

The Impact of Paralympic School Day on Student Attitudes Toward
Inclusion in Physical Education

A Dissertation

Presented to

The Faculty of the Curry School of Education

University of Virginia

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education

by

Catherine McKay, B.S., M.S.Ed.

May, 2013

© Copyright by
Catherine McKay
All Rights Reserved
May, 2013

ABSTRACT

Adviser: Martin Block, Ph.D.

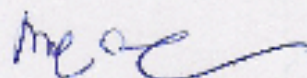
Paralympic School Day (PSD) is a disability awareness program that provides a platform for attitude change by raising awareness about disability and disability sport. The purpose of this study was to determine if PSD would have a positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education classes, including an exploration of the theoretical underpinnings of the PSD curriculum. The sample comprised of 143 sixth grade students at an Independent school located in New York City. The students were divided into two groups (experimental $n = 71$, control $n = 72$), with the experimental group receiving the half-day PSD treatment. All students responded three times to Siperstein's (2006) Adjective Checklist and Block's (1995) Children's Attitudes toward Integrated Physical Education-Revised (CAIPE-R) Questionnaire, which was used as a complete scale and then was divided into two subscales. Four ANCOVA tests were conducted, with the posttest score as the dependent variable, and the pretest score as the covariate. Independent variables were gender and PSD treatment, both including two levels: gender (male/female) and treatment (PSD/No PSD). Results indicated a significant PSD treatment effect across all four measures: Adjective Checklist ($p = .046$, $Partial \eta^2 = .03$); CAIPE-R ($p = .002$, $Partial \eta^2 = .07$); Inclusion subscale ($p = .001$, $Partial \eta^2 = .08$); and Sport Modification subscale ($p = .027$, $Partial \eta^2 = .04$). These results should be viewed with caution, as the effect sizes were low or moderate and the mean differences were slight. Results did not indicate a gender effect. Forward stepwise regression analyses indicated that

competitiveness at the very high level ($p = .026$, *Partial* $\eta^2 = .04$), contact at home ($p = .017$, *Partial* $\eta^2 = .04$), and contact in general education ($p = .022$, *Partial* $\eta^2 = .04$) were significant variables that impacted attitudes negatively, but should be viewed with caution, as effect sizes were low and mean differences were slight. A Confirmatory Factor Analysis (CFA) with a one-factor solution indicated that the fidelity criteria created for this study measured a single construct: Allport's (1954) contact theory.

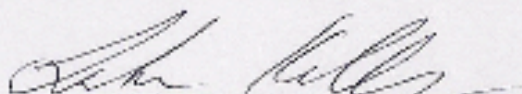
Department of Kinesiology
Curry School of Education
University of Virginia
Charlottesville, Virginia

APPROVAL OF THE DISSERTATION

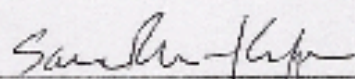
This dissertation, The Impact of Paralympic School Day on Student Attitudes Toward Inclusion in Physical Education, has been approved by the Graduate Faculty of the Curry School of Education in partial fulfillment of the requirements for the degree of Doctor of Education.



Martin Block, Ph.D., Advisor



Luke Kelly, Ph.D., Committee Member



Sara Rimm-Kaufman, Ph.D., Committee Member

March 21st, 2013 Date

DEDICATION

To Ryan-

whose support is abundant,

whose love is nourishing,

and whose patience is just shy of infinite.

To Dr. Block-

who mentors with candor and simplicity,

who offers feedback with kindness and care,

and who inspires excellence through passion and awesomeness.

“Spread love everywhere you go. Let no one ever come to you without leaving happier.”

-Mother Teresa

ACKNOWLEDGEMENTS

“Appreciation is a wonderful thing: It makes what is excellent in others belong to us as well.”
-Voltaire

It is with great pleasure that I acknowledge and give thanks to the extraordinary individuals who offered support and inspiration as I embarked on the monumental journey of writing this dissertation. First, with great appreciation, I acknowledge Dr. Martin Block, my adviser and mentor. You have an unbelievable gift. Thank you for believing in me when you kindly agreed to be my adviser over a decade ago, for sticking with me as I moved from city to city, and for role-modeling excellence in research and excellence in practice. Thank you to Dr. Luke Kelly, my committee member and role model, for offering expert advice and reviewing my work with unbelievable attention to detail. I will be a better researcher because of the challenging questions you asked and the standard of excellence you exude. A special thank you to Dr. Sara Rimm-Kaufman, my committee member and role model, for agreeing to serve on my committee with kindness and genuine enthusiasm, and for bringing positive energy to each of our meetings.

With extreme gratitude, I acknowledge Dr. Tom Kelly, Head of Horace Mann School, for setting the foundation for research success at our very first meeting. You lead with creativity and integrity, and you unwaveringly support ambition and academic excellence. I will never be able to thank you enough for your kindness and resources, and most of all, for starting from a place of “yes.” In addition, thank you to Robin Ingram, MD Head, and to Camille Miller and the 6th grade team, who jumped into the planning and support of Paralympic School Day (PSD) with excitement and helpfulness. Thank you to Patricia Zuroski and Markell Parker for embracing PSD as a valuable diversity

activity. I cherish you as friends and colleagues, and I admire the altruistic manner with which you lead and educate. I am grateful to Jasmin Ortiz, my friend and a brilliant photographer, for capturing the magic of PSD through photos. Thank you to my friends Adrienne Levin, Bronwen Whyte, Sabina Rowe, and Gabrielle Holder for your thoughtful words of encouragement and for checking in with me often to make sure I was hanging on. Thank you to the faculty and staff at the HM ND for your support this year.

I am super lucky to educate and lead with Dr. Genevieve Evans-Taylor, Karyn Nishimura Sneath, Denise Reens, and Stefania Rudd. When you invited me to join the lead facilitator team for the Emerging Leaders Institute, you sparked a fire in me that impacted my passion and determination to finish my doctoral degree. Thank you for being unbelievable beacons of light and integrity. Thank you to Linda Schnetzer, Susan DuMont, Lauren Kelly Gall, and the NE Regional Team for covering a large amount of my duties as I attempted to simultaneously serve our Fraternity and write a dissertation.

Thank you to the best editor a doctoral student could dream of, JoAnne Dyer, and to the best statistics tutor in the world, Jung Yeon Park, who made this process infinitely more enjoyable. In addition, thank you to Dr. Jacqueline Williams, my undergraduate adviser and friend, for teaching me the skills to be an outstanding physical educator. My journey started because of your passion and expertise, and I am very grateful.

Thank you to Mom and Carl for a lifetime of awesomeness and for being my biggest cheerleaders. Thank you to Andy and Bobby for eight-second hugs, and to Cristy and WT for your prayers. Lastly, thank you to my amazing husband, Ryan, for taking such good care of me throughout this entire process. In conclusion, I would like to quote a very wise bear named Pooh, who once said, “So much to do, so much to be!”

TABLE OF CONTENTS

DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vii
LIST OF TABLES	xii
LIST OF FIGURES	xiv
LIST OF APPENDICES	xv

CHAPTER	Page
I. INTRODUCTION.....	1
Attitudes	5
Contact Theory	6
Paralympic School Day	7
Statement of the Problem	9
Purpose of the Study	10
Overview of Research Questions	10
Definition of Terms	13
Delimitations	14
Limitations	15

	Statement of Significance	16
II.	REVIEW OF LITERATURE	18
	Review of Literature on Attitudes	18
	Attitude and Behavior	20
	Measuring Attitudes	21
	Attitude Research in Adapted Physical Education	23
	Attitudes of Students in the Classroom Setting	27
	Attitudes of Students in the Physical Education or Physical Activity Setting	41
	Review of Literature on Contact Theory	54
	Equal Status	56
	Cooperation	56
	Personal Interactions	57
	Support from Authority	57
	Review of Literature on Paralympic School Day	58
	Disability Awareness Programs	58
	Paralympic School Day	61
	Theoretical Framework of Paralympic School Day	63
	Paralympic School Day Field Based Research	66
	Conclusion	71
III.	METHODS	76

Independent and Dependent Measures	76
Population and Sample	78
Instruments	82
Children's Attitudes Toward Integrated Physical Education-Revised	82
The Adjective Checklist	85
Fidelity Criteria	87
The Institutional Review Board	88
Procedure	89
Data Analysis	101
Pearson Correlation	103
<i>t</i> -Tests	103
Analysis of Covariance	103
Regression Analysis	104
Chi Square	105
Reliability Measures	105
Validity Measures	106
Retention Measure	107
Conclusion	107
IV. RESULTS	109
Participant Demographic Information	109
Section I	111
Descriptive Statistics	110

Section II	112
Pearson Correlation	112
Section III	113
Random Assignment	113
Section IV	115
Analysis of Covariance	115
Independent Two Samples <i>t</i> -Test	125
Paired Samples <i>t</i> -Test	127
Section V	129
Regression Analysis	129
Section VI	138
Fidelity Criteria	138
Chi Square	140
Reliability Analyses	142
Factor Analysis	142
Section VII	145
Retention Measure	145
Conclusion	152
 V. DISCUSSION	 153
Impact of Paralympic School Day on Attitudes	154
Adjective Checklist	155
CAIPE-R	158

	Inclusion Subscale CAIPE-R	159
	Sport Modification Subscale CAIPE-R	162
	Relationship between Attitude Change and Gender	164
	Variables that Impact Attitude Change	166
	PSD Treatment and Pretest Attitude Variables	168
	Family and General Education Contact Variables	168
	Competitiveness Variable	170
	Attitude Retention	170
	Support for the Theoretical Components of Contact Theory	173
	Implications	182
	Future Research	186
	Conclusion	189
VI.	REFERENCES	191
VII.	APPENDICES	218

LIST OF TABLES

TABLE	Page
1. Distribution of Research Studies from 1982-2011.....	27
2. Attitude Total Score Translations for CAIPE-R Instrument	84
3. Participant Demographic Information	110
4. Descriptive Statistics for Attitude Measures	111
5. Correlation Between Attitude Instruments	112
6. <i>t</i> -Tests Comparing Attitude Pretest Scores	114
7. Descriptive Statistics for Attitude Measures by PSD and Gender	116
8. ANCOVA Homogeneity of Regression Slopes Adjective Checklist.....	117
9. ANCOVA Homogeneity of Regression Slopes CAIPE-R	118
10. ANCOVA Homogeneity of Regression Slopes Inclusion Subscale.....	118
11. ANCOVA Homogeneity of Regression Slopes Sport Modification Subscale ..	119
12. Levene's Test of Homogeneity of Error Variance	119
13. ANCOVA for Adjective Checklist	121
14. ANCOVA for CAIPE-R	122
15. ANCOVA for CAIPE-R Inclusion Subscale	123
16. ANCOVA for CAIPE-R Sport Modification Subscale	124
17. Independent <i>t</i> -Test Posttest Score Treatment Group Only	126
18. Paired Samples <i>t</i> -Test Pre and Post Treatment Group Only	128

19. Descriptive Statistics for Forward Stepwise Regression Analysis	130
20. Regression Analysis for Adjective Checklist	131
21. Regression Analysis for CAIPE-R	132
22. Regression Analysis for CAIPE-R Inclusion Subscale	134
23. Regression Analysis for CAIPE-R Sport Modification Subscale	136
24. Independent <i>t</i> -Test Comparing Sport Modification Attitude Differences	137
25. Fidelity Criteria Descriptive Statistics	139
26. Chi-Square Goodness of Fit Test	141
27. Inner Item Correlation Matrix	143
28. Factor Analysis Goodness of Fit Statistics	143
29. Factor Loadings of the Four Fidelity Criteria	144
30. Paired Samples <i>t</i> -Tests for Retention Scores	146
31. Retention Treatment Group Descriptive Statistics	147
32. Retention Treatment Group Paired Samples <i>t</i> -Tests	148
33. Low Score Treatment Retention Descriptive Statistics	149
34. Neutral Score Retention Paired Sample <i>t</i> -Tests	151
35. Probably Yes Low Score Retention Paired Samples <i>t</i> -Tests	152

LIST OF FIGURES

FIGURE	Page
1. Four Areas of Diversity Work	80
2. ANCOVA Residual Plots of Predicted Values vs. Standardized Residuals	120
3. Bar Graph of the Distribution of the Fidelity Criteria	139
4. A Single Factor Model of Fidelity Criteria for Allport's Contact Theory	144

LIST OF APPENDICES

APPENDIX	Page
A. The Development of the Paralympic School Day Program	218
B. Power Analysis	222
C. CAIPE-R Instrument	224
D. Adjective Checklist Instrument	231
E. Fidelity Criteria Instrument	234
F. Modifications to the CAIPE-R	236
G. Updated CAIPE-R Instrument	238
H. Horace Mann Attitude Survey Packet	244
I. Constructing a Fidelity Measure	249
J. IRB Approval	251
K. Paralympic School Day Activity and Value List	254
L. Email Communication-Achilles International	256
M. Email Communication-Wheelchair Basketball	258
N. Email Communication-Sitting Volleyball - 1.....	264
O. Email Communication- Swimming	266
P. Email Communication-Sitting Volleyball - 2	269
Q. Paralympic School Day Activity Cards and Lesson Plans.....	274
R. Participant Groups	290

S. Sixth Grade Faculty Training	296
T. Athlete Letter	297
U. Paralympic School Day Information Sheet.....	299
V. Paralympic School Day Parent Information	302
W. Athlete Biographies	304
X. Paralympic School Day Press Release	307
Y. Introduction Statement and Troubleshooting Questions: Pretest	309
Z. Introduction Statement and Troubleshooting Questions: Posttest	311
AA. Introduction Statement and Troubleshooting Questions: Retention Test	313

CHAPTER ONE

Introduction

“Schools are the ideal environment to lay the foundations for a better world...where better to promote healthy values and unbiased attitudes, and create awareness and acceptance of different abilities...?” (IPC, 2006, p. 3)

Over the past four decades, the number of students with disabilities included in the general education setting has increased markedly. The most recent statistics from the U.S. Department of Education (USDE) indicate 95% of students with disabilities (ages 6-21) were served in regular schools in 2009 (USDE, 2012). Statistics also indicate that 59.4% of students with disabilities spent at least 80% of their time in the general education setting in 2009 (USDE, 2012).

Inclusive school environments have benefits that range from attitudinal growth to cognitive growth, and from social growth to behavioral growth (Sherrill, Heikinaro-Johansson, & Slininger, 1994; Stainback, Stainback, & Jackson, 1992). Inclusive environments offer all students a sense of acceptance, a sense of belonging, and a sense of feeling supported (Stainback & Stainback, 1996). Inclusion is guided by the paramount belief that diversity should be valued (Rogers, 1993), and in turn, inclusive environments embrace and venerate student diversity (Bunker, 1994).

