants. Aquatics was rated in the middle of the ratings among the 12 content areas. Parents, APE, and GPE teachers placed aquatics as a higher priority than other content areas such as physically active video games, adventure education, gymnastics/dance, individual sports, team sports, and non-locomotor skills. However, these three groups rated locomotor skills, object control skills, health-related physical fitness, social skills in physical education, and with the exception of parents transitioning from school-based to community-based programming as higher priorities in physical education for students with DS than aquatics. It appears that all three groups prioritized content areas that covered a variety of common skills used in every day life such as locomotor skills, before aquatics, but prioritized aquatics over all of the more specified content areas such as gymnastics or physically active video games. The aquatics ratings showed a big difference in priority levels among the levels of education for each group of participants. However, the mean rating for each group came

out to be the same as the other groups, meaning there was a high level of agreement on aquatics between parents and teachers.

Parents, APE, and GPE teachers were also in agreement on adventure education and individual sports as content areas in physical education as all three groups rated these as relatively low priority in physical education. In the Midwest, adventure education is a popular content area in physical education that is advancing in technology and pedagogy allowing for more participation for students with disabilities including DS. Individual sports were rated by both groups of teachers as a higher priority than team sports. It can be assumed that teachers felt that teaching students with DS individual sports over team sports can be more beneficial for these students over the course of their lifetime. Most individual sports can be played independently and at the ability level of that individual rather than organized team sports that can be hard to find appropriate levels of competition especially after the school years.

Both non-locomotor and object control skills were relatively high priority ratings by all three groups. Object control skills was rated as the fourth highest content area by all participants. With all three groups in agreement on object control skills in physical education it is assumed that the groups felt that skills such as catching and throwing are important for individuals with DS to learn and can be base skills for other content areas such as team and individual sports. A similar assumption can be made for non-locomotor skills as they are often base skills that are taught and once mastered lead to other more advanced skills and sports. This study found that parents of elementary aged children and elementary APE teachers rated both non-locomotor and object control skills considerably higher than parents of secondary aged children and secondary APE teachers. It was also

interesting to see that non-locomotor skills was rated much higher by GPE teachers than parents or APE teachers. Similar data were found on gymnastics/creative movement/dance as GPE teachers rated that content area much higher than parents and APE teachers. This may be a result of a low sample size of GPE teachers as only 16 GPE teachers completed the survey.

All three groups were in agreement on physically active video games in physical education as the lowest priority of the 12 content areas listed in the study. Parents rated physically active video games even lower than APE and GPE teachers. The participants may have not been familiar with the technology of physically active video games such as Wii Fit for the Nintendo Wii gaming console or just felt that they would rather see their child or a student with DS engaged in physical activity through real life situations.

Over the past two or three decades video gaming has been for the most part a sedentary activity that has been considered by the majority of adults as a negative influence on children. Now there are a considerable amount of physically active video games that motivate players to engage in physical activity during game play, often times without them realizing it. A study by Temple and Walkley (2007) found that motivation was the first and foremost topic that was identified by the researchers. Parents and staff felt that individuals with intellectual disabilities (ID), such as DS, lacked intrinsic motivation to participate in physical activity on a regular basis. It was reported that the adults with ID preferred to live sedentary lifestyles and engage in sedentary activities rather than physically active ones. Prior negative experiences with physical activity were thought to play a large role in the inactivity of the individuals with ID. For the adults who exercised and were out of breath or experienced sore muscles following physical activity

often decided not to do those activities again (Temple & Walkley, 2007). Physically active video games are motivating, rewarding, can be played at any time and in any environment, and they are not likely to cause extreme fatigue or muscle soreness that would discourage students with DS from playing again.

Results of a study by Rimmer, Heller, Wang, and Valerio (2004) revealed that 69% of the 52 participants with DS were obese (BMI over 30), and an additional 17% were overweight (BMI over 25). Although the majority of participants were either overweight or obese, the training group participants had significant gains in cardiovascular function, bench press, leg strength, and body weight when compared to the control group. Participants in this study may be aware of current research that reveal high rates of obesity among individuals with DS and obesity it associated with diseases such as: Type II diabetes, heart disease, and arthritis (Rubin, Rimmer, Chicoine, Braddock, & McGuire, 1998). A review by Fernhall and Pitetti (2001) found that life expectancy for populations with cognitive disabilities is lower than other members of the community. The most common causes of death for these individuals are cardiovascular and pulmonary complications. Furthermore, individuals with disabilities usually do not partake in physical activity on a regular basis, leaving them sedentary and at high risk of early mortality.

These previous statistics may have influenced the priority ratings and rankings on curriculum content areas in physical education for students with DS as the most pressing needs for these students appears to be physical activity. Parents, APE, and GPE teachers may have rated locomotor skills and health-related physical fitness as much higher priorities in physical education than adventure education, gymnastics/creative movement,

physically active video games for students with DS because the former are perceived to emphasize moderate to vigorous physical activity on a regular basis.

CONCLUSION

Communication among APE teachers and parents is imperative to ensure that students have opportunities to succeed in physical education. Communication on the importance of transitioning from school-based to community-based physical education and team sports between teachers and parents of children with DS is the most pressing issue that the data in this study revealed. Disagreement between parents and teachers was found on two content areas, transitioning from school-based to community-based programming and team sports. The majority of data revealed in this study found high agreement levels between parents, APE, and GPE teachers on most physical education curriculum content areas for students with DS. The content arcas in high agreement on priority levels among the three groups were object control skills, health-related physical fitness, social skills in physical education, individual sports, aquatics, and adventure education/outdoor pursuits.

Parents and physical educators (APE and GPE) need to communicate more on certain content areas that are important for students with DS. Physical educators should fully explain each content area and its significance for students with DS. After this communication takes place, it would be easier for parents to decide on content areas that are most relevant for their child with DS, they might also feel more aware on the different areas of physical education that have changed drastically from when they were in physical education.

Further research should be conducted to investigate why parents prioritize teams sports much higher than teachers and why teachers prioritize transitioning from school-based to community-based programming much higher than parents. It would also be interesting to collect data to find if there are other content areas that parents and teachers would highly prioritize in physical education. This may include finding out what APE or GPE teachers have done in the past with their students with DS that either worked well or content areas that were not successful. It is recommended that further research be conducted to determine how communication is taking place, when during the school year it is taking place, or what is actually being communicated between teachers and parents of children with DS. Lastly, it would be interesting to determine if increased communication between parents of children with DS and their child's physical education teacher affect their performance in physical education.

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APPENDIX A

COVER LETTERS

Dear Parents:

I am a graduate student in Adapted Physical Education at the University of Wisconsin-La Crosse. I am conducting a study to compare the physical education program content priorities of adapted physical educators (APE), general physical educators (GPE), and parents of children with Down syndrome (DS).

Your assistance is needed with this study. Your experiences as a parent of a child with DS can contribute significantly to this work. The survey should only take 15 minutes, and will ask for some information about you and your child followed by a list of physical education curriculum content areas for you to prioritize for your child.

The completion and return of the survey conveys your informed consent to participate. The completed surveys will be confidential. All surveys will be kept in a locked filing cabinet and destroyed after data analysis. This research project has been reviewed and approved by the Institutional Review Board for the Protection of Human Subjects at the University of Wisconsin-La Crosse.

We appreciate your time and thank you for your assistance. If you have questions regarding the survey, please contact me at the Center on Disability Health and Adapted Physical Activity (608-785-8740, shutt.matt@students.uwlax.edu) or contact Dr. Garth Tymeson at 608-785-5415.

Sincerely,

Matthew Shutt, Graduate Student
Adapted Physical Education

Garth Tymeson, Ph.D., Professor
Adapted Physical Education

Dear Adapted and General Physical Educators:

I am a graduate student in Adapted Physical Education at the University of Wisconsin- La Crosse. I am conducting a study to compare the physical education program content priorities of adapted physical educators (APE), general physical educators (GPE), and parents of children with Down syndrome (DS).

Your assistance is needed with this study. Your extensive knowledge as a physical educator can contribute significantly to this work. The survey should only take 20 minutes, and will ask for some demographic information about you followed by a list of physical education curriculum content areas for you to prioritize for a student with DS.

Your participation is completely voluntary and you may choose not to answer certain questions. The completion and return of the survey conveys your informed consent to participate. The completed surveys will be kept confidential. Your identity and the identity of your school district will not be known by anyone. All surveys will be kept in a locked filing cabinet and destroyed after data analysis. This research project has been reviewed and approved by the Institutional Review Board for the Protection of Human Subjects at the University of Wisconsin-La Crosse.

We appreciate your time and thank you for your assistance. If you have questions regarding the survey, please contact me at the Center on Disability Health and Adapted Physical Activity (608-785-8740, shutt.matt@students.uwlax.edu) or contact Dr. Garth Tymeson at 608-785-5415.

Sincerely,

Matthew Shutt, Graduate Student
Adapted Physical Education

Garth Tymeson, Ph.D., Professor
Adapted Physical Education

APPENDIX B

ONLINE SURVEYS

down syndrome

Demographics

T1

Parent Priorities of Physical Education Curriculum Content

Thank you for participating in our study about physical education curriculum content for children with Down syndrome. Your participation should take about 10 minutes. All of the information you submit will be annonymous and only group data will be used in publications or presentations. By clicking the "submit" button at the end of the survey, you are giving your informed consent to participate in this study. Again, thank you for your time and valuable information.

Part 1: Information about you and your child

Q2 **Your gender:**

- ○ Male
- ○ Female

Q3 **Your age:**

_____

Q4 **Your relationship to child with Down syndrome:**

Mother

Display This Question:
If Your relationship to child with Down syndrome: **Other** is **Selected**

Q5 **What is your relationship to the child with Down syndrome?**

_____

Q6 **Gender of your child with Down syndrome:**

- ○ Male
- ○ Female

Q7 **Date of birth of your child with Down syndrome (mm/dd/yyyy):**

_____

Q18 **What is your child's current level of education?**

Preschool (early childhood)

Display This Question:
If What is your child's current level of education? **Other** Is **Selected**

Q9 **Please explain "other"**

Frequency

T2 ## Part 2: Frequency of Communication with Adapted Physical Education Teachers

Q10 Estimate how many times in an academic year (not including summer) that you communicate by phone, letter, email, or in-person with your child's adapted physical education teacher regarding his/her physical education program? Place your number response on the line below.

Note: The average academic school year is 38 weeks long. If your average communication with your child's adapted physical educator is once a week, your response might be 38. If your average communication with your child's adapted physical educator is once every two weeks, your response might be 19. The average number of months in an academic year is 9. If your average communication with your child's adapted physical educator was once a month, your response might be 9.

Ranks

T4 ## Part 3: Priority Ranking of Physical Education Curriculum Content

Q11 **Instructions:** Rank order the following physical education content areas from the most to least important for your child. Use a "1" to indicate the most important item, a "2" for the second most important, and so on to 12 for the least important. Your ranking of content areas should be for your child with Down syndrome across his/her entire PK-12 educational experience, not for any particular age or grade level.

Note: For definitions of the content areas below, please hold your mouse cursor over the blue titles.

Locomotor Skills

Non-locomotor Skills

Object Control Skills

Health-related Physical Fitness

Social Skills in Physical Education

Transitioning from School-based to Community-based Programming

Team Sports

Individual Sports

Aquatics

Educational Gymnastics/Creative Movement/Dance

Adventure Education/Outdoor Pursuits

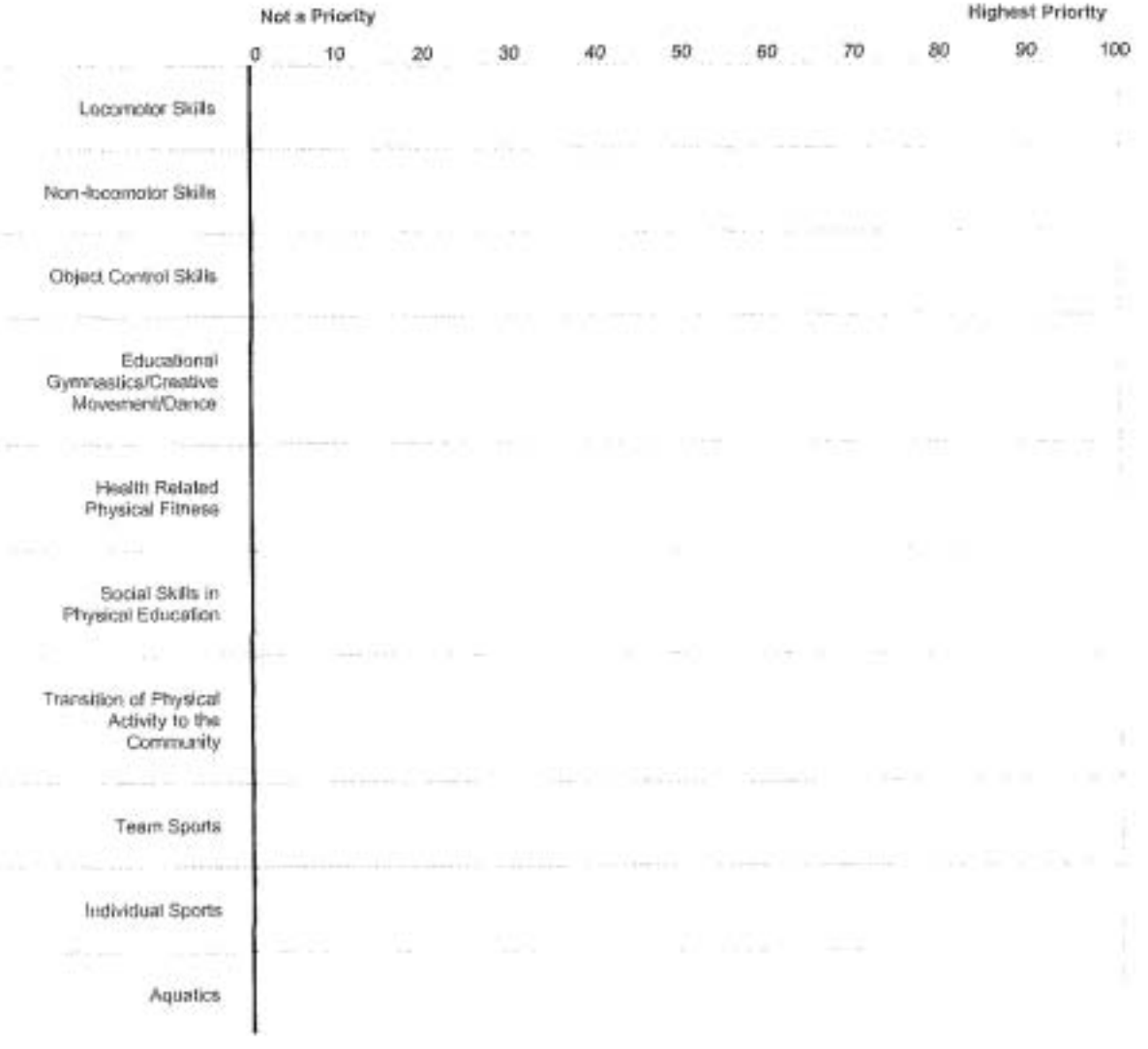
Physical Activity Video Games

Priority Sliders

T5 ## Part 4: Priority Ratings of Physical Education Curriculum Content

Instructions: Beside each category is a scale for prioritizing the content area. Please consider each content area as it relates to your child with Down syndrome and his or her future development of skills and knowledge. Your ranking of content areas should be for your child with Down syndrome across his/her entire PK-12 educational experience, not for any particular age or grade level.

Q12 **Please use your mouse to slide the indicators below to their most appropriate positions.**




Adventure Education/Outdoor Pursuits
Physical Activity Video Games

down syndrome - teacher

Demographics

T1

Physical Education Teacher Priorities of Curriculum Content for Students with Down Syndrome

Thank you for participating in our study about physical education curriculum content for students with Down syndrome. Your participation should take about 10 minutes. All of the information you submit will be anonymous and only group data will be used in publications or presentations. By clicking the "submit" button at the end of the survey, you are giving your informed consent to participate in this study. Again, thank you for your time and valuable information.

Part 1: Information about you (the teacher)

Q2 **Your gender:**

- ○ Male
- ○ Female

Q3 **Your age:**

_____

Q4 **Are you currently a full time teacher in a PK-12 school district?**

- ○ Yes
- ○ No

Q5 What percent full-time equivalent (FTE) do you currently teach **general physical education** (GPE)?

_____

Q6 What percent full-time equivalent (FTE) do you currently teach **adapted physical education** (APE)?

_____

Q7 **At what level of education do you primarily teach?**

Preschool (early childhood) ⇕

Display This Question:
If At what level of education do you primarily teach? **Other** Is **Selected**

Q8 **Please explain "other"**

Frequency

T2 ## Part 2: Additional Physical Education Certifications

Q9 **Do you hold a Wisconsin 860 (adapted PE) or Minnesota 8710.53 (developmental adapted PE) license?**

- ○ Yes
- ○ No

Display This Question:
If Do you hold a Wisconsin 860 (adapted PE) or Minnesota 871... **Yes** **Is** **Selected**

Q10 **Please indicate which license you hold.**

- ○ Wisconsin 860 (adapted PE)
- ○ Minnesota 8710.53 (developmental adapted PE)

Display This Question:
If Do you hold a Wisconsin 860 (adapted PE) or Minnesota 871... **Yes** **Is** **Selected**

Q11 ### Frequency of Communication with Parents

Estimate the average number of times in an academic year (not including summer) that you communicate by phone, letter, email, or in-person with the parents of each student with disabilities to discuss aspects related to the child's physical education. Place your number response on the line below.

Note: *The average academic school year is 38 weeks long.* If your average communication with a student's parent is once a week, your response might be 38. If your average communication with a student's parent is once every two weeks, your response might be 19. The average number of months in an academic year is 9. If your average communication with your student's parent was once a month, your response might be 9.

Priority Ranks

T3 ## Part 3: Priority Ranking of Physical Education Curriculum Content

Q12 **Instructions:** Rank order the following physical education content areas from the most to least important for **students with Down syndrome.** Use a "1" to indicate the most important item, a "2" for the second most important, and so on to 12 for the least important. Your ranking of content areas should be for students with Down syndrome

across the entire PK-12 educational experience, not for any one student or at any particular grade level.

Note: For definitions of the content areas below, please hold your mouse cursor over the blue titles.

Locomotor Skills

Non-locomotor Skills

Object Control Skills

Health-related Physical Fitness

Social Skills in Physical Education

Transitioning from School-based to Community-based Programming

Team Sports

Individual Sports

Aquatics

Educational Gymnastics/Creative Movement/Dance

Adventure Education/Outdoor Pursuits

Physical Activity Video Games

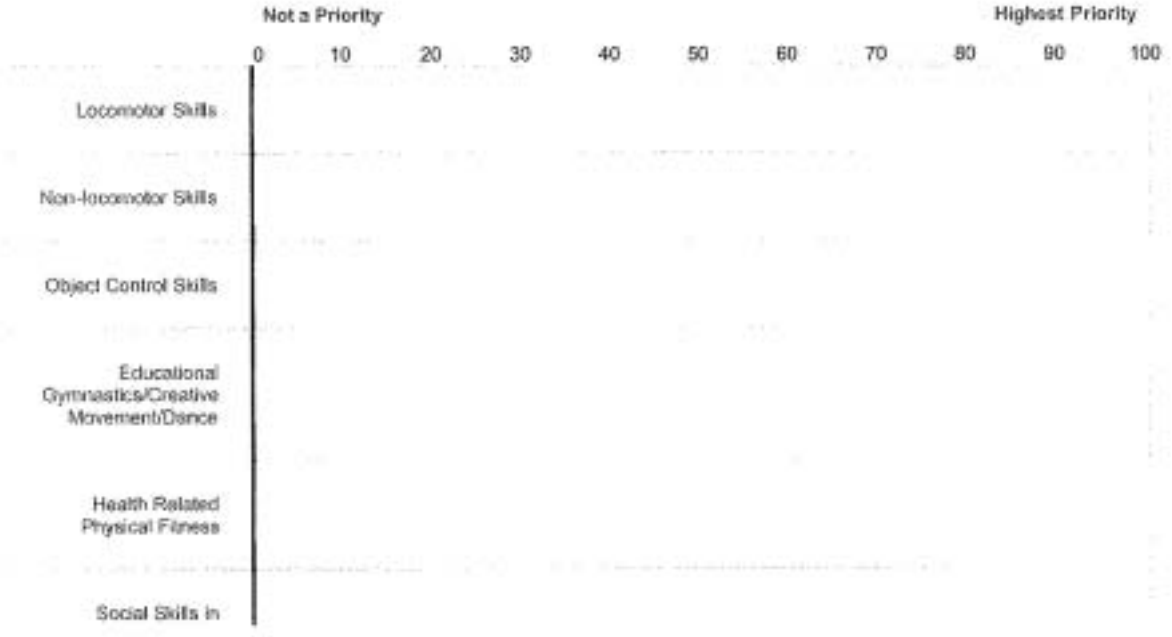
Block 3

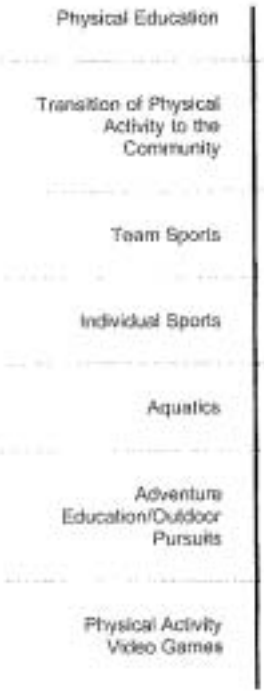
T4

Part 4: Priority Ratings of Physical Education Curriculum Content

Instructions: Beside each category is a scale for prioritizing the content area. Based on your knowledge and experience, please consider each content area as it relates to **students with Down syndrome** and his or her future development of skills and knowledge. Your ranking of content areas should be for students with Down syndrome across the entire PK-12 educational experience, not for any one student or at any particular grade level.

Q13 **Please use your mouse to slide the indicators below to their most appropriate positions.**




Physical Education
Transition of Physical Activity to the Community
Team Sports
Individual Sports
Aquatics
Adventure Education/Outdoor Pursuits
Physical Activity Video Games

APPENDIX C

KEY FOR CURRICULUM CONTENT AREAS

Key:

A. Locomotor Skills: includes patterns or movements by individuals to move from one place to another such as walking, running, galloping, leaping, hopping, and jumping.

B. Non-locomotor Skills: includes skills that do not require an individual to move anywhere such as twisting, turning, pushing, pulling, and landing.

C. Object Control Skills: includes skills such as underhand rolling, underhand throwing, overhand throwing, catching, dribbling, and kicking.

D. Health-related Physical Fitness: includes aspects of a healthy lifestyle and the prevention of disease related to a sedentary lifestyle. There are five components: muscular strength, muscular endurance, cardiovascular endurance, flexibility, and body composition or weight.

E. Social Skills in Physical Education: includes communication, interacting, and cooperating with students and teachers.

F. Transitioning from school-based to community-based programming: includes learning how to independently access out-of-school facilities in the community to engage in physical activity, including demonstrating appropriate social behaviors.

G. Team Sports: includes popular sports that involve three or more players per side such as soccer, baseball, and volleyball.

H. Individual Sports: includes popular sports that involve one player or teams of no more than two players such as golf, wrestling, tennis, and cross country running.

I. Aquatics: includes activities conducted in the water such as swimming, treading water, and water survival skills.

J. Educational Gymnastics/Creative Movement: *includes ability to repeat an action or* movement with regularity and in time to a particular pattern.

K. Adventure Education/Outdoor Pursuits: includes activities that can be performed in the outdoors such as hiking, bike riding, and snowshoeing.

L. Physical Activity Video Games- includes exercising using a gaming machine. Examples are the Nintendo Wii Fit or Dance Dance Revolution for Playstation.

APPENDIX D

PARENT CROSSTABS OF CONTENT RANKINGS

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Locomotor Skills Crosstabulation

			Locomotor Skills											Total
			1	2	3	4	5	6	7	8	9	10	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	1	2	0	1	0	0	1	0	1	0	0	6
		% within Locomotor skills	5.9%	40.0%	.0%	16.7%	.0%	.0%	12.5%	.0%	25.0%	.0%	.0%	11.3%
		% of Total	1.9%	3.8%	.0%	1.9%	.0%	.0%	1.9%	.0%	1.9%	.0%	.0%	11.3%
	2	Count	11	3	1	3	0	1	5	0	1	1	0	22
		% within Locomotor skills	64.7%	60.0%	33.3%	50.0%	.0%	100.0%	62.5%	.0%	25.0%	50.0%	.0%	41.5%
		% of Total	20.8%	1.9%	1.9%	5.7%	.0%	1.9%	9.4%	.0%	1.9%	1.9%	.0%	41.5%
	3	Count	5	2	2	2	5	0	4	1	2	1	1	25
		% within Locomotor skills	29.4%	40.0%	66.7%	33.3%	100.0%	.0%	50.0%	100.0%	50.0%	50.0%	100.0%	47.2%
		% of Total	9.4%	3.8%	3.8%	3.8%	9.4%	.0%	7.5%	1.9%	3.8%	1.9%	1.9%	47.2%
Total		Count	17	5	3	6	5	1	8	1	4	2	1	53
		% within Locomotor skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	32.1%	9.4%	5.7%	11.3%	9.4%	1.9%	15.1%	1.9%	7.5%	3.8%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Non-locomotor skills Crosstabulation

			Non-locomotor skills											Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	0	2	0	0	1	0	0	1	2	0	0	6
		% within Non-locomotor skills	.0%	.0%	28.6%	.0%	.0%	16.7%	.0%	.0%	33.3%	28.6%	.0%	.0%	11.3%
		% of Total	.0%	.0%	3.8%	.0%	.0%	1.9%	.0%	.0%	1.9%	3.8%	.0%	.0%	11.3%
	2	Count	0	2	1	3	4	3	1	4	1	2	1	0	22
		% within Non-locomotor skills	.0%	66.7%	14.3%	60.0%	80.0%	50.0%	33.3%	57.1%	33.3%	28.6%	33.3%	.0%	41.5%
		% of Total	.0%	3.8%	1.9%	5.7%	7.5%	5.7%	1.9%	7.5%	1.9%	3.8%	1.9%	.0%	41.5%
	3	Count	1	1	4	2	1	2	2	3	1	3	2	3	25
		% within Non-locomotor skills	100.0%	33.3%	57.1%	40.0%	20.0%	33.3%	66.7%	42.9%	33.3%	42.9%	66.7%	100.0%	47.2%
		% of Total	1.9%	1.9%	7.5%	3.8%	1.9%	3.8%	3.8%	5.7%	1.9%	5.7%	3.8%	5.7%	47.2%
Total		Count	1	3	7	5	5	6	3	7	3	7	3	3	53
		% within Non-locomotor skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.9%	5.7%	13.2%	9.4%	9.4%	11.3%	5.7%	13.2%	5.7%	13.2%	5.7%	5.7%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Object Control Skills Crosstabulation

			Object Control skills										Total
			1	2	3	4	5	6	7	8	10	11	
Child's Level of Education (1=Early	1	Count	0	1	1	2	1	0	0	1	0	0	6