Unfortunately, research related to inclusion in the general education setting offers mixed results. Kliever (1998) found that inclusion experiences allowed students with disabilities to be more socially competent than their peers attending segregated schools.

In addition, some students with disabilities show stronger academic progress when in an inclusive setting (Bax, 1999; Kliwer, 1998; Sebba & Sachdev, 1997). Alternately, research on inclusion in the general education setting indicates that students with disabilities were perceived as different, were ostracized, lacked friends, and were bullied (Dorries & Haller, 2001; Llewellyn, 2000; Yude & Goodman, 1999). Research on inclusion in the general education setting shows that the successful inclusion of students with disabilities is dependent on a critical variable: the development of positive attitudes toward inclusion practices (Antonak & Livneh, 1988; Yunker & Block, 1986). The aforementioned attitudes include the attitudes of peers without disabilities, as peer acceptance plays a crucial role in the success of inclusion practices (Odom, McConnell, & McEvoy, 1992).

Inclusion also applies to general physical education (GPE; Block, 2007). Physical education is the only curricular topic specifically covered in the Individuals with Disabilities Education Act (IDEA; Block, 2007). While there are no laws mandating that children without disabilities be taught physical education, IDEA covers physical education services as follows:

Physical education services, specially designed as necessary, must be made available to every child with a disability receiving a free appropriate public education . . . Each child with a disability must be afforded the opportunity to participate in the regular physical education program available to typically developing children unless:

- (1) the child is enrolled full-time in a separate facility; or
- (2) the child needs specially designed physical education, as prescribed in

the child's individualized education program. ("Assistance to States," 2006, § 300.307)

Similar to the general education research, physical education research indicates that an important variable in successful inclusion practice is the attitude of the peer group (Sherrill et al., 1994; Sherrill, 1998; Tripp & Sherrill, 1991). Attitude is considered one of the keys to changing behaviors towards people who are different, and these improved behaviors are essential to adapted physical education (APE) and integration (Sherrill, 1998). Age is a variable of importance, as research shows that as grade level increases, attitudes and beliefs about inclusion become less favorable (Bell & Morgan, 2000; Kalyvas & Reid, 2003; Townsend & Hassall, 2007; Verderber et al., 2003).

Research related to the success of inclusion in the physical education setting also offers mixed results. Students with disabilities report having experiences that range from isolation to involvement, from ridicule to compliments, and from limited involvement to active involvement (Blinde & McCallister, 1998; Goodwin, 2001; Goodwin & Watkinson, 2000). Goodwin and Watkinson (2000) categorized student experiences into two categories: (a) good days, including feeling a sense of belonging, shared benefits, and skillful participation; and (b) bad days, including restricted participation, questioned competence, and social isolation. Socialization is often argued to be a benefit of inclusive physical education (Block, 2007); however, research indicates that students with disabilities experience limited social interaction, and in turn, limited social learning experiences (Ellis, Wright, & Cronis, 1996; Lisboa, 1997; Odom et al., 1992; Place & Hodge, 2001). Alternately, a review of the literature on inclusion in physical education found three key positive outcomes: (a) students with disabilities can be successfully

included in general physical education with support, (b) the inclusion of students with disabilities does not have negative effects on peers without disabilities, and (c) students without disabilities have moderately positive attitudes toward peers with disabilities (Block & Obrusnikova, 2007).

Research on inclusion in the physical education setting emphasizes the instrumental role that peers without disabilities play in the experiences of students with disabilities (Block, 2007; Block, Oberweiser, & Bain, 1995; Tripp, French, & Sherrill, 1995). Peer rejection can limit social learning opportunities and can negatively impact the academic achievement of students with disabilities (Block, 2007). Peers without disabilities were found to be the most significant support system for students with disabilities in a study by Hutzler, Fliess, Chacham, and Van den Auweele (2002); and peer education was recommended.

Peer education, or preparing peers without disabilities for the inclusion of peers with disabilities, is one key factor in successful inclusion practice (Houston-Wilson, Dunn, van der Mars, & McCubbin, 1997; Lieberman, Dunn, van der Mars, & McCubbin, 2000; Loovis & Loovis, 1997; Murata & Jansma, 1997). The manner in which students without disabilities are prepared for the inclusion of their peers with disabilities is essential. Blinde and McCallister (1998) emphasize that sensitivity and empathy towards the needs of others should be covered. Murata, Hodge, and Little (2000) emphasize that diversity appreciation and disability awareness should be covered. Block (2007) notes that specific training is needed for children without disabilities in order for them to interact with peers with disabilities in a positive and age-appropriate manner. Wilhite, Mushett, Goldenberg, and Trader (1997) write that emphasizing the *ability* of individuals

with disabilities can result in positive and practical outcomes for students taking part in awareness education training activities.

Attitudes

Attitudes of children without disabilities toward the inclusion of children with disabilities have been studied across a variety of educational contexts and situations. Attitude, as explained in the early literature in a unidimensional facet, is the preparation or readiness for response and the precondition of behavior (Allport, 1935). The definition of attitude was broadened to be multidimensional, with theorists explaining that it included cognitive, affective, and behavioral components (Rosenberg & Hovland, 1960; Triandis, 1971). While the definitions may vary, researchers agree that attitudes are important in the lives of human beings, as they help guide behavior toward goals, help simplify information, and help communicate values (Katz, 1960).

Research on attitudes often includes attitude measurements that assist the researcher in predicting and explaining an individual's behavior toward the attitude referent (Antonak & Livneh, 1988; Yuker, 1988). Assessment of attitude components and related behaviors is the first step in the process of attitude change (Sherrill, 1998). General attitude measurements, as well as attitude measurements specific to physical education, have been developed to assess attitudes toward disability and attitudes toward inclusion. Attitude measures can be categorized based on the aforementioned attitude components: cognitive, affective, or behavioral, and are commonly divided into indirect or direct methods (Antonak & Livneh, 2000). Indirect methods are attitude measurements in which participants are not aware their attitudes are being measured (Antonak & Livneh, 2000). Indirect methods include physiological reactions (heart rate), motor

responses (facial expressions), techniques in which participants are purposefully deceived, and behavioral observations in natural classroom settings (Ajzen, 1988; Antonak & Livneh, 2000). Direct methods measure a person's intent or predisposition to engage in a specific behavior (Antonak & Livneh, 1988; Yuker, 1988). Direct methods include adjective checklists, Likert scales, opinion surveys, rating scales, and interviews (Antonak & Livneh, 2000; Sherrill, 1998; Yuker, 1988). Direct methods are the most common measures of attitudes toward people with disabilities, and these measures often provide a means to evaluate the thoughts, feelings, and beliefs of peers toward inclusion and integration practices (Hutzler, 2003).

Contact Theory

There are two leading lines of research regarding positive attitude change: (a) investigating whether contact and exposure to the attitudinal referent has an effect on attitudes, and (b) investigating whether information that will increase cognition has an effect on attitudes (Ajzen & Fishbein, 1980; Allport, 1954; Favazza & Odom, 1997; Hutzler, Fliess-Douer, Avraham, Reiter, & Talmor, 2007; Liu, Kudlacek, & Jesina, 2010; Loovis & Loovis, 1997; Marom, Cohen, & Naon, 2007; Mickel & Griffin, 2007; Olson & Zanna, 1993; Panagiotou, Evaggelinou, Doukeridou, Mouratidou, & Koidou, 2008; Pettigrew, 1998; Reina, Lopez, Jimenez, Garcia-Calvo, & Hutzler, 2011; Rillotta & Nettelbeck, 2007; Sigelman, Miller, & Whitworth, 1986; Wilhite et al., 1997; Xafopoulos, Kudlacek, & Evaggelinou, 2009; Yuker, Block, & Young, 1966). The first listed line of research, investigating whether contact and exposure to the attitudinal referent has an effect on attitudes, directly relates to Allport's (1954) contact theory and is the focus of this research.

Allport (1954) theorized that as people come into contact with others different from themselves, their prejudiced ideas will diminish as they come to understand the other person. Contact theory has been used to explain a great deal about human relations, particularly in terms of prejudice and difference. Allport specified four necessary conditions for contact to improve negative attitudes: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. These four conditions reduce prejudice because they maximize the probability that shared values and beliefs will be demonstrated and perceived, and will therefore provide the basis for interpersonal interaction (Allport, 1954). Contact theory is particularly relevant to the present study, as it forms the basis for many awareness intervention programs, and awareness intervention programs provide one avenue to impact attitudes related to inclusion.

Paralympic School Day

Disability awareness programs offer an avenue for raising awareness and changing attitudes toward people with disabilities. Many similarities are observed in the research on disability awareness programs that may be effective in changing attitudes towards people with disabilities. Contact is a recurring theme, which aligns with Allport's (1954) contact theory (Donaldson, 1980; Horne, 1988; Towner, 1984; Triandis, Adomopoulus, & Brinberg, 1984). Information is also a recurring theme, which aligns with the theoretical work Antonak & Livneh (1988) conducted on attitudes and beliefs (Donaldson, 1980; Horne, 1988; Triandis et al., 1984). In the physical education setting, recent research on intervention activities indicates that combining structured contact, knowledge acquisition, and awareness activities is an effective method for changing

attitudes (Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Panagiotou et al., 2008; Reina et al., 2011; Xafopoulos et al., 2009).

Paralympic School Day (PSD), published by the International Paralympic Committee (IPC; Official Website of the Paralympic Movement, n.d.b), is a disability awareness curriculum specific to disability sport. PSD was created to raise awareness and provide a platform for attitude change through education about the Paralympics, about individual differences, and about acceptance (Official Website of the Paralympic Movement, n.d.b). The curriculum is designed to create an environment in which participants experience a realistic and holistic portrayal of disability sport and athletes who participate in disability sport (IPC, 2006). In addition, participants are able to challenge and find meaning in their own beliefs and experiences (IPC, 2006). The PSD curriculum is based on four values: (a) respect for sporting achievement, (b) respect and acceptance of individual differences, (c) sport as a human right, and (d) empowerment and social support in sport (IPC, 2007).

PSD is rooted in Allport's (1954) contact theory and aligns with Allport's four necessary conditions for contact: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. Contact theory was cited as the foundation of a PSD study conducted by Panagiotou et al. (2008) on the impact the PSD awareness program has on attitude change.

Beyond the Panagiotou et al. (2008) study, the impact the PSD awareness program has on attitude change has been measured in two additional published studies conducted in Europe (Liu et al., 2010; Xafopoulos et al., 2009). Specifically, these

studies have measured the attitudes of peers without disabilities toward the inclusion of peers with disabilities in physical education. Results are mixed, as attitudes towards inclusion showed positive changes (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009) as a result of PSD, but not always at a significant level. In some cases, attitudes towards inclusion showed positive change, but attitudes towards modifying sport rules did not show change (Panagiotou et al., 2008; Xafopoulos et al., 2009) or tended to decrease (Liu et al., 2010). The impact gender had on attitude change was also mixed, as attitudes were shown to be more positive in females as a result of the PSD awareness intervention (Xafopoulos et al., 2009), yet gender differences in attitude were not found to be significant in the Panagiotou et al. study or the Liu et al. (2010) study. Additional research on PSD is needed, as a school-based disability sport awareness program that is proven to be successful in changing attitudes could make a significant impact on future inclusion practice.

Statement of the Problem

Although there has been a considerable amount of research on the effectiveness of disability awareness programs, there is a lack of research on sport-focused disability awareness programs. A literature search indicates that field-based research has been conducted on only one disability sport awareness program: Paralympic School Day (PSD), published by the International Paralympic Committee (IPC; Official Website of the Paralympic Movement, n.d.b).

Although research has been conducted on the effectiveness of the PSD program on impacting attitudes of children without disabilities toward the inclusion of children with disabilities in physical education, the research is limited to European countries. To

date, the effectiveness of the PSD awareness program on impacting attitudes has not been evaluated in the United States. Additionally, the theoretical foundation of the PSD intervention has not been explored.

It is important, therefore, to analyze the PSD program in the United States, including the theoretical foundation, because intervention programs that create disability sport awareness and understanding could be both meaningful and necessary in the school setting. Because one of the most important variables in successful inclusion practice is the attitude of the peer group (Sherrill et al., 1994; Sherrill, 1998; Tripp & Sherrill, 1991), ongoing research related to improving the attitudes of students without disabilities towards the inclusion of students with disabilities is imperative.

Purpose of the Study

This study was in response to a need for the evaluation of a sport-related disability awareness program in the United States, specifically of the only field-researched disability sport awareness program, Paralympic School Day. The purpose of this study was to determine if the Paralympic School Day awareness program would have a positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education classes. This study involved clear theoretical connections to Allport's (1954) contact theory, exploring the theoretical underpinnings of the Paralympic School Day curriculum.

Overview of Research Questions

The purpose of this study is binary: (a) to measure the attitude change of students without disabilities toward the inclusion of students with disabilities in the physical education setting after taking part in the Paralympic School Day program, and (b) to

explore the variables that have an impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting.

Research questions include:

RQ1: Does the Paralympic School Day disability awareness program have an impact on the attitudes of students without disabilities towards the inclusion of students with disabilities in the physical education setting?

Ho1: The Paralympic School Day disability awareness program does not have a statistically significant impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting.

Sub RQ1-a: Does the Adjective Checklist indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Sub Ho1-a: The Adjective Checklist does not indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program.

Sub RQ1-b: Does the CAIPE-R indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Sub Ho1-b: The CAIPE-R does not indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program.

Sub RQ1-c: Does the Inclusion subscale of the CAIPE-R indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Sub Ho1-c: The Inclusion subscale of the CAIPE-R does not indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program.

Sub RQ1-d: Does the Sport Modification subscale of the CAIPE-R indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Sub Ho1-d: The Sport Modification subscale of the CAIPE-R does not indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program.

RQ2: Is there a relationship between gender and the attitude change of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

Ho2: The PSD treatment effect does not have a statistically significant impact on the attitudes of students without disabilities toward the inclusion of students with disabilities as a function of gender in the physical education setting.

RQ3: Do the following variables: (a) contact with a close friend or family member, (b) contact in general education, (c) contact in physical education, (d) level of competitiveness, (e) gender, (f) Paralympic School Day treatment, and (g) pretest attitude score have a statistically significant impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

Ho3: The following variables: (a) contact with a close friend or family member, (b) contact in general education, (c) contact in physical education, (d) level of

competitiveness, (e) gender, (f) Paralympic School Day treatment, and (g) pretest attitude score do not have a statistically significant impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting.