Childhood, 2=Elementary, 3=Secondary)		% within Object Control Skills	.0%	7.7%	11.1%	33.3%	16.7%	.0%	.0%	33.3%	.0%	.0%	11.3%
		% of Total	.0%	1.9%	1.9%	5.8%	1.9%	.0%	.0%	1.9%	.0%	.0%	11.3%
	2	Count	0	7	5	1	1	5	2	1	0	0	22
		% within Object Control Skills	.0%	53.8%	55.6%	16.7%	16.7%	71.4%	33.3%	33.3%	.0%	.0%	41.5%
		% of Total	.0%	13.2%	9.4%	1.9%	1.9%	9.4%	3.8%	1.9%	.0%	.0%	41.5%
	3	Count	1	5	3	3	4	2	4	1	1	1	25
		% within Object Control Skills	100.0%	38.5%	33.3%	50.0%	66.7%	28.6%	66.7%	33.3%	100.0%	100.0%	47.2%
		% of Total	1.9%	9.4%	5.7%	5.7%	7.5%	3.8%	7.5%	1.9%	1.9%	1.9%	47.2%
Total		Count	1	13	9	6	6	7	6	3	1	1	53
		% within Object Control Skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.9%	24.5%	17.0%	11.3%	11.3%	13.2%	11.3%	5.7%	1.9%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Health-related Physical Fitness Crosstabulation

			Health-related Physical Fitness												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	4	0	0	0	0	0	1	1	0	0	0	0	6
		% within Health-related Physical Fitness	28.6%	.0%	.0%	.0%	.0%	.0%	33.3%	33.3%	.0%	.0%	.0%	.0%	11.3%
		% of Total	7.5%	.0%	.0%	.0%	.0%	.0%	1.9%	1.9%	.0%	.0%	.0%	.0%	11.3%
	2	Count	2	3	3	2	2	2	1	1	3	1	2	0	22
		% within Health-related Physical Fitness	14.3%	50.0%	100.0%	50.0%	66.7%	25.0%	33.3%	33.3%	100.0%	50.0%	66.7%	.0%	41.5%
		% of Total	3.8%	5.7%	5.7%	3.8%	3.8%	3.8%	1.9%	1.9%	5.7%	1.9%	3.8%	.0%	41.5%
	3	Count	8	3	0	2	1	6	1	1	0	1	1	1	25
		% within Health-related Physical Fitness	57.1%	50.0%	.0%	50.0%	33.3%	75.0%	33.3%	33.3%	.0%	50.0%	33.3%	100.0%	47.2%
		% of Total	15.1%	5.7%	.0%	3.8%	1.9%	11.3%	1.9%	1.9%	.0%	1.9%	1.9%	1.9%	47.2%
Total		Count	14	6	3	4	3	8	3	3	3	2	3	1	53
		% within Health-related Physical Fitness	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	26.4%	11.3%	5.7%	7.5%	5.7%	15.1%	5.7%	5.7%	5.7%	3.8%	5.7%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Social Skills in Physical Education Crosstabulation

			Social Skills in Physical Education								Total
			1	2	3	4	6	7	8	9	11	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	1	2	0	1	0	0	2	0	6
		% within Social Skills	.0%	11.1%	16.7%	.0%	16.7%	.0%	.0%	50.0%	.0%	11.3%

		in Physical Education											
		% of Total	.0%	1.9%	3.8%	.0%	1.9%	.0%	.0%	3.8%	.0%	11.3%
	2	Count	3	3	7	4	2	0	1	0	0	22
		% within Social Skills in Physical Education	50.0%	33.3%	58.3%	50.0%	33.3%	.0%	50.0%	.0%	.0%	41.5%
		% of Total	9.4%	5.7%	13.2%	7.5%	3.8%	.0%	1.9%	.0%	.0%	41.5%
	3	Count	3	5	3	4	3	1	1	2	1	25
		% within Social Skills in Physical Education	50.0%	55.6%	25.0%	50.0%	50.0%	100.0%	50.0%	50.0%	100.0%	47.2%
		% of Total	9.4%	9.4%	5.7%	7.5%	5.7%	1.9%	1.9%	3.8%	1.9%	47.2%
Total		Count	10	9	12	8	6	1	2	4	1	53
		% within Social Skills in Physical Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	18.9%	17.0%	22.6%	15.1%	11.3%	1.9%	3.8%	7.5%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Transitioning from School-based to Community-based Programming Crosstabulation

			Transitioning from School-based to Community-based Programming												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	1	0	0	0	1	0	1	0	0	3	0	0	6
		% within Transitioning from School-based to Community-based Programming	50.0%	.0%	.0%	.0%	50.0%	.0%	16.7%	.0%	.0%	33.3%	.0%	.0%	11.3%
		% of Total	1.9%	.0%	.0%	.0%	1.9%	.0%	1.9%	.0%	.0%	5.7%	.0%	.0%	11.3%
	2	Count	0	1	1	1	1	0	4	3	3	2	2	4	22
		% within Transitioning from School-based to Community-based Programming	.0%	100.0%	100.0%	33.3%	50.0%	.0%	66.7%	60.0%	33.3%	22.2%	40.0%	50.0%	41.5%
		% of Total	.0%	1.9%	1.9%	1.9%	1.9%	.0%	7.5%	5.7%	5.7%	3.8%	3.8%	7.5%	41.5%
	3	Count	1	0	0	2	0	2	1	2	6	4	3	4	25
		% within Transitioning from School-based to Community-based Programming	50.0%	.0%	.0%	66.7%	.0%	100.0%	16.7%	40.0%	66.7%	44.4%	60.0%	50.0%	47.2%
		% of Total	1.9%	.0%	.0%	3.8%	.0%	3.8%	1.9%	3.8%	11.3%	7.5%	5.7%	7.5%	47.2%
Total		Count	2	1	1	3	2	2	6	5	9	9	5	8	53
		% within Transitioning from School-based to Community-based Programming	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	1.9%	1.9%	5.7%	3.8%	3.8%	11.3%	9.4%	17.0%	17.0%	9.4%	15.1%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Team Sports Crosstabulation

			Team Sports												Total
			Rate 1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	1	0	0	0	1	0	1	0	0	3	0	0	6
		% within Team Sports	50.0%	.0%	.0%	.0%	50.0%	.0%	16.7%	.0%	.0%	33.3%	.0%	.0%	11.3%
		% of Total	1.9%	.0%	.0%	.0%	1.9%	.0%	1.9%	.0%	.0%	5.7%	.0%	.0%	11.3%
	2	Count	0	1	1	1	1	0	4	3	3	2	2	4	22
		% within Team Sports	.0%	100.0%	100.0%	33.3%	50.0%	.0%	66.7%	60.0%	33.3%	22.2%	40.0%	50.0%	41.5%
		% of Total	.0%	1.9%	1.9%	1.9%	1.9%	.0%	7.5%	5.7%	5.7%	3.8%	3.8%	7.5%	41.5%
	3	Count	1	0	0	2	0	2	1	2	6	4	3	4	25
		% within Team Sports	50.0%	.0%	.0%	66.7%	.0%	100.0%	16.7%	40.0%	66.7%	44.4%	60.0%	50.0%	47.2%
		% of Total	1.9%	.0%	.0%	3.8%	.0%	3.8%	1.9%	3.8%	11.3%	7.5%	5.7%	7.5%	47.2%
Total		Count	2	1	1	3	2	2	6	5	9	9	5	8	53
		% within Team Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	1.9%	1.9%	5.7%	3.8%	3.8%	11.3%	9.4%	17.0%	17.0%	9.4%	15.1%	100.0%

			1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	0	0	0	2	1	0	1	1	0	1	0	6
		% within Team Sports	.0%	.0%	.0%	.0%	40.0%	20.0%	.0%	33.3%	25.0%	.0%	25.0%	.0%	11.3%
		% of Total	.0%	.0%	.0%	.0%	3.8%	1.9%	.0%	1.9%	1.9%	.0%	1.9%	.0%	11.3%
	2	Count	4	4	1	2	1	3	3	1	0	0	3	0	22
		% within Team Sports	66.7%	57.1%	25.0%	40.0%	20.0%	60.0%	50.0%	33.3%	.0%	.0%	75.0%	.0%	41.5%
		% of Total	7.5%	7.5%	1.9%	3.8%	1.9%	5.7%	5.7%	1.9%	.0%	.0%	5.7%	.0%	41.5%
	3	Count	2	3	3	3	2	1	3	1	3	3	0	1	25
		% within Team Sports	33.3%	42.9%	75.0%	60.0%	40.0%	20.0%	50.0%	33.3%	75.0%	100.0%	.0%	100.0%	47.2%
		% of Total	3.8%	5.7%	5.7%	5.7%	3.8%	1.9%	5.7%	1.9%	5.7%	5.7%	.0%	1.9%	47.2%
Total		Count	6	7	4	5	5	5	6	3	4	3	4	1	53
		% within Team Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	11.3%	13.2%	7.5%	9.4%	9.4%	9.4%	11.3%	5.7%	7.5%	5.7%	7.5%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Individual Sports Crosstabulation

			Individual Sports											Total
			2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	1	1	1	2	0	0	0	0	1	0	6
		% within Individual Sports	.0%	20.0%	20.0%	16.7%	18.2%	.0%	.0%	.0%	.0%	100.0%	.0%	11.3%
		% of Total	.0%	1.9%	1.9%	1.9%	3.8%	.0%	.0%	.0%	.0%	1.9%	.0%	11.3%
	2	Count	1	1	1	3	3	2	5	4	2	0	0	22
		% within Individual Sports	50.0%	20.0%	20.0%	50.0%	27.3%	100.0%	62.5%	57.1%	40.0%	.0%	.0%	41.5%
		% of Total	1.9%	1.9%	1.9%	5.7%	5.7%	3.8%	9.4%	7.5%	3.8%	.0%	.0%	41.5%
	3	Count	1	3	3	2	6	0	3	3	3	0	1	25
		% within Individual Sports	50.0%	60.0%	60.0%	33.3%	54.5%	.0%	37.5%	42.9%	60.0%	.0%	100.0%	47.2%
		% of Total	1.9%	5.7%	5.7%	3.8%	11.3%	.0%	5.7%	5.7%	5.7%	.0%	1.9%	47.2%
Total		Count	2	5	5	6	11	2	8	7	5	1	1	53
		% within Individual Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	9.4%	9.4%	11.3%	20.8%	3.8%	15.1%	13.2%	9.4%	1.9%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Aquatics Crosstabulation

			Aquatics											Total
			1	2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	2	0	1	1	0	1	1	0	0	0	0	6
		% within Aquatics	.0%	50.0%	.0%	14.3%	10.0%	.0%	20.0%	14.3%	.0%	.0%	.0%	.0%	11.3%
		% of Total	.0%	3.8%	.0%	1.9%	1.9%	.0%	1.9%	1.9%	.0%	.0%	.0%	.0%	11.3%
	2	Count	0	0	0	5	3	2	2	4	1	3	2	0	22

		% within Aquatics	.0%	.0%	.0%	71.4%	30.0%	100.0%	40.0%	57.1%	33.3%	75.0%	100.0%	.0%	42.5%
		% of Total	.0%	.0%	.0%	9.4%	5.7%	3.8%	3.8%	7.5%	1.9%	5.7%	3.8%	.0%	41.5%
	3	Count	2	2	6	1	6	0	2	2	2	1	0	1	25
		% within Aquatics	100.0%	50.0%	100.0%	14.3%	60.0%	.0%	40.0%	28.6%	66.7%	25.0%	.0%	100.0%	47.2%
		% of Total	3.8%	3.8%	11.3%	1.9%	11.3%	.0%	3.8%	3.8%	3.8%	1.9%	.0%	1.9%	47.2%
Total		Count	2	4	6	7	10	2	5	7	3	4	2	1	53
		% within Aquatics	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	7.5%	11.3%	13.2%	18.9%	3.8%	9.4%	13.2%	5.7%	7.5%	3.8%	1.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Educational Gymnastics/Creative Movement/Dance Crosstabulation

			Educational Gymnastics/Creative Movement/Dance											Total
			2	3	4	5	6	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	0	1	0	1	1	0	0	0	3	0	6
		% within Educational Gymnastics/Creative Movement/Dance	.0%	.0%	100.0%	.0%	33.3%	25.0%	.0%	.0%	.0%	21.4%	.0%	11.3%
		% of Total	.0%	.0%	1.9%	.0%	1.9%	1.9%	.0%	.0%	.0%	5.7%	.0%	11.3%
	2	Count	0	1	0	2	1	2	0	3	5	3	5	22
		% within Educational Gymnastics/Creative Movement/Dance	.0%	50.0%	.0%	66.7%	33.3%	50.0%	.0%	75.0%	62.5%	21.4%	55.6%	41.5%
		% of Total	.0%	1.9%	.0%	3.8%	1.9%	3.8%	.0%	5.7%	9.4%	5.7%	9.4%	41.5%
	3	Count	2	1	0	1	1	1	3	1	3	8	4	25
		% within Educational Gymnastics/Creative Movement/Dance	100.0%	50.0%	.0%	33.3%	33.3%	25.0%	100.0%	25.0%	37.5%	57.1%	44.4%	47.2%
		% of Total	3.8%	1.9%	.0%	1.9%	1.9%	1.9%	5.7%	1.9%	5.7%	15.1%	7.5%	47.2%
Total		Count	2	2	1	5	3	4	3	4	8	14	9	53
		% within Educational Gymnastics/Creative Movement/Dance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	3.8%	1.9%	5.7%	5.7%	7.5%	5.7%	7.5%	15.1%	26.4%	17.0%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Adventure Education/Outdoor Pursuits Crosstabulation

			Adventure Education/Outdoor Pursuits										Total
			2	3	4	5	6	7	8	9	10	11	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	0	4	0	0	1	2	1	1	1	6
		% within Adventure Education/Outdoor Pursuits	.0%	.0%	.0%	.0%	.0%	12.5%	22.2%	14.3%	14.3%	16.0%	11.3%
		% of Total	.0%	.0%	.0%	.0%	.0%	1.9%	3.8%	1.9%	1.9%	1.8%	11.3%
	2	Count	0	1	0	5	0	2	2	3	4	5	22
		% within Adventure Education/Outdo	.0%	100.0%	.0%	71.4%	.0%	25.0%	22.2%	42.9%	57.1%	50.0%	41.5%

		or Pursuits											
		% of Total	.0%	1.9%	.0%	9.4%	.0%	3.8%	3.8%	5.7%	7.5%	9.4%	41.5%
	3	Count	1	0	1	2	2	5	5	3	2	4	25
		% within Adventure Education/Condo or Pursuits	100.0%	.0%	100.0%	28.6%	100.0%	62.5%	55.6%	42.9%	28.6%	40.0%	47.2%
		% of Total	1.9%	.0%	1.9%	3.8%	3.8%	9.4%	9.4%	5.7%	3.8%	7.5%	47.2%
Total		Count	1	1	1	7	2	8	9	7	7	10	53
		% within Adventure Education/Condo or Pursuits	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.9%	1.9%	1.9%	13.2%	3.8%	15.1%	17.0%	13.2%	13.2%	18.9%	100.0%