RQ4: Does the Paralympic School Day disability awareness program satisfy the four components of Allport's (1954) contact theory: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority?

Ho4: The Paralympic School Day disability awareness program does not satisfy the four components of Allport's (1954) contact theory: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority.

RQ5: Does the Paralympic School Day disability awareness program have an impact on the retention (six weeks) attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

Ho5: The Paralympic School Day disability awareness program does not have a statistically significant impact on the retention attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting.

Definition of Terms

Terms used within the context of this study have been defined as follows:

Attitude. "An attitude is an *idea* charged with *emotions* which predisposes a class of *actions* to a particular class of social situations" (Triandis, 1971, p. 2).

Contact Theory. The theory that proposes as people come into contact with others different from themselves, their prejudiced ideas will diminish as they come to understand the other person (Allport, 1954).

Cooperation. When individuals are working together toward common goals in a noncompetitive manner (Allport, 1954).

Disability Awareness Programs. An avenue for raising awareness and changing attitudes toward people with disabilities (Horne, 1985).

Disability Sport. Competitive and recreational athletic activities played by individuals with disabilities, sometimes referred to as adapted sports (IPC, 2007).

Equal Status. When groups have contact as equals in status, they are less likely to be antagonistic toward one another (Allport, 1954).

Inclusion. A philosophy in which students with disabilities receive an appropriate, individually determined physical education program within the general physical education setting alongside students without disabilities (Block, 2007).

Personal Interactions. Meaningful, exceptional interactions that provide the chance for participants to acquire more information about one another and to get to know one another as individuals (Allport, 1954).

Support from Authority. The norm of acceptance, including laws and customs, that impacts whether attitudes can be changed through contact (Allport, 1954).

Delimitations

The study is delimited in the following areas:

1. Only sixth grade students enrolled at Horace Mann School will be included in the study.

2. The attitudes of sixth grade students will be measured only in regard to the inclusion of students with physical disabilities.
3. The attitudes of sixth grade students will be measured only in regard to the inclusion of students in the physical education setting.
4. The Paralympic School Day disability awareness program is the only disability awareness program being used as an intervention in this study.
5. Contact Theory is the only theoretical perspective being explored in this study.
6. Attitudes will be measured only by the Adjective Checklist (Siperstein, 2006) and the CAIPE-R (Block, 1995) in this study.

Limitations

The study is limited in the following areas:

1. The participants in this study may not be a representative sample of the sixth grade population, as participants are enrolled at an independent school.
2. The sample for this study may not be generalizable to other samples, as Horace Mann School has an Office of Diversity Initiatives that serves to engage students as active community members who are engaged in inclusive behaviors. In addition, results of this study could be biased, based on the participants' up-to-date knowledge of tolerance and diversity issues.
3. Results of this study could be biased based on the participants' lack of exposure to inclusion in the school setting or the physical education setting, as the percentage of students with physical disabilities at Horace Mann School is very low.
4. Attitudes are self-reported, and therefore may not be accurate; as students may answer based on what they think is socially acceptable rather than indicating their

actual attitudes.

5. Attitudes toward the inclusion of students with physical disabilities only are being explored; thus, it cannot be assumed that findings will generalize to attitudes toward the inclusion of students with other disabilities.
6. Participants for this study are sixth grade students. Findings will not necessarily generalize to students in other grades.
7. Because the Paralympic School Day program allows for variation in planning and execution, it cannot be assumed that findings will generalize to all Paralympic School Day programs.
8. Participants will experience contact with four Paralympic athletes, selected based on factors that allow for meaningful interactions. Because this combination of athletes is unique to this study, findings will not necessarily generalize to other Paralympic School Day programs.

Statement of Significance

The results of this study will provide in-depth data indicating the effectiveness of the Paralympic School Day program on changing attitudes towards the inclusion of students with disabilities in the physical education setting. This study will be the first of its kind in the United States, offering results that could potentially guide future awareness programming initiatives that are specific to changing attitudes of the peer group. This study will provide an in-depth look at the variables that have a relationship with attitudes towards inclusion, including gender, contact, and competitiveness, allowing for an examination of how variables can impact attitudes. In addition, this study will provide an understanding of the relevance of contact theory (Allport, 1954) in regard to the

effectiveness of an intervention program. Analyzing the Paralympic School Day program, including the theoretical foundation, is both meaningful and necessary, as an important variable in successful inclusion practice is the attitude of the peer group (Sherrill et al., 1994; Sherrill, 1998; Tripp & Sherrill, 1991). This study could potentially guide future discussions about the implementation of the Paralympic School Day program in the United States as a meaningful and relevant avenue for improving the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting.

CHAPTER TWO

Review of Literature

The main purpose of this study is to measure the impact of an awareness curriculum on attitude change in middle school students. This chapter provides a review of the relevant literature, and is presented in three main sections: (a) attitudes, (b) contact theory, and (c) Paralympic School Day. At the conclusion of this literature review, the importance of awareness interventions will be summarized, and possibilities for future research will be discussed.

Review of Literature on Attitudes

One of the most important variables in successful inclusion practice is the attitude of the peer group (Sherrill et al., 1994; Sherrill, 1998; Tripp & Sherrill, 1991). Attitude is considered the key to changing behaviors towards people who are different, and these improved behaviors are essential to adapted physical education (APE) and integration (Sherrill, 1998).

Attitudinal research is the foundation of social psychology, with lead researchers defining the field of social psychology as the scientific study of attitudes (Ajzen & Fishbein, 1980; Allport, 1935; Thomas & Znaniecki, 1918; Triandis, 1971). Attitude, as explained in the early literature, is the preparation or readiness for response and the precondition of behavior (Allport, 1935). This explanation is unidimensional and labels attitude as preparatory. Allport (1935) described the four sources that factor into the

development of attitudes: (a) the integration of specific responses to similar situations; (b) the specific tendencies related to general approach or withdrawal; (c) the influence of significant others; and (d) the impact of a single, remarkable experience. A second unidimensional definition of attitude was defined by Ajzen & Fishbein (1980) as “a person’s evaluation of any psychological object” (p. 27).

Theorists have broadened the definition of attitude to a multidimensional definition that includes cognitive, affective, and behavioral components (Rosenberg & Hovland, 1960; Triandis, 1971). Triandis (1971) states: “An attitude is an *idea* charged with *emotions* which predisposes a class of *actions* to a particular class of social situations” (p. 2). In this definition, the idea is the cognitive component, the emotion is the affective component, and the actions are the behavioral component. The cognitive component involves knowledge and thoughts toward others, such as thinking that all individuals who have blue eyes are friendly. The affective component involves feelings toward others, as well as your personal value set, and is reinforced through prior learning experiences. For example, if you learned as a child that dogs are scary, as an adult you may have an irrational fear of dogs. The third component, behavior, involves actions and can be as subtle as not making eye contact when introduced, or as overt as verbal teasing and ridicule.

Although there are multiple definitions of attitude, most social psychologists acknowledge the importance of attitudes in the lives of human beings. According to Katz (1960), attitudes serve people in four ways. First, attitudes guide behavior toward valued goals and away from aversive events. Second, attitudes help manage and simplify information. Third, attitudes allow people to communicate information about their

personality and values. And finally, attitudes protect people from unacceptable or threatening thoughts, urges, and impulses. Further, Katz proposed that attitudes serve to fulfill the needs of the individual for knowledge (need for information), ego-defense (protection of self-concept), value expression (self-concept and identity expression), and social connectedness (establishing and nurturing relationships).

Attitude and Behavior

The link between attitude and behavior has received much attention. Many agree that attitudes are influential in behavior; however, it is theorized that this relationship is not singular, but rather multidimensional. Biddle and Chatzisarantis (1999) write:

In predicting behavior, attitudes are only part of a more complex decision making process where other factors can also be of influence. Values, beliefs, perceptions of control, and intentions moderate attitude-behavior relationships. Specifically, attitudes cannot determine behavior unless they lead to the development of intentions (p. 9).

In explaining the relationship between attitudes, intentions, and future behavior, Ajzen and Fishbein (1980) have developed the theory of reasoned action. This theory asserts that action is determined by intention, which is influenced by attitudes and social norms. Attitudes are influenced by beliefs and values, and social norms are influenced by the beliefs of significant others and the motivation to comply with the beliefs of others.

Additional research linking attitude and behavior includes work by Bandura and Walters (1963), which suggests that children develop attitudes by watching and imitating others, primarily their parents, peers, and those in authority positions. These influences reinforce acceptable attitudes, increasing the probability that the attitude and subsequent

behavior will be continued in the future (Bandura & Walters, 1963). Festinger (1957) believed that humans have an unconscious need for consistency between attitudes, feelings, and behavior, suggesting that attitudes are the result of cognitive dissonance. When behaviors and attitudes are not consistent, humans experience an internal state of tension or discomfort, thus developing new attitudes to ease the tension (Festinger, 1957).

Attitude research also addresses attitude change and the modification of attitudes with an intervention. There are two leading lines of research regarding positive attitude change: (a) investigating whether contact and exposure to the attitudinal referent has an effect on attitudes, and (b) investigating whether information that will increase cognition has an effect on attitudes (Ajzen & Fishbein, 1980; Allport, 1954; Favazza & Odom, 1997; Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Marom et al., 2007; Mickel & Griffin, 2007; Olson & Zanna, 1993; Panagiotou et al., 2008; Pettigrew, 1998; Reina et al., 2011; Rillotta & Nettelbeck, 2007; Sigelman et al., 1986; Wilhite et al., 1997; Xafopoulos et al., 2009; Yuker et al., 1966). Both of these lines of research, as they relate to changing attitudes towards peers with disabilities, will be explored in later sections of this literature review.

Measuring Attitudes

Assessment of attitude components and related behaviors is the first step in the process of attitude change (Sherrill, 1998). Research on attitudes often includes attitude measurements that assist the researcher in predicting and explaining an individual's behavior toward the attitude referent (Antonak & Livneh, 1988; Yuker, 1988). Numerous attitude measures have been developed to assess attitudes toward disability, attitudes toward mainstreaming, attitudes toward inclusion, and attitudes toward specific

disabilities (Antonak & Livneh, 2000; Jones, 1984; Vignes, Coley, Grandjean, Godeau, & Arnaud, 2008). Measurements related to physical education (PE), or useful in the physical activity (PA) setting, can be found in a review by Hutzler (2003), a review by Vignes et al. (2008), and in a variety of textbooks (Block, 2007; Hastad & Lacy, 1998; Sherrill, 1998).

Attitude measures can be categorized based on the aforementioned attitude components: cognitive, affective, or behavioral, and are commonly divided into indirect or direct methods (Antonak & Livneh, 2000). Indirect methods are attitude measurements in which participants are not aware their attitudes are being measured (Antonak & Livneh, 2000). Indirect methods include physiological reactions (heart rate), motor responses (facial expressions), techniques where participants are purposefully deceived, and behavioral observations in natural classroom settings (Ajzen, 1988; Antonak & Livneh, 2000). Indirect methods are sometimes not practical or feasible because of cost and time; therefore, many researchers rely on direct measures (Antonak & Livneh, 2000). Direct methods are the most common measures of attitudes toward people with disabilities and measure a person's intent or predisposition to engage in a specific behavior (Antonak & Livneh, 1988; Yuker, 1988). Direct methods include adjective checklists, Likert scales, opinion surveys, rating scales, and interviews (Antonak & Livneh, 2000; Sherrill, 1998; Yuker, 1988). Direct methods of measuring attitudes also have limitations, including measurement validity being compromised by response style (Antonak & Livneh, 1988) and response bias (Sherrill, 1998). Overall, attitude measures require sound instrumentation to provide valid and reliable data regarding attitude structure, formation, and modification (Antonak & Livneh, 1988).

Attitude Research in Adapted Physical Education

Attitude research in APE provides a means to evaluate the thoughts, feelings, and beliefs of peers toward inclusion and integration practices (Hutzler, 2003). This research includes measuring environmental restrictions that stem from negative reactions. Antonak and Livneh (1988) assert that there is a consensus that the following concepts form the base of attitude research:

1. Attitudes are learned through experience and interaction with other people.
2. Attitudes are complex, multicomponent structures.
3. Attitudes are relatively stable (even rigid) as evidenced by their resistance to change.
4. Attitudes have a specific social object as a referent (people, situations, events, ideas).
5. Attitudes vary in their quantity and quality, possessing different degrees of motivating force (intensity, strength), and direction (toward, against, away from the attitude referent).
6. Attitudes are manifested behaviorally via predisposition to act in a certain way when the individual encounters the attitude referent. (pp. 9-10)

The structural framework for studies of attitudes in APE is provided in these six concepts (Slininger, Sherrill, & Jankowski, 2000). Within this framework, peers with disabilities serve as the “special social object as a referent” as seen above in concept four.

The attitudinal components of cognition, affect, and behavior can be broken into measurable variables (Rosenberg & Hovland, 1960), and are typically identified with attitudes toward disability (Tripp & Sherrill, 1991). As related to disability, the cognitive

component involves statements related to knowledge about individuals with disabilities, the affective component involves statements or feelings towards individuals with disabilities, and the behavioral component involves statements about actual or intended behavior towards individuals with disabilities. Attitude can be looked at as an enduring set of emotionally charged beliefs that predispose a person to certain kinds of behaviors (Sherrill, 1998).

The Individuals with Disabilities Education Improvement Act of 2004 (PL 108-446), the most recent reauthorization of the Education for Handicapped Children Act of 1975 (PL 94-142), emphasizes that children with disabilities be placed in the general education (GE) setting. Supporting the educational needs of children with disabilities in the GE setting is known as inclusion, and inclusion also applies to general physical education (GPE; Block, 2007).

Block and Vogler (1994) and Block and Obrusnikova (2007) reviewed the literature related to inclusion in GPE to critically analyze the research and provide recommendations for future practice. In addition, Hutzler (2003) reviewed the literature related to attitudes toward the participation of individuals with disabilities in physical activity, and Jellison and Taylor (2007) reviewed the literature related to attitudes toward inclusion in the music education setting. All three reviews looked comprehensively at the attitudes of parents, teachers, paraprofessionals, peers, administrators, and individuals with disabilities. While these reviews touched on peer attitudes, they did not focus on peer attitudes as the singular topic. Because peer attitudes can influence social and policy outcomes, examining both the favorable and unfavorable peer attitudes toward inclusion in GPE is critical.

Purpose. The purpose of this review is to describe and analyze English-written research literature, published in professional journals in the past 30 years, that is related to the attitudes of peers toward the inclusion of individuals with disabilities in GE, PE, and PA settings. The articles have been retrieved and analyzed by content and quality.