Child's Level of Education(1=Early Childhood,2=Elementary,3=Secondary) * Physical Activity Video Games Crosstabulation

			Physical Activity Video Games								Total
			4	5	7	8	9	10	11	12	
Child's Level of Education (1=Early Childhood, 2=Elementary, 3=Secondary)	1	Count	0	0	0	0	0	0	0	6	6
		% within Physical Activity Video Games	.0%	.0%	.0%	.0%	.0%	.0%	.0%	21.4%	11.3%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	.0%	11.3%	11.3%
	2	Count	0	0	0	0	3	2	6	13	22
		% within Physical Activity Video Games	.0%	.0%	.0%	.0%	60.0%	40.0%	44.4%	46.4%	41.5%
		% of Total	.0%	.0%	.0%	.0%	5.7%	3.8%	7.5%	24.5%	41.5%
	3	Count	2	1	1	2	2	3	5	9	25
		% within Physical Activity Video Games	100.0%	100.0%	100.0%	100.0%	40.0%	60.0%	55.6%	32.1%	47.2%
		% of Total	3.8%	1.9%	1.9%	3.8%	3.8%	5.7%	9.4%	17.0%	47.2%
Total		Count	2	1	1	2	5	5	9	28	53
		% within Physical Activity Video Games	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.8%	1.9%	1.9%	3.8%	9.4%	9.4%	17.0%	52.8%	100.0%

APPENDIX E

APE TEACHER CROSSTABS OF CONTENT RANKINGS

APE Crosstabs

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Locomotor Skills Crosstabulation

			Locomotor skills												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	1	2	0	0	0	0	0	0	1	0	0	0	4
		% within Locomotor skills	4.0%	14.3%	.0%	.0%	.0%	.0%	.0%	.0%	50.0%	.0%	.0%	.0%	4.0%
		% of Total	1.0%	2.0%	.0%	.0%	.0%	.0%	.0%	.0%	1.0%	.0%	.0%	.0%	4.0%
	2	Count	10	10	10	10	5	3	3	0	0	1	2	0	54
		% within Locomotor skills	40.0%	71.4%	71.4%	90.9%	38.5%	42.9%	50.0%	.0%	.0%	100.0%	66.7%	.0%	54.0%
		% of Total	10.0%	10.0%	10.0%	10.0%	5.0%	3.0%	3.0%	.0%	.0%	1.0%	2.0%	.0%	54.0%
	3	Count	8	2	4	1	6	4	3	2	1	0	1	2	34
		% within Locomotor skills	32.0%	14.3%	28.6%	9.1%	46.2%	57.1%	50.0%	100.0%	50.0%	.0%	33.3%	100.0%	34.0%
		% of Total	8.0%	2.0%	4.0%	1.0%	6.0%	4.0%	3.0%	2.0%	1.0%	.0%	1.0%	2.0%	34.0%
	4	Count	6	0	0	0	2	0	0	0	0	0	0	0	8
		% within Locomotor skills	24.0%	.0%	.0%	.0%	15.4%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	8.0%
		% of Total	6.0%	.0%	.0%	.0%	2.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	8.0%
Total		Count	25	14	14	11	13	7	6	2	2	1	3	2	100
		% within Locomotor skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	25.0%	14.0%	14.0%	11.0%	13.0%	7.0%	6.0%	2.0%	2.0%	1.0%	3.0%	2.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Non-locomotor skills Crosstabulation

			Non-locomotor skills												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	1	0	0	2	0	0	0	0	0	1	0	0	4
		% within Non-locomotor skills	100.0%	.0%	.0%	8.7%	.0%	.0%	.0%	.0%	.0%	14.3%	.0%	.0%	4.0%
		% of Total	1.0%	.0%	.0%	2.0%	.0%	.0%	.0%	.0%	.0%	1.0%	.0%	.0%	4.0%
	2	Count	0	1	8	14	9	10	2	2	0	2	2	4	54
		% within Non-locomotor skills	.0%	20.0%	80.0%	60.9%	69.2%	76.9%	22.2%	66.7%	.0%	28.6%	40.0%	57.1%	54.0%
		% of Total	.0%	1.0%	8.0%	14.0%	9.0%	10.0%	2.0%	2.0%	.0%	2.0%	2.0%	4.0%	54.0%
	3	Count	0	1	1	5	4	3	6	1	3	4	3	3	34
		% within Non-locomotor skills	.0%	20.0%	10.0%	21.7%	30.8%	23.1%	66.7%	33.3%	75.0%	57.1%	60.0%	42.9%	34.0%
		% of Total	.0%	1.0%	1.0%	5.0%	4.0%	3.0%	6.0%	1.0%	3.0%	4.0%	3.0%	3.0%	34.0%
	4	Count	0	3	1	2	0	0	1	0	1	0	0	0	8
		% within Non-locomotor skills	.0%	60.0%	10.0%	8.7%	.0%	.0%	11.1%	.0%	25.0%	.0%	.0%	.0%	8.0%
		% of Total	.0%	3.0%	1.0%	2.0%	.0%	.0%	1.0%	.0%	1.0%	.0%	.0%	.0%	8.0%
Total		Count	1	5	10	23	13	13	9	3	4	7	5	7	100
		% within Non-locomotor skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	% of Total	1.0%	5.0%	10.0%	23.0%	13.0%	13.0%	9.0%	3.0%	4.0%	7.0%	5.0%	7.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Object Control Skills Crosstabulation

			Object Control Skills											Total
			1	2	3	4	5	6	7	8	9	10	11	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	1	2	0	1	0	0	0	0	0	0	4
		% within Object Control Skills	.0%	4.5%	20.0%	.0%	7.7%	.0%	.0%	.0%	.0%	.0%	.0%	4.0%
		% of Total	.0%	1.0%	2.0%	.0%	1.0%	.0%	.0%	.0%	.0%	.0%	.0%	4.0%
	2	Count	5	16	4	7	8	6	2	1	2	2	1	54
		% within Object Control Skills	83.3%	72.7%	40.0%	43.8%	61.5%	50.0%	50.0%	16.7%	50.0%	40.0%	50.0%	54.0%
		% of Total	5.0%	16.0%	4.0%	7.0%	8.0%	6.0%	2.0%	1.0%	2.0%	2.0%	1.0%	54.0%
	3	Count	0	3	2	7	3	6	2	5	2	3	1	34
		% within Object Control Skills	.0%	13.6%	20.0%	43.8%	23.1%	50.0%	50.0%	83.3%	50.0%	60.0%	50.0%	34.0%
		% of Total	.0%	3.0%	2.0%	7.0%	3.0%	6.0%	2.0%	5.0%	2.0%	3.0%	1.0%	34.0%
	4	Count	1	2	4	2	1	0	0	0	0	0	0	8
		% within Object Control Skills	16.7%	9.1%	20.0%	12.5%	7.7%	.0%	.0%	.0%	.0%	.0%	.0%	8.0%
		% of Total	1.0%	2.0%	4.0%	2.0%	1.0%	.0%	.0%	.0%	.0%	.0%	.0%	8.0%
Total		Count	6	22	10	16	13	12	4	6	4	5	2	100
		% within Object Control Skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	6.0%	22.0%	10.0%	16.0%	13.0%	12.0%	4.0%	6.0%	4.0%	5.0%	2.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Health-related Physical Fitness Crosstabulation

			Health-related Physical Fitness												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	1	0	0	0	2	0	0	1	0	0	0	0	4
		% within Health-related Physical Fitness	1.0%	.0%	.0%	.0%	33.3%	.0%	.0%	9.1%	.0%	.0%	.0%	.0%	4.0%
		% of Total	1.0%	.0%	.0%	.0%	2.0%	.0%	.0%	1.0%	.0%	.0%	.0%	.0%	4.0%
	2	Count	15	7	4	3	2	6	3	7	4	1	1	1	54
		% within Health-related Physical Fitness	45.5%	58.3%	57.1%	50.0%	33.3%	75.0%	90.0%	63.6%	66.7%	33.3%	50.0%	100.0%	54.0%
		% of Total	15.0%	7.0%	4.0%	3.0%	2.0%	6.0%	3.0%	7.0%	4.0%	1.0%	1.0%	1.0%	54.0%
	3	Count	17	3	2	1	2	1	2	3	1	2	0	0	34
		% within Health-related Physical Fitness	51.5%	25.0%	28.6%	16.7%	33.3%	12.5%	40.0%	27.3%	16.7%	66.7%	.0%	.0%	34.0%
		% of Total	17.0%	3.0%	2.0%	1.0%	2.0%	1.0%	2.0%	3.0%	1.0%	2.0%	.0%	.0%	34.0%
	4	Count	0	2	1	2	0	1	0	0	1	0	1	0	8
		% within Health-related Physical	.0%	16.7%	14.3%	33.3%	.0%	12.5%	.0%	.0%	16.7%	.0%	50.0%	.0%	8.0%

	Fitness														
	% of Total	.0%	2.0%	1.0%	2.0%	.0%	1.0%	.0%	.0%	1.0%	.0%	1.0%	.0%	8.0%	
Total	Count	33	12	7	6	6	8	5	11	6	3	2	1	100	
	% within Health-related Physical Fitness	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	33.0%	12.0%	7.0%	6.0%	6.0%	8.0%	5.0%	11.0%	6.0%	3.0%	2.0%	1.0%	100.0%	

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Social Skills in Physical Education Crosstabulation

			Social Skills in Physical Education										Total
			1	2	3	4	5	6	7	8	9	10	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	1	1	1	1	0	0	0	0	0	0	4
		% within Social Skills in Physical Education	4.5%	5.0%	5.9%	12.5%	.0%	.0%	.0%	.0%	.0%	.0%	4.0%
		% of Total	1.0%	1.0%	1.0%	1.0%	.0%	.0%	.0%	.0%	.0%	.0%	4.0%
	2	Count	16	10	7	5	7	3	3	1	1	1	54
		% within Social Skills in Physical Education	72.7%	50.0%	41.2%	62.5%	46.7%	42.9%	100.0%	33.3%	50.0%	33.3%	54.0%
		% of Total	16.0%	10.0%	7.0%	5.0%	7.0%	3.0%	3.0%	1.0%	1.0%	1.0%	54.0%
	3	Count	4	9	7	1	5	4	0	2	1	1	34
		% within Social Skills in Physical Education	18.2%	45.0%	41.2%	12.5%	33.3%	57.1%	.0%	66.7%	50.0%	33.3%	34.0%
		% of Total	4.0%	9.0%	7.0%	1.0%	5.0%	4.0%	.0%	2.0%	1.0%	1.0%	34.0%
	4	Count	1	0	2	1	3	0	0	0	0	1	8
		% within Social Skills in Physical Education	4.5%	.0%	11.8%	12.5%	20.0%	.0%	.0%	.0%	.0%	33.3%	8.0%
		% of Total	1.0%	.0%	2.0%	1.0%	3.0%	.0%	.0%	.0%	.0%	1.0%	8.0%
Total		Count	22	20	17	8	15	7	3	3	2	3	100
		% within Social Skills in Physical Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	22.0%	20.0%	17.0%	8.0%	15.0%	7.0%	3.0%	3.0%	2.0%	3.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Transitioning from School-based to Community-based Programming Crosstabulation

			Transitioning from School-based to Community-based Programming												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	1	0	1	0	1	0	1	0	0	4
		% within Transitioning from School-based to Community-based Programming	.0%	.0%	.0%	16.7%	.0%	8.3%	.0%	9.1%	.0%	9.1%	.0%	.0%	4.0%
		% of Total	.0%	.0%	.0%	1.0%	.0%	1.0%	.0%	1.0%	.0%	1.0%	.0%	.0%	4.0%

	2	Count	3	5	7	1	2	3	3	7	3	8	10	2	54
		% within Transitioning from School-based to Community-based Programming	42.9%	55.6%	70.0%	16.7%	40.0%	25.0%	60.0%	63.6%	42.9%	72.7%	83.3%	40.0%	54.0%
		% of Total	3.0%	5.0%	7.0%	1.0%	2.0%	3.0%	3.0%	7.0%	3.0%	8.0%	10.0%	2.0%	54.0%
	3	Count	4	3	3	4	3	6	2	1	3	1	2	2	34
		% within Transitioning from School-based to Community-based Programming	57.1%	33.3%	30.0%	66.7%	60.0%	50.0%	40.0%	9.1%	42.9%	9.1%	16.7%	40.0%	34.0%
		% of Total	4.0%	3.0%	3.0%	4.0%	3.0%	6.0%	2.0%	1.0%	3.0%	1.0%	2.0%	2.0%	34.0%
	4	Count	0	1	0	0	0	2	0	3	1	1	0	1	8
		% within Transitioning from School-based to Community-based Programming	.0%	11.1%	.0%	.0%	.0%	16.7%	.0%	18.2%	14.3%	9.1%	.0%	20.0%	8.0%
		% of Total	.0%	1.0%	.0%	.0%	.0%	2.0%	.0%	2.0%	1.0%	1.0%	.0%	1.0%	8.0%
Total		Count	7	9	10	6	5	12	5	11	7	11	12	5	100
		% within Transitioning from School-based to Community-based Programming	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	7.0%	9.0%	10.0%	6.0%	5.0%	12.0%	5.0%	11.0%	7.0%	11.0%	12.0%	5.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Team Sports Crosstabulation