Method. A search of the literature was conducted to find articles with relevance to the attitudes of peers toward the inclusion of individuals with disabilities in GE, PE, and PA settings. A computerized search of SPORTDiscus used these key words: attitude, peer, inclusion, physical education or physical activity, and disability. A title search in the Education Resources Information Center (ERIC) was conducted using these key words: inclusion, attitude, children, peer, or student. A key word search was conducted in the Physical Education Index using these key words: attitude, inclusion, physical education or physical activity. The Physical Education Index search located 26 articles, all of which were duplicates of the ERIC or SPORTDiscus search. The computerized searches located articles reported between January 1982 and December 2011. Additional research was located doing a manual search of the Adapted Physical Education Quarterly from 1984-present and a manual reference list search from articles found in the computerized searches.

Data was first narrowed using the following criteria: (a) published articles in the English language from scientific journals or periodical publications; and (b) articles reporting a transparent description of the sample selected, the variables measured, the instruments used for assessment, and the analysis of data conducted; and (c) articles containing field-based research that examines attitudes or perceptions of peers without disabilities on the inclusion of peers with disabilities; or (d) articles containing field-

based research that examines the change of attitudes or perceptions of peers in school-based settings. Studies aimed at developing new instruments or testing new models were excluded. The author assessed all selected studies according to the four aforementioned eligibility criteria.

Results. After narrowing the literature search from 97 articles to 33 articles using the eligibility criteria, the author conducted a reading analysis on each article. Through this analysis, articles were separated into two themes: nonintervention studies and intervention studies. For these themes, the author defines intervention as something being done differently with the participants, and nonintervention as nothing was done differently with the participants. The rationale for choosing these two themes was to offer a clear division of the types of research related to measuring attitudes and attitude change.

To better differentiate research, the two themes were separated into the following four categories: (a) nonintervention studies measuring attitudes of students in the classroom setting ($n = 6$), (b) intervention studies measuring attitudes of students in the classroom setting ($n = 6$), (c) nonintervention studies measuring attitudes of students in PE or PA settings ($n = 8$), (d) intervention studies measuring attitudes of students in PE or PA settings ($n = 13$). The articles in each of these theme categories are summarized in Table 1.

Table 1

Distribution of research studies from 1982 – 2011

<u>Research Type</u>	<u>Nonintervention</u>	<u>Intervention</u>
Attitudes of Students in the Classroom Setting	6	6
Attitudes of Students in the PE or PA Setting	8	13

Attitudes of Students in the Classroom Setting

Twelve studies dated 1987-2011 that focused on describing or measuring peer attitudes toward children with a disability in the classroom setting were retrieved.

Articles included both qualitative and quantitative studies with a range of participants from elementary school to high school. As previously mentioned, articles are divided between nonintervention studies and intervention studies.

Nonintervention Studies. Six nonintervention studies dated 1997-2011 and focusing on describing peer attitudes toward children with a disability in the classroom setting were retrieved. Articles focused on a variety of students, ranging from elementary school to high school. Of the six articles, five use a quantitative approach, and one uses a qualitative approach. Research questions in these articles show great similarity, as each inquires about attitudes of peers without disabilities toward peers with disabilities, often including inquiries about the variables that affect attitudes, as well as patterns of influence on attitudes.

There was considerable variation in the theoretical foundations and instrumentation used in these studies. Roberts and Lindsell (1997) implemented the theory of reasoned action (TRA; Fishbein & Ajzen, 1975) to assess the patterns of

influence on the attitudes and behavior intentions of primary school children toward peers with physical disabilities, and the researchers collected data using the Peer Attitudes Toward the Handicapped Scale (PATHS; Bagley & Green, 1981). Bossaert, Colpin, Pijl, and Petry (2011) used the theory of persuasive communication (Campbell, 2006) as the theoretical construct to consider the attitudes of middle and high school students without disabilities towards their peers with disabilities, and collected data using the Chedoke-McMaster Attitudes Towards Children with Handicaps instrument (CATCH; Rosenbaum, Armstrong, & King, 1986). Vignes et al. (2009) also used the CATCH (Rosenbaum et al., 1986) instrument to measure the affective, behavioral, and cognitive dimensions of the attitudes of students without disabilities toward peers with disabilities. Kalymon, Gettinger, and Hanley-Maxwell (2010) and Brook and Galili (2000) implemented contact theory (Allport, 1954) as their theoretical approach, examining what it takes to develop positive relationships with peers who are disabled. Kalymon et al. used a qualitative approach, conducting semistructured interviews, and Brook and Galili designed a quantitative questionnaire for their measure. Ferguson (1999) adapted Wilczenski's (1995) Attitudes Toward Inclusive Education Scale as her measurement to examine the attitudes of regular education students.

Participant variables studied in these articles include gender, age, knowledge about disability, contact, sociocultural status, adult influence, and type of disability. Female students were found to have more tolerant attitudes or less negative attitudes than males had (Bossaert et al., 2011; Ferguson, 1999; Vignes et al., 2009). Students who had purposeful contact with peers with disabilities (either a friend who has a disability, a family member who has a disability, or participation in a program that pairs both disabled

and nondisabled peers together) were found to have more positive attitudes (Brook & Galili, 2000; Roberts & Lindsell, 1997; Vignes et al., 2009). When considering age as a variable, Ferguson (1999) and Vignes et al. (2009) did not find that age had an impact on the attitudes of nondisabled peers towards the attitudes of disabled peers, whereas Brook and Galili (2000) found age to be an indicator of a more positive attitude. Adult influence was found to have an impact on attitudes towards peers with disabilities in both the Kalymon et al. (2010) study and the Roberts and Lindsell (1997) study. Type of disability was shown to impact positive peer relations in the Kalymon et al. study, but was not shown to be a factor in the Bossaert et al. (2011) study. Students without disabilities reported that the media (television, movies, print) was their main information source for learning about disabilities (Block & Galili, 2000; Bossaert et al., 2011; Vignes et al., 2009).

Reviewing two of these studies in further detail allows the author to show a clear analytical view of the findings. For example, Ferguson (1999) examined the attitudes of regular education students toward peers with disabilities, looking at what variables affect these attitudes, and if increased exposure impacts these attitudes. Ferguson believed that students exposed to inclusion over the course of their high school years would have different attitudes toward inclusion. Ferguson further hypothesized that academic ability would influence the level of acceptance of disabled peers. As previously mentioned, Ferguson adapted Wilczenski's (1995) Attitudes Toward Inclusive Education Scale as her measurement and studied 196 high school students (98 freshmen and 97 seniors) from intact class groups at the school where she taught. At the end of the school year, students were administered anonymous surveys with introductory ethnographic questions (grade

level, gender), including a question about participation in a peer tutoring program. The results indicated that female students had less negative attitudes than male students had toward their peers with disabilities, and that students involved in the peer tutoring program had more positive attitudes toward inclusion (Ferguson, 1999). Ferguson reported no significant differences in attitudes by grade level, although slight differences were noted. Mean scores for each question on the scale were calculated and then generalized to reflect the attitudes of the student population as a whole.

The results of this study are questionable. Standard deviation was not mentioned, nor was a multivariate or univariate regression analysis conducted to assess the scores and the influencing factors (grade, gender, peer tutors). Data were not provided to indicate that the school was representative of other schools. Additionally, data were not provided to indicate that the subjects were representative of other high school students. When looking at the independent variables of contact and exposure, Ferguson (1999) did not identify the type of disability, nor did she control for the level of contact or exposure. Specifically, involvement in a peer tutoring program was considered contact or exposure; however, the participants in this program enrolled voluntarily, and their attitudes prior to enrollment in the program were not assessed. The article did not refer to how the original scale was developed or validated, nor did it explain what specific adaptations were made to the scale for the study. The article did mention that a pilot survey was given to selected students, and also mentioned that a group of reviewers judged the content validity of the instrument as being high. Overall, this study did not use a representative sample from which generalizations can be made, did not account for causality, and had a limited statistical analysis. While the results provide insight for this particular researcher in this

particular school district, and support the need to assess the attitudes of students without disabilities toward peers with disabilities, the results are not representative of the general population.

A second example to further show a clear analytical review of the findings is the Kalymon et al. (2010) qualitative study based on Allport's (1954) contact theory. This study investigated the factors that contribute to the development of positive peer relationships between middle school boys with and without disabilities. Semistructured interviews were conducted with 8 seventh-grade boys to determine what it takes to develop positive relationships with their peers who have disabilities, and what makes it easy or difficult to develop these relationships. Results of the data coding revealed five themes related to forming positive peer relationships: (a) perceived similarity in interests and ability, (b) the role of peers without disabilities in the relationship, (c) amount of time spent together, (d) peer reactions toward students with disabilities, and (e) adult behavior toward students with disabilities (Kalymon et al., 2010). Kalymon et al. discovered an overarching theme of congruence and mutuality, as participants highlighted the importance of congruence as a foundation for establishing peer relationships, and congruence contributed to perceptions of mutuality in relationships with peers.

This study was conducted using sound qualitative methods. Kalymon et al. (2010) provided a well-documented rationale for using a single gender target group, as well as for studying seventh graders. It was determined that the school selected was representative of that state's schools, theoretical sampling was used to recruit students who represented the target group, and diverse peer groups were purposely used in the sampling. Saturation was accounted for after eight interviews, and theoretical saturation

was explained clearly in the research. The grounded theory research method (Glaser, 1998) was used to systematically and inductively code the interview data to build an understanding of the relationships the participants had with peers with disabilities. The data were analyzed using a multitiered procedure, including peer review, debriefing, member checking, and researcher triangulation. Limitations were clearly stated, including the cultural and socioeconomic differences not being taken into consideration, and the perspectives of students with disabilities not being included. Overall, the Kalymon et al. study collected in-depth information obtained from a small sample that found an overarching theme: that congruence is an important factor in establishing peer relationships, and congruence contributes to perceptions of mutuality in relationships with peers.

Summary of Nonintervention Studies. In conclusion, research focusing on describing peer attitudes toward children with disabilities in the classroom setting seeks to assess the attitudes of peers without disabilities toward peers with disabilities, including the variables that affect the attitudes, and the patterns of influence on the attitudes. This body of research indicates that female students were found to have more tolerant attitudes or less negative attitudes than males were found to have (Bossaert et al., 2011; Ferguson, 1999; Vignes et al., 2009), and that students who had purposeful contact with peers with disabilities were found to have more positive attitudes towards peers with disabilities (Brook & Galili, 2000; Roberts & Lindsell, 1997; Vignes et al., 2009). This body of research also indicates that external influencers (parents, teachers, administrators, the media) have an impact on students' attitudes towards peers with disabilities (Brook & Galili, 2000; Bossaert et al., 2011; Kalymon et al., 2010; Roberts and Lindsell, 2011;

Vignes et al., 2009). We now know that age and type of disability are areas in need of increased research, as the results are varied in terms of the impact that age and type of disability may have on attitudes. The relationship between age and contact also needs further research, as simply being in school with a peer with a disability for a number of years may naturally increase exposure, but may or may not be correlated with purposeful contact.

New questions have materialized based on this research, such as (a) what is the relationship between age and level of contact when assessing the attitudes of children without disabilities toward peers with disabilities and (b) does disability type impact the attitudes and behavioral intentions of students without disabilities towards peers with disabilities? In terms of practice and future research, results indicate that environmental factors can influence student attitudes toward peers with disabilities, and most of these factors are modifiable by intervention traits, showing a clear correlation to classroom environment and teacher behaviors.

Intervention Studies. Six intervention studies dated 1987-2007 and measuring peer attitudes toward children with a disability in the classroom setting were retrieved. Five articles focus on the attitudes of elementary school students, and one article focuses on the attitudes of high school students. All six articles use a quantitative approach. Research questions in these articles show great similarity, as each inquires about how attitudes of children without disabilities toward peers with disabilities are impacted by an intervention.

There was considerable variation in the theoretical foundations and instrumentation used in these studies. Holtz and Tessman (2007) implemented the TRA

(Fishbein & Ajzen, 1975) to assess the impact a peer-based video intervention would have on the knowledge about and attitude toward a peer with Tourette Syndrome, and collected data using the CATCH (Rosenbaum et al., 1986) instrument along with the Foley Scale (Foley, 1979) to measure behavior intentions. Marom et al. (2007) used contact theory (Allport, 1954) as well as the theory of planned behavior (TPB; Ajzen, 1991) to investigate the impact a direct-contact intervention program has on the attitudes of children without disabilities towards children with disabilities. Marom et al. (2007) adapted the Children's Self-Efficacy Scale (Bandura, 1989) and also used the Attitudes Towards Children with Disabilities scale (ATCD; Siller, Ferguson, Vann, & Holland, 1967). Campbell, Ferguson, Herzinger, Jackson, and Marino (2005) and Bell and Morgan (2000) both used the Adjective Checklist (Siperstein & Bak, 1977) and the Shared Activities Questionnaire (SAQ; Morgan, Walker, Bieberich, & Bell, 1996) to measure the impact a descriptive intervention has on the attitudes and behavioral intentions of children without disabilities. Finally, Florian and Kehat (1987) used a questionnaire on the attitudes toward physically disabled persons (Jordan & Cessna, 1969), and Favazza and Odom (1997) implemented a self-created Acceptance Scale for Kindergartners (ASK; Favazza & Odom, 1996) to measure the impact of an intervention program.

The main outcome variable measured by the studies in this section is the effectiveness of intervention on changing attitudes and behavioral intentions. Half of the studies in this section employed a short video intervention to measure attitude change. Exposure to a peer-based video intervention showed positive changes in knowledge, attitude, and behavior intentions in the Holtz and Tessman (2007) study. Campbell et al. (2005) and Bell and Morgan (2000) looked specifically at the description information and

disability explanation in the video, assessing whether adding this type of clarification would impact attitudes and intentions. Results differed, as Campbell et al. found that behavior intentions increased across age and gender as a result of the description and explanation, and Bell and Morgan found that intentions decreased across age and gender. There were similarities between these studies, as younger children had more positive cognitive attitudes as a result of the interventions, and boys responded less positively than girls as a result of the interventions (Bell & Morgan, 2000; Campbell et al., 2005). In addition, both studies assert that cognitive attitudes decrease as children move from childhood to adolescence, thus recommending the importance of intervention programs in the early years. All three video intervention studies recommend that future research include actual behavior observation, as the relationship between attitude, intention, and behavior was not studied (Bell & Morgan, 2000; Campbell et al., 2005; Holtz & Tessman, 2007).