			Team Sports												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	0	0	0	2	0	1	0	1	0	4
		% within Team Sports	.0%	.0%	.0%	.0%	.0%	.0%	11.8%	.0%	7.1%	.0%	6.7%	.0%	4.0%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	2.0%	.0%	1.0%	.0%	1.0%	.0%	4.0%
	2	Count	0	0	1	1	3	3	8	7	9	6	7	9	54
		% within Team Sports	.0%	.0%	100.0%	50.0%	42.9%	75.0%	47.1%	58.3%	64.3%	40.0%	46.7%	81.8%	54.0%
		% of Total	.0%	.0%	1.0%	1.0%	3.0%	3.0%	8.0%	7.0%	9.0%	6.0%	7.0%	9.0%	54.0%
	3	Count	1	1	0	1	2	0	6	5	4	8	5	1	34
		% within Team Sports	100.0%	100.0%	.0%	50.0%	28.6%	.0%	35.3%	41.7%	28.6%	53.3%	33.3%	9.1%	34.0%
		% of Total	1.0%	1.0%	.0%	1.0%	2.0%	.0%	6.0%	5.0%	4.0%	8.0%	5.0%	1.0%	34.0%
	4	Count	0	0	0	0	2	1	1	0	0	1	2	1	8
		% within Team Sports	.0%	.0%	.0%	.0%	28.6%	25.0%	5.9%	.0%	.0%	6.7%	13.3%	9.1%	8.0%
		% of Total	.0%	.0%	.0%	.0%	2.0%	1.0%	1.0%	.0%	.0%	1.0%	2.0%	1.0%	8.0%
Total		Count	1	1	1	2	7	4	17	12	14	15	15	11	100
		% within Team Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.0%	1.0%	1.0%	2.0%	7.0%	4.0%	17.0%	12.0%	14.0%	15.0%	15.0%	11.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Individual Sports Crosstabulation

	Individual Sports											Total
	1	2	3	4	5	6	7	8	9	10	11	12	

APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	0	0	2	0	1	0	1	0	0	4
		% within Individual Sports	.0%	.0%	.0%	.0%	.0%	14.3%	.0%	10.0%	.0%	11.1%	.0%	.0%	4.0%
		% of Total	.0%	.0%	.0%	.0%	.0%	2.0%	.0%	1.0%	.0%	1.0%	.0%	.0%	4.0%
	2	Count	2	2	3	3	3	6	10	4	9	7	4	1	54
		% within Individual Sports	100.0%	100.0%	33.3%	33.3%	75.0%	42.9%	55.6%	40.0%	56.3%	77.8%	66.7%	100.0%	54.0%
		% of Total	2.0%	2.0%	3.0%	3.0%	3.0%	6.0%	10.0%	4.0%	9.0%	7.0%	4.0%	1.0%	54.0%
	3	Count	0	0	6	5	1	3	4	5	7	1	2	0	34
		% within Individual Sports	.0%	.0%	66.7%	55.6%	25.0%	21.4%	22.2%	50.0%	43.8%	11.1%	33.3%	.0%	34.0%
		% of Total	.0%	.0%	6.0%	5.0%	1.0%	3.0%	4.0%	5.0%	7.0%	1.0%	2.0%	.0%	34.0%
	4	Count	0	0	0	1	0	3	4	0	0	0	0	0	8
		% within Individual Sports	.0%	.0%	.0%	11.1%	.0%	21.4%	22.2%	.0%	.0%	.0%	.0%	.0%	8.0%
		% of Total	.0%	.0%	.0%	1.0%	.0%	3.0%	4.0%	.0%	.0%	.0%	.0%	.0%	8.0%
Total		Count	2	2	9	9	4	14	18	10	16	9	6	1	100
		% within Individual Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	2.0%	2.0%	9.0%	9.0%	4.0%	14.0%	18.0%	10.0%	16.0%	9.0%	6.0%	1.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Aquatics Crosstabulation

			Aquatics												Total
			1	2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	1	0	1	0	1	1	0	0	0	0	4
		% within Aquatics	.0%	.0%	7.7%	.0%	12.5%	.0%	8.3%	7.7%	.0%	.0%	.0%	.0%	4.0%
		% of Total	.0%	.0%	1.0%	.0%	1.0%	.0%	1.0%	1.0%	.0%	.0%	.0%	.0%	4.0%
	2	Count	3	2	6	2	5	5	8	7	5	6	2	3	54
		% within Aquatics	100.0%	15.4%	46.2%	28.6%	62.5%	71.4%	66.7%	53.8%	62.5%	85.7%	40.0%	75.0%	54.0%
		% of Total	3.0%	2.0%	6.0%	2.0%	5.0%	5.0%	8.0%	7.0%	5.0%	6.0%	2.0%	3.0%	54.0%
	3	Count	0	11	5	5	2	1	2	2	2	1	3	0	34
		% within Aquatics	.0%	84.6%	38.5%	71.4%	25.0%	14.3%	16.7%	15.4%	25.0%	14.3%	60.0%	.0%	34.0%
		% of Total	.0%	11.0%	5.0%	5.0%	2.0%	1.0%	2.0%	2.0%	2.0%	1.0%	3.0%	.0%	34.0%
	4	Count	0	0	1	0	0	1	1	3	1	0	0	1	8
		% within Aquatics	.0%	.0%	7.7%	.0%	.0%	14.3%	8.3%	23.1%	12.5%	.0%	.0%	25.0%	8.0%
		% of Total	.0%	.0%	1.0%	.0%	.0%	1.0%	1.0%	3.0%	1.0%	.0%	.0%	1.0%	8.0%
Total		Count	3	13	13	7	8	7	12	13	8	7	5	4	100
		% within Aquatics	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.0%	13.0%	13.0%	7.0%	8.0%	7.0%	12.0%	13.0%	8.0%	7.0%	5.0%	4.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Educational Gymnastics/Creative Movement/Dance Crosstabulation

	Educational Gymnastics/Creative Movement/Dance							Total

			3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	0	0	0	1	0	3	0	4
		% within Educational Gymnastics/Creative Movement/Dance	.0%	.0%	.0%	.0%	.0%	.0%	7.1%	.0%	15.0%	.0%	4.0%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	1.0%	.0%	3.0%	.0%	4.0%
	2	Count	3	4	2	4	5	5	8	11	7	5	54
		% within Educational Gymnastics/Creative Movement/Dance	75.0%	66.7%	40.0%	66.7%	55.6%	55.6%	57.1%	64.7%	35.0%	50.0%	54.0%
		% of Total	3.0%	4.0%	2.0%	4.0%	5.0%	5.0%	8.0%	11.0%	7.0%	5.0%	54.0%
	3	Count	1	2	3	2	4	3	4	9	7	5	34
		% within Educational Gymnastics/Creative Movement/Dance	25.0%	33.3%	60.0%	33.3%	44.4%	33.3%	28.6%	17.6%	35.0%	50.0%	34.0%
		% of Total	1.0%	2.0%	3.0%	2.0%	4.0%	3.0%	4.0%	9.0%	7.0%	5.0%	34.0%
	4	Count	0	0	0	0	0	1	1	3	3	0	8
		% within Educational Gymnastics/Creative Movement/Dance	.0%	.0%	.0%	.0%	.0%	11.1%	7.1%	17.6%	15.0%	.0%	8.0%
		% of Total	.0%	.0%	.0%	.0%	.0%	1.0%	1.0%	3.0%	3.0%	.0%	8.0%
Total		Count	4	6	5	6	9	9	14	17	20	10	100
		% within Educational Gymnastics/Creative Movement/Dance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.0%	6.0%	5.0%	6.0%	9.0%	9.0%	14.0%	17.0%	20.0%	10.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Adenture Education/Outdor Pursuits Crosstabulation

			Adenture Education/Outdor Pursuits										Total
			2	3	4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	0	1	1	0	1	1	0	0	4
		% within Adenture Education/Outdor Pursuits	.0%	.0%	.0%	.0%	12.5%	16.7%	.0%	5.9%	7.7%	.0%	.0%	4.0%
		% of Total	.0%	.0%	.0%	.0%	1.0%	1.0%	.0%	1.0%	1.0%	.0%	.0%	4.0%
	2	Count	1	1	3	7	3	3	9	11	5	7	4	54
		% within Adenture Education/Outdor Pursuits	50.0%	20.0%	60.0%	70.0%	37.5%	50.0%	69.2%	64.7%	38.5%	46.7%	66.7%	54.0%
		% of Total	1.0%	1.0%	3.0%	7.0%	3.0%	3.0%	9.0%	11.0%	5.0%	7.0%	4.0%	54.0%
	3	Count	1	3	2	3	4	2	2	2	7	7	1	34
		% within Adenture Education/Outdor Pursuits	50.0%	60.0%	40.0%	30.0%	50.0%	33.3%	15.4%	11.8%	53.8%	46.7%	16.7%	34.0%
		% of Total	1.0%	3.0%	2.0%	3.0%	4.0%	2.0%	2.0%	2.0%	7.0%	7.0%	1.0%	34.0%
	4	Count	0	1	0	0	0	0	2	3	0	1	1	8
		% within Adenture Education/Outdor Pursuits	.0%	20.0%	.0%	.0%	.0%	.0%	15.4%	17.6%	.0%	6.7%	16.7%	8.0%

		% of Total	.0%	1.0%	.0%	.0%	.0%	.0%	2.0%	3.0%	.0%	1.0%	1.0%	8.0%
Total		Count	2	5	5	10	8	6	13	17	13	15	6	100
		% within Adventure Education/Outdoor Pursuits	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	2.0%	5.0%	5.0%	10.0%	8.0%	6.0%	13.0%	17.0%	13.0%	15.0%	6.0%	100.0%

APE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Physical Activity Video Games Crosstabulation

			Physical Activity Video Games									Total
			4	5	6	7	8	9	10	11	12	
APE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	1	Count	0	0	0	0	0	0	0	0	4	4
		% within Physical Activity Video Games	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	7.5%	4.0%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	4.0%	4.0%
	2	Count	1	1	2	4	4	2	6	11	25	54
		% within Physical Activity Video Games	100.0%	100.0%	100.0%	66.7%	57.1%	33.3%	46.4%	73.3%	47.2%	54.0%
		% of Total	1.0%	1.0%	2.0%	4.0%	4.0%	2.0%	6.0%	11.0%	25.0%	54.0%
	3	Count	0	0	0	1	3	4	3	3	20	34
		% within Physical Activity Video Games	.0%	.0%	.0%	16.7%	42.9%	66.7%	33.3%	20.0%	37.7%	34.0%
		% of Total	.0%	.0%	.0%	1.0%	3.0%	4.0%	3.0%	3.0%	20.0%	34.0%
	4	Count	0	0	0	1	0	0	2	1	4	8
		% within Physical Activity Video Games	.0%	.0%	.0%	16.7%	.0%	.0%	22.2%	6.7%	7.5%	8.0%
		% of Total	.0%	.0%	.0%	1.0%	.0%	.0%	2.0%	1.0%	4.0%	8.0%
Total		Count	1	1	2	6	7	6	9	15	53	100
		% within Physical Activity Video Games	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	1.0%	1.0%	2.0%	6.0%	7.0%	6.0%	9.0%	15.0%	53.0%	100.0%

APPENDIX F

GPE TEACHER CROSSTABS OF CONTENT RANKINGS

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Locomotor Skills Crosstabulation

			Locomotor Skills						Total
			1	2	3	4	5	6	
GPE Current Teaching Level of Education . (2=Elementary, 3=Secondary, 4=Combination)	2	Count	6	1	1	1	1	1	11
		% within Locomotor Skills	66.7%	50.0%	100.0%	33.3%	100.0%	100.0%	64.7%
		% of Total	35.3%	5.9%	5.9%	5.9%	5.9%	5.9%	64.7%
	3	Count	3	1	0	2	0	0	5
		% within Locomotor Skills	33.3%	50.0%	.0%	33.3%	.0%	.0%	29.4%
		% of Total	17.6%	5.9%	.0%	5.9%	.0%	.0%	29.4%
	4	Count	0	0	0	1	0	0	1
		% within Locomotor Skills	.0%	.0%	.0%	33.3%	.0%	.0%	5.9%
		% of Total	.0%	.0%	.0%	5.9%	.0%	.0%	5.9%
Total		Count	9	2	1	3	1	1	17
		% within Locomotor Skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	52.9%	11.8%	5.9%	17.6%	5.9%	5.9%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Non-locomotor Skills Crosstabulation

			Non-locomotor skills								Total
			1	2	4	5	6	7	8	9	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	4	1	2	1	1	0	1	11
		% within Non-locomotor skills	100.0%	100.0%	100.0%	50.0%	100.0%	50.0%	.0%	50.0%	64.7%
		% of Total	5.9%	23.5%	5.9%	11.8%	5.9%	5.9%	.0%	5.9%	64.7%
	3	Count	0	0	0	1	0	1	2	1	5
		% within Non-locomotor skills	.0%	.0%	.0%	25.0%	.0%	50.0%	100.0%	50.0%	29.4%
		% of Total	.0%	.0%	.0%	5.9%	.0%	5.9%	11.8%	5.9%	29.4%
	4	Count	0	0	0	1	0	0	0	0	1
		% within Non-locomotor skills	.0%	.0%	.0%	25.0%	.0%	.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	.0%	5.9%	.0%	.0%	.0%	.0%	5.9%
Total		Count	1	4	1	4	1	2	2	2	17
		% within Non-locomotor skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	23.5%	5.9%	23.5%	5.9%	11.8%	11.8%	11.8%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Object Control Skills Crosstabulation

			object Control skills								Total
			1	2	3	4	5	6	7	8	
GPE Current Teaching Level of Education	2	Count	0	1	3	3	1	1	1	1	11

(2=Elementary, 3=Secondary, 4=Combination)											
		% within Object Control Skills	.0%	33.3%	75.0%	75.0%	100.0%	50.0%	100.0%	100.0%	64.7%
		% of Total	.0%	5.9%	17.6%	17.6%	5.9%	5.9%	5.9%	5.9%	64.7%
	3	Count	1	2	1	1	0	0	0	0	5
		% within Object Control Skills	100.0%	66.7%	25.0%	25.0%	.0%	.0%	.0%	.0%	29.4%
		% of Total	5.9%	11.8%	5.9%	5.9%	.0%	.0%	.0%	.0%	29.4%
	4	Count	0	0	0	0	0	1	0	0	1
		% within Object Control Skills	.0%	.0%	.0%	.0%	.0%	50.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	.0%	.0%	.0%	5.9%	.0%	.0%	5.9%
Total		Count	1	3	4	4	1	2	1	1	17
		% within Object Control Skills	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	17.6%	23.5%	23.5%	5.9%	11.8%	5.9%	5.9%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Health-related Physical Fitness Crosstabulation

			Health-related Physical Fitness							Total
			1	2	3	4	5	9	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	2	2	0	3	3	1	0	11
		% within Health-related Physical Fitness	100.0%	66.7%	.0%	100.0%	100.0%	33.3%	.0%	64.7%
		% of Total	11.8%	11.8%	.0%	17.6%	17.6%	5.9%	.0%	64.7%
	3	Count	0	1	1	0	0	2	1	5
		% within Health-related Physical Fitness	.0%	33.3%	50.0%	.0%	.0%	66.7%	100.0%	29.4%
		% of Total	.0%	5.9%	5.9%	.0%	.0%	11.8%	5.9%	29.4%
	4	Count	0	0	1	0	0	0	0	1
		% within Health-related Physical Fitness	.0%	.0%	50.0%	.0%	.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	5.9%	.0%	.0%	.0%	.0%	5.9%
Total		Count	2	3	2	3	3	3	1	17
		% within Health-related Physical Fitness	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	11.8%	17.6%	11.8%	17.6%	17.6%	17.6%	5.9%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Social Skills in Physical Education Crosstabulation

			Social Skills in Physical Education						Total
			1	2	3	5	6	11	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	2	5	2	1	0	11
		% within Social Skills	100.0%	50.0%	62.5%	100.0%	100.0%	.0%	64.7%

		in Physical Education							
		% of Total	5.9%	11.8%	29.4%	11.8%	5.9%	.0%	64.7%
	3	Count	0	1	3	0	0	1	5
		% within Social Skills in Physical Education	.0%	25.0%	37.5%	.0%	.0%	100.0%	29.4%
		% of Total	.0%	5.9%	17.6%	.0%	.0%	5.9%	29.4%
	4	Count	0	1	0	0	0	0	1
		% within Social Skills in Physical Education	.0%	25.0%	.0%	.0%	.0%	.0%	5.9%
		% of Total	.0%	5.9%	.0%	.0%	.0%	.0%	5.9%
Total		Count	1	4	8	2	1	1	17
		% within Social Skills in Physical Education	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	23.5%	47.1%	11.8%	5.9%	5.9%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Transitioning from School-based to Community-based Programming Crosstabulation

			Transitioning from School-based to Community-based Programming									Total
			1	2	3	6	7	8	9	10	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	1	1	1	1	2	1	2	1	11
		% within Transitioning from School-based to Community-based Programming	33.3%	100.0%	100.0%	33.3%	100.0%	100.0%	100.0%	66.7%	50.0%	64.7%
		% of Total	5.9%	5.9%	5.9%	5.9%	5.9%	11.8%	5.9%	11.8%	5.9%	64.7%
	3	Count	1	0	0	2	0	0	0	1	1	5
		% within Transitioning from School-based to Community-based Programming	33.3%	.0%	.0%	66.7%	.0%	.0%	.0%	33.3%	50.0%	29.4%
		% of Total	5.9%	.0%	.0%	11.8%	.0%	.0%	.0%	5.9%	5.9%	29.4%
	4	Count	1	0	0	0	0	0	0	0	0	1
		% within Transitioning from School-based to Community-based Programming	33.3%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	5.9%
		% of Total	5.9%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	.0%	5.9%
Total		Count	3	1	1	3	1	2	1	3	2	17
		% within Transitioning from School-based to Community-based Programming	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	17.6%	5.9%	5.9%	17.6%	5.9%	11.8%	5.9%	17.6%	11.8%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Team Sports Crosstabulation

			Team Sports	Total

			4	6	7	9	10	11	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	0	1	2	2	0	3	3	11
		% within Team Sports	.0%	50.0%	100.0%	66.7%	.0%	75.0%	75.0%	64.7%
		% of Total	.0%	5.9%	11.8%	11.8%	.0%	17.6%	17.6%	64.7%
	3	Count	1	1	0	1	1	1	0	5
		% within Team Sports	100.0%	50.0%	.0%	33.3%	100.0%	25.0%	.0%	29.4%
		% of Total	5.9%	5.9%	.0%	5.9%	5.9%	5.9%	.0%	29.4%
	4	Count	0	0	0	0	0	0	1	1
		% within Team Sports	.0%	.0%	.0%	.0%	.0%	.0%	25.0%	5.9%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	5.9%	5.9%
Total		Count	1	2	2	3	1	4	4	17
		% within Team Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	11.8%	11.8%	17.6%	5.9%	23.5%	23.5%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Individual Sports Crosstabulation

			Individual Sports							Total
			3	5	6	7	8	10	11	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	0	1	3	4	1	1	11
		% within Individual Sports	100.0%	.0%	100.0%	60.0%	100.0%	33.3%	50.0%	64.7%
		% of Total	5.9%	.0%	5.9%	17.6%	23.5%	5.9%	5.9%	64.7%
	3	Count	0	1	0	2	0	2	0	5
		% within Individual Sports	.0%	100.0%	.0%	40.0%	.0%	66.7%	.0%	29.4%
		% of Total	.0%	5.9%	.0%	11.8%	.0%	11.8%	.0%	29.4%
	4	Count	0	0	0	0	0	0	1	1
		% within Individual Sports	.0%	.0%	.0%	.0%	.0%	.0%	50.0%	5.9%
		% of Total	.0%	.0%	.0%	.0%	.0%	.0%	5.9%	5.9%
Total		Count	1	1	1	5	4	3	2	17
		% within Individual Sports	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	5.9%	5.9%	29.4%	23.5%	17.6%	11.8%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Aquatics Crosstabulation

			Aquatics						Total
			4	5	7	8	9	11	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	2	1	1	2	1	4	11
		% within Aquatics	100.0%	50.0%	25.0%	50.0%	100.0%	100.0%	64.7%
		% of Total	11.8%	5.9%	5.9%	11.8%	5.9%	23.5%	64.7%
	3	Count	0	1	2	2	0	0	5

		% within Aquatics	.0%	50.0%	50.0%	50.0%	.0%	.0%	29.4%
		% of Total	.0%	5.9%	11.8%	11.8%	.0%	.0%	29.4%
	4	Count	0	0	1	0	0	0	1
		% within Aquatics	.0%	.0%	25.0%	.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	5.9%	.0%	.0%	.0%	5.9%
Total		Count	2	2	4	4	1	4	17
		% within Aquatics	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	11.8%	11.8%	23.5%	23.5%	5.9%	23.5%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Educational Gymnastics/Creative Movement/Dance Crosstabulation

			Educational Gymnastics/Creative Movement/Dance									Total
			4	5	6	7	8	9	10	11	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	0	2	1	1	1	2	2	1	11
		% within Educational Gymnastics/Creative Movement/Dance	33.3%	.0%	66.7%	100.0%	100.0%	50.0%	100.0%	66.7%	100.0%	64.7%
		% of Total	5.9%	.0%	11.8%	5.9%	5.9%	5.9%	11.8%	11.8%	5.9%	64.7%
	3	Count	2	1	1	0	0	0	0	1	0	5
		% within Educational Gymnastics/Creative Movement/Dance	66.7%	100.0%	33.3%	.0%	.0%	.0%	.0%	33.3%	.0%	29.4%
		% of Total	11.8%	5.9%	5.9%	.0%	.0%	.0%	.0%	5.9%	.0%	29.4%
	4	Count	0	0	0	0	0	1	0	0	0	1
		% within Educational Gymnastics/Creative Movement/Dance	.0%	.0%	.0%	.0%	.0%	50.0%	.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	.0%	.0%	.0%	5.9%	.0%	.0%	.0%	5.9%
Total		Count	3	1	3	1	1	2	2	3	1	17
		% within Educational Gymnastics/Creative Movement/Dance	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	17.6%	5.9%	17.6%	5.9%	5.9%	11.8%	11.8%	17.6%	5.9%	100.0%

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Adenture Education/Outdor Pursuits Crosstabulation

			Adenture Education/Outdor Pursuits						Total
			5	6	7	8	9	10	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	1	1	1	1	2	5	0	11
		% within Adenture Education/Outdor Pursuits	100.0%	50.0%	100.0%	33.3%	66.7%	83.3%	.0%	64.7%
		% of Total	5.9%	5.9%	5.9%	5.9%	11.8%	29.4%	.0%	64.7%
	3	Count	0	1	0	1	1	1	1	5
		% within Adenture	.0%	50.0%	.0%	33.3%	33.3%	16.7%	100.0%	29.4%

	Education/Outdoor Pursuits									
	% of Total	.0%	5.9%	.0%	5.9%	5.9%	5.9%	5.9%	29.4%	
	4 Count	0	0	0	1	0	0	0	1	
	% within Adventure Education/Outdoor Pursuits	.0%	.0%	.0%	33.3%	.0%	.0%	.0%	5.9%	
	% of Total	.0%	.0%	.0%	5.9%	.0%	.0%	.0%	5.9%	
Total	Count	1	2	1	3	3	6	1	17	
	% within Adventure Education/Outdoor Pursuits	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	% of Total	5.9%	11.8%	5.9%	17.6%	17.6%	35.3%	5.9%	100.0%	

GPE Current Teaching Level of Education(2=Elementary, 3=Secondary, 4=Combination) * Physical Activity Video Games Crosstabulation

			Physical Activity Video Games						Total
			5	6	9	10	11	12	
GPE Current Teaching Level of Education (2=Elementary, 3=Secondary, 4=Combination)	2	Count	0	1	2	1	1	6	11
		% within Physical Activity Video Games	.0%	100.0%	100.0%	50.0%	33.3%	75.0%	64.7%
		% of Total	.0%	5.9%	11.8%	5.9%	5.9%	35.3%	64.7%
	3	Count	1	0	0	0	2	2	5
		% within Physical Activity Video Games	100.0%	.0%	.0%	.0%	66.7%	25.0%	29.4%
		% of Total	5.9%	.0%	.0%	.0%	11.8%	11.8%	29.4%
	4	Count	0	0	0	1	0	0	1
		% within Physical Activity Video Games	.0%	.0%	.0%	50.0%	.0%	.0%	5.9%
		% of Total	.0%	.0%	.0%	5.9%	.0%	.0%	5.9%
Total		Count	1	1	2	2	3	8	17
		% within Physical Activity Video Games	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	5.9%	5.9%	11.8%	11.8%	17.6%	47.1%	100.0%

APPENDIX G

REVIEW OF RELATED LITERATURE

REVIEW OF RELATED LITERATURE

Introduction

"Down syndrome (DS) is the most common chromosomal disorder with an estimated 5,400 infants with DS born each year in the United States" (Shin, Besser, Kucik, Lu, Siffel, & Correa, 2009). Given this high prevalence of DS and since federal legislation (Individuals with Disabilities Education Act, 2004) encourages participation in regular education programs to the maximum extent possible, it is common to have students with DS in a school district and included in classes with their nondisabled peers. With advances in technology and medical treatments, age life spans among individuals with DS are increasingly longer lives (Carmeli, Barchad, Masharawi, & Coleman, 2004). However, the health status of adults with cognitive disabilities including DS is poor as the rates of early morbidity and mortality are extremely high. "These adults have a range of significant health problems, including chronic medical conditions such as cardiovascular diseases, osteoporosis and obesity, diabetes, musculo-skeletal problems, and respiratory disorders" (Jobling & Cuskelly, 2006). These medical conditions perpetuate an inability to partake in regular moderate to vigorous physical activity.

Shields, Dodd, and Abblitt (2009) found that individuals with DS develop skills and motor patterns in the same sequence as their nondisabled peers. However, in most cases their movement strategies are not as efficient which leads to relatively lesser amounts of physical activity in which individuals with DS engages. With both medical

and developmental limitations hindering participation of physical activity, individuals with DS are more likely to be overweight or obese (Shields et al., 2009). "Furthermore, obesity is negatively correlated with motor performance, and is likely to decrease participation in physical activities" (Luke, Roizen, Sutton, & Schoeller, 1994). A noteworthy statistic from Shields et al. (2009) reported that 45% of males and 56% of females with DS are overweight. Because of high prevalence rates of obesity and physical inactivity, it is especially important to encourage children with DS to partake in the recommended daily amounts of physical activity (Shields et al., 2009). When persons with DS are significantly overweight they are likely to be less active which may affect their ability to participate in sports and physical activities. "Once a person with DS has become overweight, he or she will have a difficult time losing the excess weight" (Pueschel, 2006, p. 12). Thus, it is imperative to teach students with DS how to be physically active and manage their weight at early ages. Physical education class is crucial for the development of motor skills, movement patterns, physical activity benefits, and sport related skills for all students including those with DS.

Students with DS often have an Individualized Education Program (IEP) since many demonstrate specific learning characteristics and academic performance that qualify them for special education. It is also common for students with DS to qualify for adapted or specially designed physical education due to deficits in physical and motor developmental areas. Shields et al. (2009) found several examples of deficits among persons with DS in the physical and motor areas. Collectively, congenital heart defects, muscle hypotonicity, joint hypermobility, low cardiovascular endurance, and decreased muscular strength negatively affect their physical and motor skill functioning. Physical

education teachers need to be aware of these specific characteristics that are prevalent among students with DS and choose appropriate curriculum content based on individual needs.