The second half of the studies in this section employed a multidimensional contact intervention to assess the effect a structured program had on attitude change. These multidimensional programs include a nine-week story time and discussion, structured play, and home reading experiment for kindergartners (Favazza & Odom, 1997); a three-month experiment combining disability knowledge, contact, and simulation experiences for high school students (Florian & Kehat, 1987); and a year-long partnership program for 10-12-year-old students combining a knowledge component with a structured contact component (Marom et al., 2007). Results indicate that disability-related attitudes improve over time with well-planned, intimate, long-term contact programs (Favazza & Odom, 1997; Florian & Kehat, 1987; Marom et al., 2007).

Florian and Kehat (1987) found that while a short-term contact program did not influence the behavioral components of student attitudes, participants experiencing simulation exercises in addition to a short-term contact program were found to have an increase in the emotional components of attitudes. Gender differences were not found in the Favazza and Odom (1997) study, and were not assessed in the Florian and Kehat or the Marom et al. (2007) study. All three studies agreed that adding a behavioral observation component would allow researchers to determine if attitudes and intentions were actually put into place as behaviors (Favazza & Odom, 1997; Florian & Kehat, 1987; Marom et al., 2007). In addition, all three studies (Favazza & Odom, 1997; Florian & Kehat, 1987; Marom et al., 2007) stressed the importance of using a follow-up measure to determine if levels of acceptance and attitude change remained consistent. Only one study conducted such a follow-up, and the results indicated that levels of acceptance remained strong, confirming that the intervention package had a positive long-term affect on attitude change (Favazza & Odom, 1997).

Reviewing two of these studies in further detail allows the author to show a clear analytical view of the findings. For example, Campbell et al. (2005) examined the combined effect of descriptive and explanatory information on the perceptions and behavior intentions of children without disabilities toward an unfamiliar child with autism. A total of 576 students from 31 classrooms in the third through fifth grades in five public elementary schools were randomly assigned to view a short video intervention in one of two experimental conditions. Children viewed two videotapes: a no-autism condition with descriptive information (NO-AUT), and either an autism condition with descriptive information (AUT-D) or an autism condition with descriptive and explanatory

information (AUT-D+E).

Results revealed that children show less positive attitudes and behavior intentions towards a child showing autistic behaviors when compared to the same child without autistic behaviors (Campbell et al., 2005). The combination of a description and an explanation (AUT-D+E) increased cognitive attitudes for third- and fourth-grade children, but not fifth-grade children. The combination (AUT-D+E) increased behavior intentions across all ages and both genders, and increased academic behavior intention for female subjects. Cognitive attitudes declined for fifth grade subjects, and overall female subjects responded more favorably to both the AUT-D and AUT-D+E interventions (Campbell et al., 2005). A total of six analyses were conducted, including testing for all possible interactions within subject groups. The researchers noted that statistically significant findings of a small magnitude might not translate into clinically meaningful results (Campbell et al., 2005).

This study was conducted in a comprehensive and sound manner. Campbell et al. (2005) accounted for the prior knowledge of participants by using a screening process to eliminate those with prior knowledge and uphold the integrity of the initial impressions. This study had strong statistical power, as the number of participants was high and a within-subjects design was used to evaluate the effects of the combined information. Gender and ethnic composition were representative of the larger school population in the state of Georgia, making the results generalizable for schools and states with similar populations. To counterbalance possible order effects of the video viewing, the order of the tape viewing was reversed within each condition (Campbell et al., 2005). Researchers clearly defined the measures, including internal consistency and reliability,

and had detailed limitation, conclusion, and implication sections. A similarity rating form served as a manipulation check to determine participant ability to recognize autism at the start of the study; however, a manipulation check for the intervention was not used, and researchers possibly could have included a posttest of knowledge (Campbell et al., 2005). The researchers assessed the effect gender had on attitudes; however, they did not account for the fact that only a male was used in the video intervention. Displaying a single gender in the video may have impacted the validity of the findings, as participants may have different responses to a subject of the same or opposite gender. Future recommendations include manipulating the source information (including both male and female subjects in the video), measuring actual behavior (not just behavior intentions), and employing a control group to evaluate all three of the conditions.

A second example to further show a clear analytical review of the findings is a detailed review of the Favazza and Odom (1997) study. Using 46 kindergarten subjects, this study examined the effects of an intervention package (contact, books, and discussions) on the attitudes of children without disabilities toward peers with disabilities. To measure, researchers used the ASK (Favazza & Odom, 1996), which was tested for validity and reliability. Researchers wanted to assess the impact of the intervention program, including the impact by gender. Subjects were assigned to three groups using a partially randomized group design. Children in the high and low-contact groups were randomly assigned. High-contact subjects participated in the intervention program, and low-contact subjects had incidental contact with children with disabilities (playground, cafeteria, arrival, and dismissal). Children in the no-contact group could not be randomly assigned because of logistical constraints.

The intervention program used for the high-contact group included a classroom story time and discussion element, using books with characters with disabilities for 15 minutes, two days a week. During this story time, children were able to explore equipment used by the children with disabilities in the stories. A third weekly story time included books about social skills, inclusive behavior, and acceptance of differences in others. Discussion questions after each story time followed a purposeful progression. Questions started with content questions, then moved to questions on similarities between the characters in the story and the subjects in the high-contact group, and then finished with questions relating characters in the story to children in the structured playgroups with whom the high-contact group experienced weekly playtime. These structured playgroups are the second part of the package, took place three days a week for 15 minutes each, and involved a free play experience with purposefully chosen materials that promoted social interaction versus solitary interaction. Playgroups each included four children without disabilities and four children with disabilities. The third component of the intervention package was an at-home component, in which children in the high-contact group would bring home a copy of one of the stories read in class to read with their parents. This home experience included similar guided discussion questions for the adults to use after the story.

Results showed that all children had a low level of acceptance on the pretest, and that significant gains in levels of acceptance were found in the high contact group (Favazza & Odom, 1997). Results did not indicate gender differences, but did indicate that children with less exposure will have less-accepting attitudes (Favazza & Odom, 1997). Social contact and the use of story time, both at school and at home, were found to

be effective strategies for improving attitudes toward peers with disabilities (Favazza & Odom, 1997).

This study was conducted in a comprehensive and sound manner. There was a strong selection rationale for participants in the study and participants in the playgroups. An implementation checklist was used to monitor the fidelity of the treatment, attendance tracking was used for the students, and record-keeping data were used for the at-home portion. Previous contact was measured using a history of contact questionnaire, and a survey on teachers' opinions related to mainstreaming was used to account for teacher impact on children's attitudes. Environmental exposure was controlled for using an inventory of disability representation, with researchers establishing that history of contact did not impact pretest scores across the treatment groups (Favazza & Odom, 1997).

Although the study was conducted in a sound manner, limitations do exist. The aforementioned logistical constraint of the nonrandom assignment of the control group is not ideal, nor is the small sample size. Further, the sample is mainly from one ethnicity, offering limited generalizability. The ASK instrument (Favazza & Odom, 1996) does not have the ability to measure gender differences, and the sample size in this study was not large enough to effectively examine gender differences. The procedures used with the instrument did not account for the kindergarten child's current understanding of a person with a disability and did not allow for assessment of a behavior change as a result of the attitude change. Overall, the study indicates that attitudes of young children can be altered in a relatively short amount of time (nine weeks) using a multidimensional approach combining social contact, literature and discussion, and at-home support (Favazza & Odom, 1997). These results indicate the need for increased research on the

impact story time and literature have on attitude formation and change in the early childhood setting, and on a larger scale how this type of story time focus can combine with a purposefully planned contact program to further impact attitudes of acceptance.

Summary of Intervention Studies. In conclusion, research focusing on measuring peer attitudes toward children with a disability in the classroom setting seeks to inquire about how attitudes of children without disabilities are impacted by an intervention. We know now that exposure to a peer-based video intervention shows varying results, ranging from positive changes in knowledge, attitude, and behavior intentions (Holtz & Tessman, 2007); to behavior intentions increasing across age and gender (Campbell et al., 2005); to intentions decreasing across age and gender as a result of the intervention (Bell & Morgan, 2000). We know now that cognitive attitudes decrease as children move from childhood to adolescence, indicating the importance of intervention programs in the early years (Bell & Morgan, 2000; Campbell et al., 2005). We know now that disability-related attitudes improve over time with well-planned, long-term contact programs (Favazza & Odom, 1997; Florian & Kehat, 1987; Marom et al., 2007).

New questions have materialized as a result of this research, such as (a) as a result of an intervention program, what is the relationship between attitudes and behavior; and (b) does improvement of self-efficacy and disability-related attitudes after a short-term intervention indicate long-term attitude change? In terms of practice and future research, results indicate that carefully chosen and planned contact programs as well as programs to increase knowledge about peers with disabilities can have an impact on attitude change. Future research should include a behavioral observation component that would allow researchers to determine if attitudes and intentions are actually put into place as

behaviors (Bell & Morgan, 2000; Campbell et al., 2005; Favazza & Odom, 1997; Florian & Kehat, 1987; Holtz & Tessman, 2007; Marom et al., 2007).

Attitudes of Students in the Physical Education or Physical Activity Setting

Twenty-one studies dated 1985-2011 that focused on measuring and describing attitudes of students in PE or PA programs towards peers with disabilities were retrieved. Articles included both qualitative and quantitative studies with a range of participants from elementary school to high school. As previously mentioned, articles are divided between nonintervention studies and intervention studies.

Nonintervention Studies. Eight nonintervention studies dated 1989-2010 and focusing on measuring and describing attitudes of students in PE or PA programs towards peers with disabilities were retrieved. Participants in the research ranged from elementary students to college students, including recent high school graduates and members of a youth sports league. Of the eight articles, four use a quantitative approach, three use a qualitative approach, and one uses a mixed approach. Research questions in these articles are similar, as each inquires about attitudes of peers without disabilities toward the inclusion of peers with disabilities in PE or PA programs.

There was considerable variation in the theoretical foundations and instrumentation used in these studies. Contact theory (Allport, 1954) and the similar equal status contact theory (Allport, 1954) provided the foundation for two articles in this theme (Archie & Sherrill, 1989; Murata et al., 2000). In addition, the TRA (Fishbein & Ajzen, 1975) and the more recent TPB (Ajzen, 1991) served as the theoretical framework for the Verderber, Rizzo, and Sherrill (2003) and Obrusnikova, Block, and Dillon (2010) studies, respectively. The Attitude Toward Integrated Sports Inventory (ATISI), adapted

from the Children's Attitudes Toward Integrated Physical Education- Revised inventory (CAIPE-R; Block, 1995), was used in both the Block and Malloy (1998) article, and the Gillespie (2002) article to assess attitudes towards inclusion in a sports league, as well as attitudes toward specific rule modifications. Archie and Sherrill (1989) used the Children's Attitude Toward the Handicapped scale (CAHS; Rapier, Adelson, Carey, & Croke, 1972) to measure how contact and gender influence attitudes towards peers with disabilities, while Verderber et al. used the newly piloted Verderber Inventory of Students' Intention to Participate in Inclusive Physical Education (VISIPIPE) to measure the intentions of middle school children to participate with children with severe disabilities in PE. Finally, self-designed surveys and semistructured interview questionnaires were created for use in the qualitative and mixed studies to assess perceptions about disability and disability sport (Modell, 2007), long-term effects of inclusion on attitudes and perspectives of students without disabilities (Murata et al., 2000), attitudes towards inclusion in a unified sport program (Townsend & Hassall, 2007), and beliefs of children without disabilities toward a child with a disability in PE (Obrusnikova et al., 2010).

Overall attitudes about disability and inclusion were positive, with peers responding favorably to including a peer with a disability in their league or PE class, participating alongside a peer with a disability, and co-existing with them in class or on a team (Archie & Sherrill, 1989; Block & Malloy, 1998; Gillespie, 2002; Modell, 2007; Murata et al., 2000; Obrusnikova et al., 2010; Townsend & Hassall, 2007; Verderber et al., 2003). Contact (Allport, 1954) was found to have a positive effect on attitudes when applied in a frequent, positive manner (Murata et al., 2000), yet in a different study,

contact was also found to have no significant impact on attitudes (Archie & Sherrill, 1989). Gender was found to have an impact on attitudes and beliefs, with girls having more favorable beliefs toward and more positive attitudes about inclusion (Townsend & Hassall, 2007; Verderber et al., 2003). Yet in a different study, gender was shown to have no influence on attitudes (Archie & Sherrill, 1989). Attitudes toward modifications necessary for successful inclusion in mixed-gender elementary and middle school PE classes (Obrusnikova et al., 2010), and in an adolescent girl's sport league (Block & Malloy, 1998) showed to be positive, but in a study of mixed-gender university students (Gillespie, 2002), attitudes were relatively negative. Verderber et al. (2003) found that subjects with mild disabilities had more favorable intentions toward participating in PE with peers with severe disabilities than those subjects without a disability. Variables such as experience with peers with disabilities and competitiveness did not impact attitudes about inclusion or sport-specific modifications in a sports league (Block & Malloy, 1998; Gillespie, 2002). Age, however, did impact attitudes, as Townsend and Hassall (2007) found attitudes to be more favorable towards inclusion in younger children than in older children, and Verderber et al. found attitudes and intentions to be less favorable as children got older.

Reviewing two of these studies in further detail allows the author to show a clear analytical view of the findings. For example, Modell (2007) conducted a qualitative study on a purposeful sample of 68 college students to assess the perceptions of university students about disability and disability sport. A self-designed and piloted survey of six questions was used to solicit broad opinions, and the content analysis method (Berg, 1989) was used to analyze the responses. As themes emerged and patterns were

identified, an open coding procedure was used to link data across respondents (Modell, 2007). Results indicated that most participants perceived disabilities in a positive light, had some knowledge of disability sport, and believed people with disabilities should be able to participate in sports (Modell, 2007). It was noted that negative themes also emerged (Modell, 2007).

This study was lacking in key components of qualitative research. Qualitative studies are meant to collect in-depth information obtained from small samples without regard to generalizability; however, Modell (2007) was attempting to generalize across college students, which is not realistic with a small sample size from a general education music class. On a positive note, the survey used was described in great detail, including development of the questions, construct and face validity, and the piloting process. A time limit was given as part of the procedure, which could be negative or positive, depending on the participant. No frame of reference was provided to the participants in terms of what an athlete with a disability was, so existing understandings and perceptions may have been used to respond and were not accounted for in the design. Further, data was not collected on academic major, age, or prior experience with disabilities. The researcher did not use peer review or member checking to determine the accuracy of the responses. The results indicate that perceptions were positive; however, because negative themes did emerge, awareness and diversity programs across all levels of education are needed.