To counter the tendency of poor health related to low physical activity levels for individuals with DS, physical educators should teach students with DS early to engage in the recommended amount of physical activity each day in order to develop and maintain active lifestyles during and after school years. Teaching these students in the early years of education goes a long ways in preventing poor health related to physical inactivity. "International government agencies and research groups have published guidelines on the amount of physical activity children should undertake daily and many recommend children should participate in at least 60 minutes of moderate to vigorous physical activity each day" (Shields et al., 2009).

Individuals with DS often need more motivation and assistance to regularly engage in physical activity than their nondisabled peers. Research by Peterson et al., (2007) found that participation in leisure activities that were motivating for participants facilitates skill development, social benefits, and improvement in adaptive behaviors. Several studies (Shields et al., 2009; Jobling & Cuskelly, 2006; Fernall & Petetti, 2001) indicate that individuals with DS have specific areas of need related to physical education curriculum content. Since each child has unique needs, the focus to individualize physical education to meet the needs of that child should be a main concern for physical educators. The priorities of parents of students with DS for physical education curriculum content and physical education teachers should be shared with one another to ensure that appropriate instruction in physical education is provided for that student.

"To develop appropriate educational and service plans that achieve educational objectives, teachers, physicians, therapists, and families must collaborate. Cooperation from home, community, and school is necessary to ensure informed decisions are made according to the child's educational needs" (Horvat, Kalakian, Croce, & Dahlstrom, 2011, p. 53). This is true for all academic subjects including physical education. Parents of children with DS should be aware of physical education curriculum content and express their opinions on the importance of each content area with their child's physical education teacher.

Columna, Pyfer, Senne, Velez, Bridenthrall, and Canabal (2008) found that "...parents deemed it important for professionals who provide adapted physical education services to be qualified, to possess the training necessary to work with children with disabilities, to have high expectations for their children, and to continually communicate with the parents." General physical education (GPE) and adapted physical education (APE) teachers need to frequently communicate with one another to ensure that students, with and without disabilities, are receiving the most appropriate education for their specific needs. "Sharing expertise and resources among many professionals provides great problem-solving abilities and enables all individuals involved in the student's educational program to utilize best teaching practices" (Block, 2007, p. 30). Communication among all members of a students individualized education program team, including parents, is imperative to ensure that the student has opportunities to succeed in the most appropriate education setting.

The present study identified priorities of physical education curriculum content among general and adapted physical education teachers as well as parents of students

with DS. This literature review includes the following topics: physical activity levels of individuals with DS; perceptions of teachers and parents regarding importance of various physical activities and physical education content areas; and, communication between parents of students with disabilities and teachers.

Physical Activity Levels of Individuals with Down Syndrome

It is often assumed that individuals with DS do not meet the recommended amount of daily physical activity. Shields et al. (2009) investigated this assumption to determine whether children with DS engaged in the recommended 60 minutes of daily moderate to vigorous physical activity (MVPA). Data from the study were also used to determine if each participant was engaged in at least 20 minutes of vigorous activity on 3 or more days of the week. The study included 23 participants with DS, ages 7 to 17 years. Each participant wore an accelerometer for one week to measure daily physical activity levels. Accelerometers can effectively measure physical activity levels by determining the amount of acceleration or force in an individual's movement. Accelerometers were used because they are not influenced by emotional stress like heart rate monitors, and unlike pedometers they do not provide the participant with visual feedback such as the number of steps completed.

Shields et al. (2009) found a significant difference in the amount of MVPA between the younger group, ages 7 to 12 years, and the older age group, ages 13-17 years. The data revealed that the younger group averaged 121.4 minutes of MVPA per day compared to only 85 minutes of MVPA per day for the older group. Only 8 participants in the study recorded 60 or more minutes of daily MVPA during the one week study. None of the participants performed 20 minutes of continuous vigorous physical activity 3

times per week. The average duration of MVPA for participants was only 2.8 minutes. These data suggest that many children with DS are not meeting the recommended amounts of MVPA in order to maintain a healthy lifestyle. More specifically the data revealed that during the time individuals with DS were engaged in continuous vigorous physical activity, it was for a short duration. These findings also suggest that persons with DS have poor cardiovascular endurance since on average they are only engaging in continuous MVPA for less than 3 minutes. The recommended amount of continuous MVPA is 20 minutes at least 3 times a week (Shields et al., 2009).

According to Shields et al. (2009), "Engagement in regular physical activity by children with DS is essential for their health and not performing the recommended amounts of physical activity may contribute to their increased risk of cardiovascular disease and obesity." Down syndrome is associated with congenital heart defects, muscle hypotonicity, joint hypermobility, low cardiovascular fitness, and decreased muscle strength. Individuals with DS have tendencies to be less efficient in their movements and have a reduced exercise capacity which may effect their overall participation in physical activity. The study indicated that there are consistent long-term effects from physical activity on bone health, sedentary behaviors, and poor cardiovascular fitness in adolescents with DS that are associated with poor health in adulthood.

In response to the data collected on poor cardiovascular endurance and low levels of physical activity, Shields et al. (2009) stated that "Parents, teachers, and health related professionals involved in the care of children with DS should therefore routinely incorporate strategies for increasing physical activity into their timetables." It is recommended that lifelong activities are taught to individuals with DS. Dancing,

swimming, cycling, and exercising in a gym are examples of activities that could be beneficial for individuals with DS for both their physical and social well being.

A related study by Rimmer, Heller, Wang, and Valerio (2004) evaluated the effectiveness of an exercise training program for 52 adults with DS. The training program was a 12 week program that consisted of 30 minutes of cardiovascular exercise and 15 minutes of strength training, 3 times a week. Participants were between the age of 30 and 70 years, diagnosed with mild or moderate DS, and were sedentary for the past year or longer. Cardiovascular fitness was measured using a SensorMedics 29000 Metabolic Cart which determined PeakVO2. Strength was assessed using the LifeFitness bench press and leg press machines. Body composition was measured using a Harpenden skinfold caliper and Body Mass Index (BMI) was determined. The BMI was calculated by finding the participants height, weight.

Results showed that 69 percent of the participants were obese (BMI over 30), and an additional 17% were overweight (BMI over 25). Although the majority of participants were either overweight or obese, the training group participants had significant gains in cardiovascular function, bench press, leg strength, and body weight, when compared to the control group participants. With high percentages of obesity for adults with DS, physical activity becomes a higher priority in helping these individuals living longer, healthier lives. All 52 participants in this study reported to be physically inactive or living sedentary lifestyles for at least a year prior to the study. That is a high number of individuals with DS that are not engaging in physical activity on regular bases.

A study by Frey, Stanish, and Temple (2008) reported that opportunities for individuals with cognitive disabilities to engage in physical activity decreases as children

move toward adolescence. This is especially true for females with cognitive disabilities, including those with DS. One of the most natural forms of physical activity is for children to play with their peers in a nonregulated environment. As youth reach their teenage years opportunities for these natural play interactions decrease. A decrease is also prevalent in community sport participation, recess, and physical education opportunities for individuals with cognitive disabilities. These findings make it more important for middle and high school students with DS to partake in regular physical activity daily.

Frey et al. (2008) suggested that certain genetic traits found in persons with DS can impact physiologic, anatomic, and performance variables of engaging in physical activity. Individuals with DS are less physically fit than their peers with cognitive disabilities without DS. This maybe due to neurological complications related to DS. This research also shows that individuals with cognitive disabilities demonstrate lower levels of cardiovascular fitness, muscular strength, and higher levels of obesity than their nondisabled peers. More research needs to be done on finding ways to increase amounts of physical activity in individuals with cognitive disabilities including persons with DS.

A study by Peterson et al. (2007) intended to find some ways to increase the amount of physical activity for individuals with cognitive disabilities. The study found that individuals with cognitive disabilities experience high rates of chronic diseases that are related to insufficient engagement of physical activity. The benefits of physical activity on health are well established and include decreased risks of both coronary heart disease and early mortality (Peterson et al., 2007). This is especially important for individuals with DS as studies have found these persons are at a high risk for heart

disease. Learning to use physical activity as pat of leisure-time is one way to maximize physical activity engagement on a regular basis. The study by Peterson et al. (2007) showed that physical activity participation during leisure-time, such as the Special Olympics, facilitates skill development and enhances positive social interaction, self-esteem, self-concept, and appropriate adaptive behaviors.

Participants in the study by Peterson et al. (2007) were 152 adults with mild to moderate cognitive disabilities, ages 17 to 52 years. Out of the 152 participants, 24 had DS. Each participant was interviewed face to face and responded to questions regarding social support, self-efficacy, and leisure physical activity. The results of the study indicated that participants who reported high levels of social support from their family were engaged in leisure physical activity more frequently than participants with little social support from their family. In general, younger participants were found to have more social support from family than the older participants. Social support from peers was also found to have a high correlation to increased amounts of physical activity. However, social support from paid staff of the agencies was not significantly related to leisure physical activity levels for individuals with cognitive disabilities.

These results indicate that interventions can enhance both social support and self-efficacy towards physical activity and will increase the amount of leisure-time physical activity for those with cognitive disabilities. These interventions are vital for the improvement of health and well being of individuals with cognitive disabilities. With proper planning, these interventions can be provided by school district physical education programs.

According to Peterson et al. (2007), self-efficacy and social support have strong correlations to physical activity for those with cognitive disabilities. The study reported that physical activity leads to an increase in self-efficacy for this population. The involvement of family in the transition from adolescence to adulthood for persons with disabilities plays a vital role for a healthy and successful transition and long-term physical well being of that individual. As individuals with DS get older, their health tends to decline at faster rates than individuals without DS.

A review by Fernhall and Pitetti (2001) found that life expectancy for populations with cognitive disabilities are lower than other members of the community. The most common causes of death for these individuals are cardiovascular and pulmonary complications. Furthermore, individuals with disabilities usually do not partake in physical activity on a regular basis, leaving them sedentary and at high risk of early mortality.

Statistics on VO2 peaks presented by Fernhall and Pitetti (2001) reveal that individuals with DS have a reduced work capacity in comparison to their nondisabled peers. The review showed that individuals with cognitive disabilities have lower than average VO2 peaks. Very low VO2 peak values were reported for a group of 13 individuals with DS who were 14 to 22 years old. The authors reported significant associations between VO2 peak and isokinetic leg strength, specifically in individuals with DS. It is suggested that poor leg strength is a limiting factor to the physical work capacity in persons with cognitive disabilities. Those factors have to be taken into consideration for further research on heart rate or VO2 peaks on individuals with cognitive disabilities and more specifically out of that population, individuals with DS.

These data can help physical educators understand the physical limitations of individuals with DS, and allow them to adapt their curriculum to include muscular strength and endurance of the leg muscles that may assist with cardiovascular endurance participation.

Motivational factors were also included in the review by Fernhall and Pitetti (2001). It is frequently assumed that, because of low IQ scores and behavioral issues, individuals with cognitive disabilities have difficulty comprehending the concept of maximal effort while exercising. It is possible that without extensive familiarization, motivation, and cognition of the task that the individual's production could be limited. However, there are little data to support the above statements. Fernahall and Pitetti (2001) wrote, "Considering the validity and reliability of maximal exercise testing in persons with MR, it is unlikely that motivation and task understanding are limiting factors to physical work capacity in this population..."

Finally, Fernhall and Pitetti (2001) reported that individuals with DS had a chronotropic index of .84 in comparison to an index of .97 in individuals without a disability. A low chronotropic index is considered to be anything less than .90 and numbers lower than .85 have been linked to causes of early mortality. In combination with having low chronotropic index's individuals with DS have an increased chance of having congenital heart disease. Heart diseases can be associated with other health conditions such as high blood pressure, high cholesterol, asthma, and obesity.

Rubin, Rimmer, Chicoine, Braddock, and McGuire (1998) reported that the prevalence of obesity in the United States has been on the rise over the past 20 years. Overweight is a major risk factor for a variety of diseases such as: Type II diabetes, heart disease, and arthritis. The purpose of this study was to investigate the incidence of

overweight in adults with DS. The study also looked at the prevalence of being overweight in a group home versus living at home with a family for adults with DS.

The study by Rubin et al. (1998) included 283 adult participants with DS ages 15-69 years. Medical records were used to determine weight and height for each individual. These data were then used to determine the participants Body Mass Index (BMI).

The data collected showed that both males and females with DS on average were shorter compared to the general population. The data revealed that adults with DS that lived with their families or at home had a significantly higher body weight than adults with DS living in a more controlled group home setting. Standards for overweight BMI scores are set at 27.8 kg/m2 for males and 27.3 kg/m2 for females according to Healthy People 2000. The results of the data collected by Rubin et al. (1998) found that males with DS averaged 28.82 which was 1.01 kg/m2 higher than the norms, while females with DS averaged 30.61 which was 3.31 kg/m2 higher than the norms.

Interestingly, the study by Rubin et al. (1998) found that the BMI for adults with DS generally increases until age 30, and then begins to decrease and or stabilize from ages 31-70. The general population tends not to gain significant weight until or after the age of 40. The effects of premature aging in adults with DS include early declines in intellectual and adaptive functioning as well as an increase in age-related health and sensory conditions. These conditions include: immune system deficiencies, sleep apnea, hearing loss, vision loss, and hypothyroidism. All of these conditions have the potential to restrain individuals with DS from participation in exercise especially continuous physical activity. Given these facts, quality physical education in the early years is

important DS because physical education teachers can teach their students with DS how to be physically active over a lifetime at that early stage of life.

The literature above reviews the overall health, low physical activity levels, few opportunities to engage in physical activity, and high obesity rates for individuals with DS. Physical educators and parents of children with DS should take these valuable data and relate them to their student or child. It is crucial that students with DS receive the recommended amounts of physical activity each day to reduce their chances of health related diseases and increase their overall physical and emotional well being.

Perceptions of Teachers and Parents of Children with Down Syndrome regarding Physical Education Curriculum Content

Parents play a vital role in the education, health, and overall well being of their children. It is especially important for parents to be advocates for their children with disabilities education and health. Parents should be conscious of what is and is not being taught in physical education and furthermore how they can help keep their child with DS physically active. A study by Temple and Walkley (2007) found that parents and group home staff members lacked the confidence in promoting physical activity for adults with disabilities. Adults with intellectual disabilities reported that they did not participate in physical activity on a regular basis because they did not know how, and they did not have anyone to show them how or to workout with. Out of the participants with DS, 36% reported that they had no one in their lives to show them how to work out.