In a second example, Murata et al. (2000) interviewed 12 recent high school graduates, who were involved in a previous inclusion-based study four years prior, to discover the long-term effects of inclusion in PE on attitudes, experiences, and

perspectives of students without disabilities. The basis of this study is Allport's (1954) contact theory, as it provides a framework to explore attitudinal and interactional variables related to inclusion (Murata et al., 2000). A descriptive, qualitative research design using semistructured interviews was used, and results revealed that perspectives about peers with disabilities revolve around three central themes: (a) initial skepticism, in which at first the students were skeptical and somewhat fearful of inclusion; (b) direct interaction, in which frequent and positive interactions purposefully facilitated within the learning environment occurred over time and started to change the participants' perceptions of inclusion; and (c) appreciable differences, in which individual differences started to be explored, appreciated, and accepted (Murata et al., 2000). In short, the results found that frequent, positive interactions could have a positive impact on attitudes towards inclusion. These results are in support of contact theory (Murata et al., 2000).

This study was sound in both design and implementation. Its purpose was to use longitudinal follow-up measures to examine the permanency and stability of attitudes after a four-year passage of time (Murata et al., 2000). However, the design did not account for the passage of time or the maturation of the subjects, as both could impact attitudinal responses. The design did account for verification of participation in the original study, and the questions were related to contextual variables from the original study to help with recall (Murata et al., 2000). Interviews were tape-recorded and transcribed verbatim for data completeness and accuracy, and qualitative quality assurance measures such as establishing social validity and member checking were implemented. Cross-case analysis (Patton, 1990) was used for compiling data, which allows for themes to emerge when data are grouped together. The results indicate that

purposefully planned, frequent, positive interactions in PE inclusion settings can result in sustained positive attitude change over time (Murata et al., 2000). These results mean that continued longitudinal research assessing the stability or permanency of attitudes is needed. Further, results show that continued attention to inclusion practices, proactive inclusion environments, and inclusion awareness activities is necessary in the field.

Summary of Nonintervention Studies. In conclusion, this theme of research seeks to measure and describe attitudes of students without disabilities in PE or PA programs towards peers with disabilities. We know now that the impact of contact and gender display mixed results on attitudes and perceptions related to inclusion (Archie & Sherrill, 1989; Murata et al., 2000; Townsend & Hassall, 2007; Verderber et al., 2003). We know now that attitudes toward making modifications necessary for successful inclusion in PE and PA programs are also shown to be mixed (Block & Malloy, 1998; Gillespie, 2002; Obrusnikova et al., 2010). We know now that age impacts attitudes, with more favorable attitudes toward inclusion displayed in younger children and less favorable attitudes displayed in older children (Townsend & Hassall, 2007; Verderber et al., 2003). Most important, we know now that overall attitudes about disability and inclusion are positive, with peers responding favorably to including a peer with a disability in their league or PE class, participating alongside a peer with a disability, and co-existing with them in class or on a team (Archie & Sherrill, 1989; Block & Malloy, 1998; Gillespie, 2002; Modell, 2007; Murata et al., 2000; Obrusnikova et al., 2010; Townsend & Hassall, 2007; Verderber et al., 2003).

Based on this theme of research, new questions have materialized, such as (a) what effect does the type of disability have on peer attitudes and perceptions toward

inclusion in PE or PA, and (b) what impact does level of competitiveness have on attitudes and behavior intentions toward inclusion of peers, as well as (c) what are the long-term effects of elementary school inclusion programs or awareness programs on the attitudes and perspectives of students without disabilities? In terms of practice and future research, results indicate that increased longitudinal research is necessary, as are studies on the impact of a variety of variables on attitudes and perceptions (sport differences, variations in disability, and variations of educational services received by subjects). Practical implications include the need for proactive environments that are purposefully designed for successful inclusion, education on sport modifications necessary for successful inclusion, and education on disabilities and disability awareness.

Intervention Studies. Thirteen intervention studies dated 1985-2011 that measured the impact an intervention program has on attitudes toward peers with disabilities in PE and PA settings were retrieved. Participants in the research ranged from elementary students to college students. Of the 13 articles, 12 use a quantitative design and one uses a mixed design. Research questions in these articles show great similarity, as each inquires about how attitudes of peers without disabilities toward peers with disabilities are impacted by an intervention.

There was considerable variation in the theoretical foundations and instrumentation used in these articles. Theoretically, contact theory (Allport, 1954), as it relates to systematic exposure and contact between students with and without disabilities, was cited as the foundation of the Block and Zeman (1996) and Panagiotou et al. (2008) studies. A combination of social learning theory (SLT; Bandura, 1989) and TPB (Ajzen, 1991) was cited as the theoretical foundation of the Hutzler et al. (2007) and Reina et al.

(2011) studies related to the impact of awareness workshops. Instrumentation within this theme included the use of the CAIPE-R (Block, 1995) in five studies (Block & Zeman, 1996; Liu et al., 2010; Obrusnikova, Valkova, & Block, 2003; Panagiotou et al., 2008; Xafopoulos et al., 2009), the use of Siperstein's (1980) Adjective Checklist in three studies (Liu et al., 2010; Obrusnikova et al., 2003; Xafopoulos et al., 2009), the use of the Attitudes Towards Disabled Persons Scale (ATDP; Yuker et al., 1966) in two studies (Kisabeth & Richardson, 1985; Stewart, 1988), and the use of the CAHS (Rapier et al., 1972) in two studies (Lockhart, French, & Gench, 1998; Loovis & Loovis, 1997). In addition, Reina et al. used the Attitudes Toward Disability Questionnaire (ATDQ; Verdugo, Jenaro, & Arias, 1994), Hutzler et al. used an adapted version of the CATCH (Rosenbaum et al., 1986), and Kalyvas and Reid (2003) used one subscale from the Intrinsic Motivation Inventory (IMI; Ryan, 1982). Lastly, Wilhite et al. (1997) used a self-created questionnaire to measure attitude change as a result of an awareness program.

The main outcome variable measured by the studies in this section is the effectiveness of intervention on changing attitudes. Intervention methods used in this section include (a) disability awareness programs and (b) exposure to inclusion practices, including possible modifications and adaptations to sport rules and equipment. As a result of awareness programming, attitudes towards inclusion showed positive changes (Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Panagiotou et al., 2008; Reina et al., 2011; Xafopoulos et al., 2009). In some cases, attitudes towards inclusion showed positive change, but attitudes towards modifying sport rules did not show change (Panagiotou et al., 2008; Xafopoulos et al., 2009) or tended to decrease (Liu et al., 2010).

Alternately, awareness programming resulted in no significant change in attitudes (Lockhart et al., 1998; Wilhite et al., 1997), even though initial impressions were maintained or increased as a result of the intervention. Exposure to inclusion practices resulted in more positive attitudes about inclusion and about modifying rules, indicating that peer interaction has a positive effect on attitudes (Kalyvas & Reid, 2003; Kisabeth & Richardson, 1985; Stewart, 1988). In addition, inclusion practices did not negatively affect attitudes towards inclusion (Block & Zeman, 1996). While the results were not significant, Obrusnikova et al. (2003) found that initial impressions about inclusion were maintained or increased as a result of an inclusion experience.

A number of variables were considered in these awareness interventions. Early exposure and amount of exposure were found to have a significant positive impact on attitudes (Hutzler et al., 2007), and longer awareness programs compared to shorter awareness programs were found to impact cognitive attitudes positively (Reina et al., 2011). Looking at the impact of grade and age showed differing findings, as Loovis and Loovis (1997) found that grade and age did not have a significant impact on attitudes, and Kalyvas and Reid (2003) found that grade and age did have a significant impact, with older students having less favorable attitudes towards inclusion modifications. Gender also showed differentiated results. Attitudes were shown to be more positive in females as a result of an awareness intervention (Liu et al., 2010; Loovis & Loovis, 1997; Reina et al., 2011; Xafopoulos et al., 2009), specifically in the behavioral attitude domain in one study (Hutzler et al., 2007). Alternately, male attitudes toward an inclusion intervention experience were especially negative related to sport modifications and enjoyment levels (Kalyvas & Reid, 2003). Gender differences were not found to be significant in the

Lockhart et al. (1998) and Panagiotou et al. (2008) studies.

Reviewing two of these studies in further detail allows the author to show a clear analytical view of the findings. For example, the Panagiotou et al. (2008) study considered the impact a disability awareness program, Paralympic School Day (PSD), would have on attitudes of 178 fifth- and sixth-grade students without disabilities, as well as the effect gender had on their attitudes towards inclusion. The researchers used nonrandom, intact classes. Both an experimental and control group were measured using the CAIPE-R (Block, 1995). The goal of PSD is to create awareness and understanding for people with disabilities, and this PSD included 10 stations that each child in the experimental group took part in for 15 minutes each. Results showed that the PSD intervention had a significant impact on the general attitude subscale for the experimental group, but did not affect the sport-specific attitudes (Panagiotou et al., 2008). No gender differences were shown.

This study was conducted with sound research practices. Test validity, reliability, and modifications were described in detail, as were as the procedure, administration, and timing. Baseline attitude levels were tested and reported as equivalent for both genders, showing to be positive across the pretests, which accounted for any differences in prior knowledge and experiences that may have impacted the results. Researches described the school environment, noting that it likely had an impact on the positive pretest attitudinal scores. Limitations and recommendations were thorough. These results indicate that PSD programs can positively impact attitudes related to disabilities. Longitudinal follow up is recommended, as is group debriefing to better assess the impact of each PSD station (Panagiotou et al., 2008).

A second example, the Stewart (1988) study, examined the effects of the inclusion of two university students with disabilities on the attitudes of students without disabilities in a university weight training class. The subjects were 34 students enrolled in two different weight-training classes, 15 in the experimental class and 19 in the control class. The experimental class included two students with physical disabilities. The research design was pre-post test randomized, and the instrument used was the ATDP (Yuker et al., 1966). The results indicated a significant improvement in the attitudes of the students without disabilities in the experimental group, meaning peer interaction had a positive and significant effect on attitudes (Stewart, 1988).

A few components compromise the quality of this study. First, the researcher did not account for environmental factors, so variables such as prior knowledge, contact, gender, and age may have impacted the results. Second, the activity class used is one of a noncompetitive, individual sport, as opposed to a competitive individual sport or a team sport, resulting in limited generalizability. Further, the environment in which the subjects participated (a weight room) allows for a great deal of personalized contact, more so than in other physical activities. Lastly, the subject size was small and was nonrandom. However, positive components in this study are also noted. Stewart (1988) offered specific reliability information about the instrument used, and provided a clear explanation of Speakman and Hoffman's (1979) false score notion as it related to his procedure of telling all subjects about the study ahead of time. Stewart also clearly defined the research question, procedures, and data analysis utilized, including significance testing.

Summary of Intervention Studies. In conclusion, this theme of research seeks to

measure the impact intervention programs have on attitudes toward peers with disabilities in PE and PA settings. This body of research indicates that intervention in the form of an awareness program can create a positive change in attitudes towards inclusion (Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Panagiotou et al., 2008; Reina et al., 2011; Xafopoulos et al., 2009). This body of research also indicates that intervention in the form of exposure to inclusion practices can create positive attitudes about inclusion and about modifying rules (Kalyvas & Reid, 2003; Kisabeth & Richardson, 1985; Stewart, 1988), although the Stewart (1988) results should be viewed with caution. We now know that a variety of variables impact attitude change: (a) early exposure and amount of exposure (Hutzler et al., 2007), (b) grade and age (Kalyvas & Reid, 2003), and (c) gender (Hutzler et al., 2007; Kalyvas & Reid, 2003; Liu et al., 2010; Loovis & Loovis, 1997; Reina et al., 2011; Xafopoulos et al., 2009).

Based on this theme of research, new questions have materialized, such as (a) what affect does workshop length and composition have on the results of a disability awareness training, and (b) what impact will group debriefing meetings after a disability awareness experience have on attitudes of participants without disabilities toward peers with disabilities, and (c) what are the long-term effects of disability awareness programs on the attitudes of students without disabilities toward inclusion of peers with disabilities in physical education and physical activity programs? In terms of practice and future research, results indicate that intervention programs that create awareness and understanding are both meaningful and necessary in school settings. Increased longitudinal research is necessary, as are additional studies measuring the outcomes of successful interventions.

Review of Literature on Contact Theory

This portion of the literature review looks at Allport's (1954) contact theory, which serves as the theoretical basis of this study. As previously mentioned, there are two leading lines of research regarding positive attitude: (a) investigating whether contact and exposure to the attitudinal referent has an effect on attitudes, and (b) investigating whether information that will increase cognition has an effect on attitudes. The first listed line of research (on contact and exposure) directly relates to Allport's contact theory.

Allport (1954) first proposed the theory that social contact will improve relationships between members of majority and minority groups. This theory has been used to explain a great deal about human relations, particularly in terms of prejudice and difference. Allport theorized that as people come into contact with others different from themselves, their prejudiced ideas will diminish as they come to understand the other person.

Contact theory has been used to shape policies regarding intergroup contact and school desegregation in the United States (Amir, 1969). Allport (1954) specified four necessary conditions for contact to improve negative attitudes: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. According to Amir (1969), there were additional conditions presented (the social atmosphere, the personalities involved, the areas of contact); however, only four were specified as necessary conditions for contact. Allport (1979) writes:

Prejudice (unless deeply rooted in the character structure of the individual) may be reduced by equal status contact between majority and minority groups in the

pursuit of common goals. The effect is greatly enhanced if this contact is sanctioned by institutional supports (i.e., by law, custom, or local atmosphere), and provided it is of a sort that leads to the perception of common interests and common humanity between members of the two groups (p. 281).

Allport asserted that only under the aforementioned conditions will contact reduce intergroup hostility. These four conditions reduce prejudice because they maximize the probability that shared values and beliefs will be demonstrated and perceived, and will therefore provide the basis for interpersonal interaction (Allport, 1954).

There is supportive evidence for this theory in the literature. Pettigrew (1998) and Dovidio, Gaertner, and Kawakami (2003) offer extensive literature reviews on contact theory. Studies have shown that contact can improve attitudes towards members of racial and ethnic groups (Pettigrew, 1971; Sigelman & Welch, 1993); homosexual individuals (Herek & Capitanio, 1996); people with physical or developmental disabilities (Block & Zeman, 1996; Barr & Bracchita, 2008; Kalymon et al., 2010; Murata et al., 2000; Yucker et al., 1966); mentally ill persons (Corrigan et al., 2001); elderly persons (Schwartz & Simmons, 2001); and persons with intellectual disabilities (McManus, Feyes, & Saucier, 2010) when the four conditions are present. Interesting evidence related to contact theory was found in a meta-analysis conducted by Pettigrew and Tropp (2006) indicating that all four of Allport's initial conditions were not necessary for attitude change. This evidence is contradictory to their findings a few years earlier that showed Allport's essential conditions to be especially effective in reducing prejudice in settings in which participants had little choice in their contact, such as educational settings (Pettigrew & Tropp, 2006).

As previously mentioned, Allport (1954) specified four necessary conditions for contact to improve negative attitudes: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. Further investigation of each of these conditions supports their necessity.

Equal Status

The main condition of favorable contact proposed by Allport (1954) is based on equality. When groups have contact as equals in status, they are less likely to be antagonistic toward one another. According to Allport, if members of one group have an inferior role or status, it is likely that existing stereotypes will be reinforced. In addition, contact with individuals or groups of a higher role or status may produce feelings of inferiority (Allport, 1954). For example, in the Murata et al. (2000) study, equal status contact during a high school physical education class was found to have long-term positive effects on attitudes. Semistructured interviews revealed three central themes: (a) initial skepticism, (b) direct interaction, and (c) appreciable differences.

Cooperation

In addition to creating an equal status environment, it is also important that the activities required with the contact are cooperative rather than competitive (Allport, 1954). For example, Panagiotou et al. (2008) determined that cooperative awareness activities in the form of a Paralympic School Day had a positive impact on attitudes. Activities were purposely created to be cooperative in nature, as students worked alongside Paralympic athletes to achieve group goals at the various activity stations. Allport (1954) writes:

The nub of the matter seems to be that contact must reach below the surface in order to be effective in altering prejudice. Only the type of contact that leads people to do things together is likely to result in changed attitudes (p. 276).

Considerable research shows that competition between groups can lead to stereotyping, to hostility, and to placing limited value on accomplishments (Schofield, 1995).

Personal Interactions

Allport (1954) suggested that the level of personal connection is significant to attitude change. For example, Allport (1979) differentiated between contact regarded as typical and contact regarded as exceptional. Allport also differentiated between contact regarded as intimate and contact regarded as trivial. Allport (1954) asserted that meaningful contact is necessary, as personal situations provide the chance for participants to acquire more information about one another and to get to know one another as individuals. For example, Rillotta and Nettelbeck (2007) measured the attitudes of nondisabled students toward students with disabilities after an awareness intervention. Using both an experimental group and a control group, the researchers determined that students who received information about people with disabilities and who were engaged in meaningful interactions with people with disabilities expressed significantly greater positive attitudes towards those with disabilities (Rillotta & Nettelbeck, 2007).

Support from Authority

Allport (1954) suggested that changing attitudes through contact between group members relies on support of authority (including laws and customs), as support of authority establishes a norm of acceptance. Pettigrew (1998) shared similar findings, noting that contact is more likely to be accepted and will have greater positive effects

when it is socially accepted. For example, the Kalymon et al. (2010) study used semistructured interviews of seventh grade boys to determine what it takes to develop positive relationships with peers who have disabilities. Five themes emerged, one of which relates to authority: forming positive peer relationships was positively impacted by adult behaviors toward students with disabilities, which fell under the overarching theme of congruence and mutuality (Kalymon et al., 2010).

In summary, the general idea of Allport's (1954) contact theory states that contact with people different from oneself will lead to attitude change if presented under the right conditions. Allport's theory sought to understand the nature of contact that will produce positive attitude change. This theory is particularly relevant to the present study, as it forms the basis for the Paralympic School Day intervention.

Review of the Literature on Paralympic School Day

Disability Awareness Programs

Disability awareness programs offer an avenue for raising awareness and changing attitudes toward people with disabilities. Research on disability awareness curricula, programs, and interventions indicate that the body of knowledge is vast. Donaldson (1980) reviewed the literature on factors common among interventions that may be effective in changing attitudes towards people with disabilities. Donaldson categorized the following methods used in interventions to change attitudes: (a) direct or indirect contact, (b) information about disabilities, (c) persuasive messages, (d) analysis of the dynamics of prejudice, (e) disability simulation, and (f) group discussion. Towner (1984) conducted a literature review on changing attitudes toward people with disabilities (children and adults) and identified the following three intervention methods as the most

frequently utilized: (a) direct contact with the attitude referent in an educational setting, (b) role playing or simulating an individual with a disability, and (c) group discussion in which the participants are actively engaged.

Additional research conducted by Triandis et al. (1984) labeled the following strategies as the most influential intervention components on attitude formation in children: (a) providing accurate information about various disabilities (indirect experiences), (b) behavioral modification (understanding the social group), and (c) experiential contact and interactions (direct experiences). Horne (1988) also studied intervention effectiveness, and categorized the following components as appropriate for attitude change in children and adults: (a) contact and information/knowledge, (b) small group experiences, (c) team and cooperative learning experiences, and (d) social skills training.

Many similarities are observed in the research on intervention methods. Contact is a recurring theme, which aligns with Allport's (1954) contact theory (Donaldson, 1980; Horne, 1988; Towner, 1984; Triandis et al., 1984). Information is a recurring theme, which aligns with the theoretical work Antonak & Livneh (1988) conducted on attitudes and beliefs (Donaldson, 1980; Horne, 1988; Triandis et al., 1984). Antonak and Livneh suggested that attitudes and beliefs are associated with the amount of information an individual possesses about the attitude object. A combination of both contact and information is shown to be more successful in promoting attitude change than when either is used in isolation (Horne, 1988). Information provided by books (Favazza & Odom, 1997; Yunker & Block, 1986), multimedia (Rillotta & Nettelbeck, 2007; Safran, 2000), and simulation (Hutlizer et al., 2007; Mickel & Griffin, 2007;) provide indirect

exposure to disability through a structured presentation and can enhance awareness and understanding.

In the physical education setting, recent research indicates that combining structured contact, knowledge acquisition, and awareness activities is most effective (Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Panagiotou et al., 2008; Reina et al., 2011; Xafopoulos et al., 2009). When determining the type of disability program that is suitable for a school environment, the following questions are recommended: (a) do students have experience interacting with peers with disabilities, and (b) have students learned to focus on similarities instead of differences, celebrating what makes each individual unique (Raabe, 1994).

Published disability awareness interventions can be unidimensional, focusing only on disability awareness (i.e., Special Friends in Favazza, LaRoe, & Odom, 1999), or can be multidimensional, focusing on overall tolerance and diversity that includes disability awareness as a component (i.e., Facing History and Ourselves in Strom, 1994; Anti-Bias Curriculum in Derman-Sparks & The A. B. C. Task Force, 1998). Published disability awareness programs focusing on disability sport are less common. A basic internet search indicates that published disability sport awareness programs have been created for specific countries (Sport Ability: Australia; Ability Versus Ability: Britain; School Project: Belgium; Petro-Canada: Canada); however, a literature search indicates that field-based research has not been conducted on these programs. One disability sport awareness program, Paralympic School Day published by the International Paralympic Committee (IPC; Official Website of the Paralympic Movement, n.d.b), is designed for use internationally (including in the United States). A literature search indicates that a

small amount of field-based research has been conducted in Europe on the effectiveness of this curriculum.

Paralympic School Day

Paralympic School Day (PSD) is a disability awareness program created to raise awareness and provide a platform for attitude change. According to the International Paralympic Committee (IPC; Official Website of the Paralympic Movement, n.d.b), the program was designed by specialists in Paralympic sport, pedagogy, and disability to create an educational opportunity for schools to increase awareness about and understanding of disability and disability sport.

The IPC's education goals are designed to integrate Paralympic ideals and values through educational activities that create awareness and understanding toward people with a disability (Official Website of the Paralympic Movement, n.d.a). According to the IPC, the aims of Paralympic education are achieved through the following objectives:

1. To increase knowledge and awareness of Paralympic sport.
2. To create a better understanding of practical application of inclusion in physical education/activity.
3. To inform about the different concepts in disability sports.
4. To increase the usage of disability sport for reverse integration.
5. To facilitate the change of perception and attitude towards persons with a disability.
6. To promote scholarly research activities and studies about Paralympic education.

(<http://www.paralympic.org/TheIPC/WWD/Education>)

The PSD curriculum is designed to reach these aims through a fun and active set of

activities that are appropriate for children ages 6 through 15 and through education about the Paralympics, about individual differences, and about acceptance (Official Website of the Paralympic Movement, n.d.b).

The PSD program began in 2004, when the IPC and the European Paralympic Committee (EPC) received a grant from the European Union and initiated a two-year PSD pilot project in Europe (IPC, 2007). The main objective of the pilot project was to create the PSD materials so that schools in Europe could implement the PSD program independently. The foundation of the grant was the overall belief that youth without disability will increase their awareness and understanding when they are informed about the lives and actions of persons with a disability (IPC, 2007).

According to the IPC (2007), the project was conducted in three phases:

1. The development of the program and educational materials.
2. The national implementation of the program.
3. The evaluation of the program and implementation strategy; the development of the PSD Resource Kit (pg. 4).

One aim in creating the materials was to create an environment in which participants experienced a realistic and holistic portrayal of disability sport and athletes who participate in disability sport (IPC, 2006). A second goal in creating the materials was to stimulate learning with a balanced mix of activities and teaching methods that would reach a diverse community of learners, allowing them to challenge and find meaning in their own beliefs and experiences (IPC, 2006). A third goal in creating the materials was to provide the opportunity for reflection and debriefing (IPC, 2006). A detailed description of the two-year PSD pilot project is found in Appendix A.

The pilot project resulted in the creation of a resource kit that includes the PSD Manual, PSD activity cards, and a PSD DVD (IPC, 2007). The materials were created with teacher flexibility in mind, providing a wealth of information to assist in the preparation and execution of a successful PSD while also allowing for creativity and individual adaptations based on the needs of the students (IPC, 2007). The PSD Manual is divided into two sections. Section one covers the overall concept of PSD and information on planning a PSD, implementing a PSD, and following up after a PSD. Section two includes the history of the IPC and the Paralympic Movement, information about the Paralympic Games, and general information about persons with a disability.

The PSD activity cards are divided into four categories. Each category represents one of the values of PSD: (a) respect for sporting achievement, (b) respect and acceptance of individual differences, (c) sport as a human right, and (d) empowerment and social support in sport (IPC, 2007). Activity cards are color coded by category, and within each category are three to seven activities from which teachers can choose when planning a PSD. Cards also include modification recommendations for a younger and older audience. Originally, the PSD Resource DVD (that included all materials) was distributed by the IPC in a supervised manner, allowing the IPC to track who was using the curriculum (IPC, 2007). At this time, the materials can be downloaded without IPC supervision, and the video resources can be found on the IPC YouTube Channel.

Theoretical Framework of Paralympic School Day

The PSD intervention is rooted in Allport's (1954) contact theory (IPC, 2006). The general idea of Allport's contact theory states that contact with people different from oneself will lead to attitude change if presented under the right conditions. As previously

mentioned, Allport specified four necessary conditions for contact to improve negative attitudes: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. This section will describe how the PSD curriculum aligns with each of these conditions.

PSD and Equal Status. The main condition of favorable contact proposed by Allport (1954) is based on equality. According to Allport, if members of one group have an inferior role or status, it is likely that existing stereotypes will be reinforced. The PSD awareness intervention specifically calls for pleasant and meaningful interaction with a Paralympic athlete based on equal-status contact (IPC, 2006). The curriculum recommends that the athlete and the participants have equal and interactive discussions, and provide and receive assistance from one another (IPC, 2006). In addition, the PSD values and activity cards representing each value are designed to increase the knowledge and awareness related to ability, bringing the focus to commonalities and equality (IPC, 2006).

PSD and Cooperation. It is important that the activities required with the contact are cooperative rather than competitive (Allport, 1954). Allport (1954) noted that contact that involves cooperative activities, or doing things together, is the only type of contact likely to result in attitude change. PSD activities are purposely created to be cooperative in nature, as students work alongside Paralympic athletes to achieve group goals at the various activity stations. In addition, all PSD activity cards are cooperative in nature, creating opportunities for empowerment, awareness, knowledge acquisition, and teamwork experiences (IPC, 2006).

PSD and Personal Interactions. Allport (1954) asserted that meaningful contact is necessary for attitude change, as personal situations provide the chance for participants to acquire more information about one another and to get to know one another as individuals. Paralympic School Day is designed to include a variety of opportunities for personal interactions: (a) to hear an athlete's story about life experiences, (b) to learn from the athlete about sport as a human right, and (c) to ask questions and gain exposure to the successes and failures of the athlete (IPC, 2006). In addition, if the athlete is able to lead small group simulation activities, increased personal interactions will occur.

PSD and Support from Authority. Allport (1954) suggested that changing attitudes through contact between group members relies on the support of authority (including laws and customs), as the support of authority establishes a norm of acceptance. School leaders committed to planning and executing the PSD awareness intervention are indicating a level of support for meaningful and purposeful contact with Paralympic athletes. If the school already has a commitment to diversity through programming, values, and expected behaviors, the norm of acceptance is likely already strong. In addition, active participation during PSD by school leaders and teachers helps to establish the expectation of inclusivity and contact, and shows direct support from authority.

In conclusion, the PSD intervention is rooted in Allport's (1954) contact theory, which states that contact with people different from oneself will lead to attitude change if presented under the right conditions. The PSD intervention aligns with Allport's four necessary conditions for contact: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority.

Paralympic School Day Field Based Research

Three studies from scientific journals or periodical publications, published in the English language, have measured the impact the PSD awareness program has on attitude change (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009). Specifically, these studies have measured the attitudes of peers without disabilities toward the inclusion of peers with disabilities in physical education. Theoretically, contact theory (Allport, 1954), as it relates to systematic exposure and contact between individuals with and without disabilities, was cited as the foundation of the Panagiotou et al. (2008) study. The Liu et al. (2010) study did not cite a theory, and the Xafopoulos et al. (2009) study mentioned a number of theories (including contact theory), but wasn't grounded in one specific theory. Instrumentation for all three studies (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009) included the use of the CAIPE-R (Block, 1995). In addition, two of the studies used Siperstein's (1980) Adjective Checklist (Liu et al., 2010; Xafopoulos et al., 2009).

The main outcome variable measured by these studies is the effectiveness of intervention on changing attitudes. As a result of PSD awareness programming, attitudes towards inclusion showed positive changes (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009). In some cases, attitudes towards inclusion showed positive change, but attitudes towards modifying sport rules did not show change (Panagiotou et al., 2008; Xafopoulos et al., 2009) or tended to decrease (Liu et al., 2010). The impact gender had on attitude change was also measured. Gender showed differentiated results, as attitudes were shown to be more positive in females as a result of the PSD awareness intervention (Xafopoulos et al., 2009), yet gender differences in attitude were not found

to be significant in the Panagiotou et al. (2008) study or the Liu et al. (2010) study.