The study by Temple and Walkley (2007) focused on finding the constraining and enabling factors of physical activity in adults with intellectual disabilities (ID). Participants interviewed were nine adults with ID ages 18-41 years, five day care

workers, nine group home supervisors, four group home managers, and seven parents of adults with ID that lived in the group homes. During the interviews the participants were asked to talk about their perspective on factors that may enhance or inhibit partaking in physical activity. "Three main themes were identified from the focus group interviews: motivation for participation, social support, and political and financial support" (Temple & Walkley, 2007).

Motivation was the first and foremost theme that was identified by the researchers. Parents and staff felt that individuals with ID lacked intrinsic motivation to participate in physical activity on a regular basis. It was reported that the adults with ID preferred to live sedentary lifestyles and engage in sedentary activities rather than physically active ones. Prior negative experiences with physical activity were thought to play a large role in the inactivity of the individuals with ID. For the adults who exercised and were out of breath or experienced sore muscles following the activity often decided not to do those activities again (Temple & Walkley, 2007).

Social support around the individuals with ID was also a factor in their participation in physical activity. Often parents and staff did not feel comfortable with teaching elder individuals with ID different physical activities. Another factor that came out in the study was the activity levels of the staff members. Staff members that were physically active on a regular basis were more likely to take their clients on walks and bike rides, while staff members who did not regularly participate in physical activity would often choose to watch movies or play board games with the clients. Parents and staff found that it was hard to provide consistent transportation for the clients with ID to get them to places such a YMCA or a community swimming pool. Overall parents

reported positive feelings physical activity for their child and valued its importance. Knowing that parents of individuals with DS find it important for their child to partake in daily physical activity is an encouraging factor that can be used to motivate physical educators to give these students more opportunities to be physically active. In addition physical educators can teach parents ways to help their child be more physically active outside of school.

A recent study by Columna, Pyfer, Senne, Velez, Bridenthrall, and Canabal (2008) found that parents of children with disabilities highly valued the positive impact that physical activity and more specifically physical education had on their child. Parents thought it was important for adapted physical educators (APE) to be qualified, to exhibit the qualities and training necessary to work with children with disabilities, to hold high standards for their children, and to communicate frequently with the parents. When there is a lack of communication between the APE and parents, parents have higher tendencies to play passive roles in the IEP for their child.

The purpose of the study by Columna et al. (2008) was to examine the perspectives of Hispanic parents of children with disabilities regarding their participation in APE. The participants in the study included 11 Hispanic parents that were interviewed in person. The parents were asked a series of pre-established questions that regarded quality and content of APE, challenges for the family, and normalcy.

Columna et al. (2008) found that parents lacked knowledge regarding services provided to their children with disabilities. It was also reported that parents did not know how APE could motivate their child to engage in physical activity more frequently in the community. Communication and collaboration are vital factors for implementation of

successful inclusive environments. Parents reported that they would like to communicate with the APE teacher more frequently, whether it is via phone, letters sent home, or emails. One parent reported that her child's APE teacher communicated with her approximately once every six weeks. She reported that she feels it would be more beneficial to hear from her son's teacher once a week. Frequent communication between parents and APE is an excellent way to empower parents of children with disabilities. The study reported that when parents were in frequent contact with the APE teacher they felt secure, confident, and empowered to encourage their child to be physically active.

Social interactions among school-aged peers was another priority in their child's APE as reported by Columna et al. (2008). Positive social interactions help individuals with disabilities to enjoy participation in physical activities with peers. These interactions can help to promote healthy friendships among children and can also help to spread disability awareness by familiarizing peers to interact with students with disabilities.

Parents reported that they would like a smoother transition for their child within the school and from school into the community in a study by Columna et al. (2008). The parents felt that the transition of grade levels from year to year often interrupted their child's goals and progress in physical education. Parents reported that was it important to give their child with a disability more opportunities to be physically active within the community. It was reported that Hispanic parents of children with disabilities found it hard to pay for their child to participate in sporting activities within the communities. The data in the study suggest that APE teachers should promote physical activities that are relatively inexpensive in the community.

Findings by Columna et al. (2008) suggest that parents of students with disabilities not only need to frequently communicate about their child's progress in APE but need to communicate the importance of the content being taught to their child. Furthermore, physical educators need to communicate with the parents about how parents can help their child with a disability be physically active at home and in the community and not just during the time spent in school-based physical education. Having teachers talking and working with the parents to show them ways of promoting physical activity to their child can give the parents the confidence needed to effectively get their child engaged in daily physical activity. Teachers and parents can work together to establish applicable goals in physical education.

Teachers and parents of children with DS should prioritize goals for their students to learn in school, including in physical education class. Research by Curtner-Smith (1999) examined teachers perspectives on having a newly implemented National Curriculum Physical Education (NCPE). The study included 23 teachers working at eight different secondary schools in England. The average amount of teaching experience for the participants in the study was 10.22 years. The study was aimed to find the effects of the newly implemented NCPE and the feelings of the teachers towards its content. Curtner-Smith (1999) conducted several formal and informal observations, interviews, and analyzed documentation.

Ten of the teachers in the study were reported as having a conservative view on the implementation of the NCPE. A conservative view is considered as a "sporting perspective" (Curtner-Smith, 1999). These teachers felt that the curriculum content in secondary physical education should focus on "improving performance in traditional

British team games including rugby, soccer, cricket, netball, and hockey, and producing successful school teams" (Curtner-Smith, 1999). During class time, these teachers felt that it was imperative to teach the skills and strategies of these traditional sports under a direct style of teaching. An eight year teacher was quoted "Most of the stuff, to be honest, is the stuff we've been doing for years and years and years" (Curtner-Smith, 1999).

In contrast to the conservative view, seven teachers had an innovative interpretation of the NCPE. This idealist perspective is more child-centered, progressive, and focuses on personal and social development of the students than the conservative view (Curtner-Smith, 1999). These teachers were in support of the implementation of the NCPE as they agreed the emphasis proper planning, differentiation of teaching styles, and assessment of the students and themselves as teachers. Teachers felt that this curriculum helped the students to become well rounded movers.

Six teachers reported an eclectic view of the NCPE. This view was in the middle of the conservative and innovative views. These teachers reported both good and bad points of view towards teaching the national curriculum. A 12th year teacher stated, "The school's PE curriculum has shifted from a more traditional to a less traditional sports influence" Curtner-Smith (1999).

Teachers in the study with more teaching experience tended to favor the conservative or eclectic view while younger teachers tended to favor the innovative view of the NCPE. Seven out of the ten teachers in the conservative group were males while the majority of the innovative group were female teachers. Participants reported that male teachers did not want to teach dance and gymnastics, which were two areas of the

NCPE and that they felt more comfortable teaching team sporting units. A person's unwillingness to try or teach something new can hinder teaching effectiveness and student participation. What is taught in the curriculum is irrelevant if the teacher is not fully dedicated to teaching that content. Therefore, physical educators not only have to be aware of the parent priorities of curriculum content for students with DS, but they also have teach those specific areas of the curriculum to be effectively transferred to the students.

Communication between Teachers and Parents of Children with Disabilites

Communication between school and home is essential for an effective teacher-parent relationship that leads to the most appropriate education for a child. A study by Korkmaz (2007) described teachers' opinions on the responsibilities of parents, the schools, and teachers for enhancement of student learning. The study consisted of a three question open-ended survey taken by 148 teachers. The three questions were: what are your views about the responsibilities of parents to enhance student achievement; what are your views about responsibilities of schools to enhance student achievement; and what are your views about responsibilities of teachers to enhance student achievement?

When teachers were asked about what the parents should do, 100% of the teachers responded that the parents should love, respect, and care about their children. Sixty-one percent of the teachers reported that parents should have good communication with teachers and other school staff. The teachers reported that they wanted the parents to be at parent meetings and establish close working relationships with their children's teachers. Twenty-four percent of the teachers reported that the parents should let their children play games and participate in social activities (Korkmaz, 2007).

Korkmaz (2007) reported that 60% of the teachers responded that they felt the school should emphasize athletics and social activities to their students. Fifty-six percent of the teachers reported that the school should have a good communication with the families of their students. Nineteen percent of teachers thought that the school should emphasize social rules, while only 12% of teachers thought the school should monitor the students behaviors.

Korkmaz (2007) found that 90% of the teachers thought they should use a variety of instructional strategies such as cooperative learning to help their student's achievement levels. Forty-four percent of the teachers felt that they should have good communication skills with students, parents, and other teachers. Communication between teachers and parents is crucial for the social and physical wellbeing of students. This is especially true for students with disabilities.

Communication between teachers and parents is important, however, it is just as important for teachers to communicate with one another. A study by Lytle and Collier (2002) found that effectiveness of consultation depended on APE teacher's communication skills and the attitude towards collaboration of the general physical education teacher. The roles of an APE specialist have changed over the years as schools have shifted away from segregated placements for students with disabilities to inclusive placements. This shift has made consultation a critical component of the APE specialist's job.

Six participants were included in the study by Lytle and Collier (2002). Each participant was an APE specialist from California. A multi-method approach was used to

collect data in the study. The data collection included audio taped interviews of each participant, a 1-day field observation, and a focus group meeting.

The participants found that three contextual factors influenced the use of consultation. Social, intellectual, and the physical environment all had to be taken into consideration when implementing consultation. It was reported that it was more likely for elementary aged students to receive direct services as most philosophies believe that it is better to work with students on specific needs early years of life, rather than trying to correct skills during middle or high school years. Students in elementary school are also more likely to be excited to see you and work with them one to one. During middle school and high school it was found that consultation was typically more appropriate as the students were less likely to want the attention of an APE working directly with them while being in front of all their peers.

Six primary benefits related to consultation were found by Lytle and Collier (2002). Students with disabilities were able to be included in a natural setting with their peers. Consultation allowed APE specialists to assist the teachers with curriculum content building better physical education programs. Consultation also allows APE specialist have the option of direct or in direct services for their students to meet the specific needs of that individual. Scheduling was effected by the use of consultation as it allowed for APE specialist to be more flexible if they did not always have to be committed to being on site for each student's physical education class. Parents and general physical education teachers felt secure having the APE specialist available for communication purposes. Lastly, the study found that effective communication between members of the IEP team which includes the parents resulted in better physical education

programs for that student. It takes a great amount of energy and time to effectively choose the appropriate placement options for students with disabilities, whether it be consultation or direct services.

Summary and Conclusions

Children with DS have specific needs in physical education and are often deficient in their physical activity participation. Adapted and general physical education teachers do not always match their curriculum to meet those specific needs. Parents are often advocates of their child's education and that is especially true for parents of children with disabilities. It is essential that the physical education team and parents frequently collaborate on the needs of their child in physical education.

According to Shields et al. (2009) engagement in regular physical activity by children with DS is critical for their health. Down syndrome is associated with congenital heart defects, muscle hypotonicity, joint hypermobility, low cardiovascular fitness, and decreased muscle strength. Individuals with DS are less efficient in movement patterns and have a reduced exercise capacity. Approximately 50% of individuals with DS are overweight or obese. It is important for physical educators to stress the importance of physical activity to their students with DS and their parents. Frey et al. (2008) wrote, "The physical and psychological benefits of physical activity behavior are widely accepted and strongly promoted for all youth, including those with intellectual disabilities." In response to the data collected in the study above, physical educators should include fitness and wellness units into their curriculum and revisit them frequently for individuals with DS.

Studies have shown that individuals with DS can benefit significantly from a variety of physical activities and learning motor skills. Shields et al. (2009) recommended that lifelong activities are taught to individuals with DS. Activities such as dancing, swimming, cycling, and exercising in a gym would all be beneficial for individuals with DS in regards to their physical and social well being. These activities are all relevantly inexpensive and all can be performed in physical education as well as in the community.

Columna et al. (2008) reported that one goal of parents for their child in APE was to transfer skills learned in class to the community. The parents then reported that they lacked the knowledge to make appropriate adaptations to activities to meet the specific needs of their child when participating in recreational activities in the community. Adapted physical educators could resolve that issue by communicating with the parent about what they are doing in class on a weekly basis and the modifications to the activities that were made in order for their child to experience success.

A parent in the study by Columna et al. (2008) reported that her son's APE teacher communicated with her an average of once every six weeks. She would prefer to be contacted on a weekly basis to receive reports on her son's experience in physical education. The study also found that by communicating with parents it gives them a sense of empowerment and encouragement to promote physical activity in their household. Parents tend to have expectations for their child's APE teacher. Columna et al. (2008) reported that parent expectations for APE specialists included safety of their child, successful participation in an inclusive environment, and communication with them. It is vital for APE teachers to work in collaboration with all staff in the schools

and communicate information to parents. In return, parents need to communicate their beliefs and feelings about the education that their child is receiving in physical education to the APE teacher for appropriate changes in the curriculum to be made.

The physical education team needs to communicate with occupational therapists, physical therapists, classroom teachers, special education teachers, other physical educators, and parents to gain the necessary information needed to determine the most appropriate placement and education for students with disabilities. By communicating with the IEP team, physical educators can take the priorities of the parents and other physical educators and blend them their own to develop the most appropriate curriculum and goals for their students with DS.

After reviewing the literature, there appears to be a lack of research on physical educator's perceptions on curriculum content and if there is agreement between teachers and parents of students with disabilities, more specifically students with DS. Further research needs to be conducted to answer important questions. The first question raised by the data from related research is; how often does communication take place between parents and adapted physical educators? It is vital for the education of students with disabilities that communication takes place between the parents and the physical education team. Another question raised by reviewing related literature is, what are the highest priority physical education curriculum content areas for adolescents with DS and how do these priorities compare between parents and teachers? By conducting research to determine this information physical educators can use the data and implement the priority content areas into their curriculum or the student's IEP. All of these questions

will assist with increasing the amount of physical activity that individuals with DS engage in.

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