Panagiotou et al. (2008). The Panagiotou et al. (2008) study considered the impact PSD would have on the attitudes of 178 fifth- and sixth-grade students without disabilities, as well as the effect gender had on their attitudes towards inclusion. The researchers used nonrandom, intact classes. Both an experimental and control group were measured using the CAIPE-R (Block, 1995). This PSD included 10 stations that each child in the experimental group took part in for 15 minutes each. The 10 stations included: (a) human rights, (b) Paralympic games, (c) boccia, (d) classification, (e) sitting volleyball, (f) goalball, (g) accessibility games, (h) painting, (i) wheelchair basketball, and (j) athletics (Panagiotou et al., 2008). Children took the pretest one week before PSD and the posttest one week after PSD (Panagiotou et al., 2008). A 2X2 repeated measures analysis of variance was used to examine the differences in pre and post tests between the two groups and genders (Panagiotou et al., 2008). Results showed that the PSD intervention had a significant impact on the general attitude subscale for the experimental group, but did not affect the sport-specific attitudes, and no gender differences were shown. (Panagiotou et al., 2008). These results indicate that PSD programs can positively impact attitudes related to disabilities. Longitudinal follow up is recommended, as is group debriefing to better assess the impact of each PSD station (Panagiotou et al., 2008).

Xafopoulos et al., 2009. The Xafopoulos et al. (2009) study considered the impact PSD would have on the attitudes of 71 eleven-to-twelve-year-old students without disabilities at an international school, as well as the effect gender had on their attitudes towards inclusion. The researchers used nonrandom, intact classes as the experimental group (no control group was used) and measured attitudes using the CAIPE-R (Block,

1995) and the Adjective Checklist (Siperstein, 1980). This PSD included six stations that each child took part in for 40 minutes each. The six stations included: (a) sledge hockey, (b) Paralympic sports, (c) wheelchair mobility, (d) wheelchair basketball, (e) meet an athlete, and (f) boccia (Xafopoulos et al., 2009). Children took the pretest one week before PSD and the posttest one week after PSD (Xafopoulos et al., 2009). A paired *t*-test was used to examine the differences in attitudes between pre and post intervention for each gender. In addition, paired samples *t*-tests were performed on each statement of the CAIPE-R (Block, 1995) questionnaire to examine which attitude statements resulted in significant attitude change (Xafopoulos et al., 2009). Results showed that the PSD intervention had a slight nonsignificant positive impact among boys for overall attitude, and a significant positive change among girls for overall attitude (Xafopoulos et al., 2009). Nonsignificant negative changes were found among both boys and girls for sport-specific attitudes (Xafopoulos et al., 2009). These results indicate that PSD programs can positively impact attitudes related to disabilities, specifically in an international school, but should be viewed with caution because a control group was not used.

Liu et al., 2010. The Liu et al. (2010) study considered the impact PSD would have on the attitudes of 36 sixth-grade students without disabilities, as well as the effect gender had on their attitudes towards inclusion. The researchers used nonrandom, intact classes as the experimental group (no control group was used) and measured using the CAIPE-R (Block, 1995) and Siperstein's (1980) Adjective Checklist (Liu et al., 2010). This PSD included three stations that each child took part in for 45 minutes each. The first station included the entire group of 36 children and was a lecture given by a Paralympic athlete on the topic of sport for people with a disability. Next, the participants

were divided in half and took part in the other two stations that included boccia and wheelchair basketball. To finish, the entire group came back together to watch adults play wheelchair basketball (Liu et al., 2010). Children took the pretest one week before PSD and the posttest one week after PSD (Liu et al., 2010). A Wilcoxon paired sample *t*-test was used to examine the differences in attitudes between pre and post intervention, and a one-way analysis of variance was used to analyze the impact of gender (Liu et al., 2010). Demographic data were reported on the attributes of exposure and competitiveness, but statistical data were not calculated on the relationship these attributes may have had with attitudes. Results showed that the PSD intervention did not have a significant impact on overall attitude scores, that means scores increased on both measures for overall attitudes but were not significant, that scores related to sport-related modifications decreased and were not significant, and that the influence of gender did have a significant difference on pre-intervention scores (Liu et al., 2010). These results indicate that PSD programs can positively impact attitudes related to disabilities (in a nonsignificant manner) and can spread the messages about Paralympic education.

Conference Proceedings. In addition to the articles found in published journals and periodicals, PSD studies have also been reported at conferences. Information from conference proceedings should be viewed with caution, as they do not follow the strict reporting requirements of scientific journals. In addition, conference proceedings do not always include a transparent description of the sample selected, the variables measured, the instruments used for assessment, or the analysis of data conducted. With that in mind, bringing the PSD studies reported at conferences to the attention of the reader adds to the comprehensive coverage of past research.

Conference proceedings from the 8th European Conference of Adapted Physical Activity indicate that Van Biesen, Busciglio, and Vanlandewijck (2006) implemented the PSD program at three Flemish schools, examining the attitudes of 196 students ages 8-13 years old. This study measured general attitudes and sport-specific attitudes using the CAIPE-R (Block, 1995) and also quantified the impact that previous exposure and competitiveness had on attitude (Van Biesen et al., 2006). Researchers found that the PSD program had a positive influence on attitudes overall, that sport-related attitudes were not impacted but were negative overall, that there were significant differences for gender (girls had more positive attitudes than boys), that there were significant differences for competitiveness (with less competitive students having better attitudes), and there were no significant differences related to exposure (Van Biesen et al., 2006).

Conference proceedings from the 8th European Conference of Adapted Physical Activity also indicate that Jesina et al. (2006) implemented the PSD program in the Czech Republic with 48 children from the fourth and fifth grades participating. This study used a revised version of the CAIPE-R (Block, 1995) and Siperstein's (1980) Adjective Checklist. Both measures indicated a very small significant change in overall attitude after the implementation of the awareness program (Jesina et al., 2006).

PSD and the USA. To date, the USA does not have a Paralympic educational program for use in schools. As previously mentioned, research shows that the Atlanta (Georgia) Paralympic Organizing Committee (APOC) received a 3-year grant in 1993 from the U.S. Department of Education Office of Special Education and Rehabilitative Services for Paralympic Day in the Schools (PDIS), a visiting consultant model designed to encourage inclusive participation in sport and active leisure (Wilhite et al., 1997). The

PDIS specifically called for the joint participation of peers with mobility and visual disabilities along with their peers without disabilities. By its very design, PDIS is a different model than the proposed PSD.

In summary, PSD is one type of awareness program that offers an avenue for raising awareness and changing attitudes toward people with disabilities. Interventions designed to improve attitudes about people with disabilities are the most effective way to change behavior (Milsom, 2006). The PSD intervention is rooted in Allport's (1954) contact theory (IPC, 2006). The general idea of contact theory states that contact with people different from oneself will lead to attitude change if the contact is presented under the right conditions. Three field-based research studies indicate the impact the PSD awareness program can have on attitude change, and also indicate the need for further research (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009).

Conclusion

The attitudes of children without disabilities toward the inclusion of children with disabilities have been studied across a variety of educational contexts and situations. Attitude research in APE provides a means to evaluate the thoughts, feelings, and beliefs of peers toward inclusion and integration practices (Hutzler, 2003). In addition, attitude is considered one of the keys to changing behaviors towards people who are different, which is essential to APE and integration (Sherrill, 1998).

Assessment of attitude components and related behaviors is the first step in the process of attitude change (Sherrill, 1998). Research on attitudes often includes attitude measurements that assist the researcher in predicting and explaining an individual's behavior toward the attitude referent (Antonak & Livneh, 1988; Yuker, 1988).

There are two leading lines of research regarding positive attitude change: (a) investigating whether contact and exposure to the attitudinal referent has an effect on attitudes, and (b) investigating whether information that will increase cognition has an effect on attitudes (Ajzen & Fishbein, 1980; Allport, 1954; Favazza & Odom, 1997; Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Marom et al., 2007; Mickel & Griffin, 2007; Olson & Zanna, 1993; Panagiotou et al., 2008; Pettigrew, 1998; Reina et al., 2011; Rillotta & Nettelbeck, 2007; Sigelman et al., 1986; Wilhite et al., 1997; Xafopoulos et al., 2009; Yuker et al., 1966).

Prior research in the field has supported the idea that overall attitudes about disability and inclusion are positive, with peers responding favorably to including a peer with a disability in their league or PE class, participating alongside a peer with a disability, and coexisting with them in class or on a team (Archie & Sherrill, 1989; Block & Malloy, 1998; Brook & Galili, 2000; Gillespie, 2002; Modell, 2007; Murata et al., 2000; Obrusnikova et al., 2010; Roberts & Lindsell, 1997; Townsend & Hassall, 2007; Verderber et al., 2003; Vignes et al., 2009). Alternately, research in the field related to the impact interventions have had on attitude change have shown positive, neutral, and negative results (Block & Zeman, 1996; Favazza & Odom, 1997; Florian & Kehat, 1987; Hutzler et al., 2007; Kalyvas & Reid, 2003; Kisabeth & Richardson, 1985; Liu et al., 2010; Lockhart et al., 1998; Loovis & Loovis, 1997; Marom et al., 2007; Obrusnikova et al., 2003; Panagiotou et al., 2008; Reina et al., 2011; Stewart, 1988; Wilhite et al., 1997; Xafopoulos et al., 2009). These mixed results indicate a need for further research on intervention studies.

The first listed line of research (investigating whether contact and exposure to the attitudinal referent has an effect on attitudes) directly relates to Allport's (1954) contact theory. Allport first proposed the theory that social contact will improve relationships between members of majority and minority groups. This theory has been used to explain a great deal about human relations, particularly in terms of prejudice and difference. The general idea of contact theory states that contact with people different from oneself will lead to attitude change if contact is presented under the right conditions. This theory is particularly relevant to the present study, as it forms the basis for many disability awareness programs.

A number of research studies indicate the common factors of disability awareness programs: (a) direct or indirect contact, (b) information about disabilities, (c) persuasive messages, (d) analysis of the dynamics of prejudice, (e) disability simulation, and (f) group discussion (Donaldson, 1980). Many similarities are also observed in the research on intervention methods. A combination of both contact and information is shown to be more successful in promoting attitude change than when either is used in isolation (Horne, 1988). Published disability awareness programs focusing on disability sport are not common. A basic internet search indicates that published disability sport awareness programs have been created for specific countries; however, a literature search indicates that field-based research has been conducted on only one disability sport awareness program: Paralympic School Day (PSD), published by the International Paralympic Committee (IPC; Official Website of the Paralympic Movement, n.d.b).

Interestingly, no research has been conducted in the United States of America on the impact a Paralympic School Day awareness intervention program has on the attitudes

of children without disabilities toward children with disabilities. The importance of intervention programs that create awareness and understanding are both meaningful and necessary in the school setting, as an important variable in successful inclusion practice is the attitude of the peer group (Sherrill et al., 1994; Sherrill, 1998; Tripp & Sherrill, 1991).

The Paralympic School Day intervention being theoretically driven is also important. PSD is rooted in Allport's (1954) contact theory, which states that contact with people different from oneself will lead to attitude change if the contact is presented under the right conditions. The PSD intervention aligns with Allport's four necessary conditions for contact: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority. According to Sir Phillip Craven, President of the IPC, school programs can play key roles in promoting unbiased attitudes, as meeting and interacting with a Paralympic athlete in a meaningful and purposeful manner demonstrates that disability is correlated with strength, vigor, passion, and healthfulness (IPC, 2006).

Based on this review of literature, recommendations for future research topics are as follows (in order of importance):

1. What is the impact of a Paralympic School Day program on the attitudes of students without disabilities toward the inclusion of students with disabilities in an American school?
2. As a result of an intervention program, (a) what is the relationship between attitudes and behavior and (b) does improvement of disability-related attitudes after a short-term intervention indicate long-term attitude change?

3. What effect do workshop length and composition have on the results of a disability awareness training aimed to create attitude change of children without disabilities towards the inclusion of children with disabilities in PE?
4. What impact will the addition of group debriefing meetings after a disability awareness experience have on attitudes toward inclusion, and how will the meetings impact gender results?
5. Does disability type impact the attitudes and behavioral intentions of students without disabilities toward peers with disabilities?
6. What impact does level of competitiveness have on attitudes and behavior intentions of students without disabilities toward the inclusion of peers with disabilities in the physical education setting?

CHAPTER THREE

Methods

This chapter details the measures, population and sample, instruments, procedure and data collection, and data analysis used in this research study. The research question posed: What is the impact of a Paralympic School Day (PSD) awareness intervention on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education, and what student attributes (if any) have an effect on these attitudes?

Independent and Dependent Measures

For this study, the dependent variable was attitude, and the independent variables were PSD and student attributes. When considering how the dependent and independent variables were linked to the question, it was useful to break the question down:

- a. *What is the impact of the Paralympic School Day (PSD) program*

This first part of the question includes the independent variable (PSD), which was the treatment that was controlled by the researcher in this study. The researcher was in control of the implementation of the variable, and was in control of who received the implementation.

- b. *on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education,*

The second part of the question indicates the dependent variable (attitude), which was the

variable the researcher observed to see if change occurred as a result of the treatment. Further, the concept of attitude change was the foundation of the study.

c. *and what student attributes (if any) have an effect on these attitudes?*

This third part of the question indicates the second independent variable (student attributes), which the researcher assessed to determine if they had an effect on student attitudes.

Liu et al. (2010) described a variety of attributes when introducing the results of the research, but measured only the attribute of gender as an independent variable, which they found to be significantly correlated to pretest attitude scores. In addition, Xafopoulos et al. (2009) found the attribute of gender to be significantly correlated to attitude change, while Panagiotou et al. (2008) did not. Both had a variety of data on other attributes, but did not consider them as independent variables.

When evaluating how the dependent and independent variables are linked to the general field of intervention research, the following should be considered: (a) intervention studies have shown varying results across age and gender (Bell & Morgan, 2000; Campbell et al., 2005; Favazza & Odom, 1997; Holtz & Tessman, 2007; Hutzler et al., 2007; Kalyvas & Reid, 2003; Lockhart et al., 1998; Loovis & Loovis, 1997; Reina et al., 2011) and (b) there are limited intervention studies assessing the attributes of previous exposure and competitiveness (Block & Zeman, 1996; Hutzler et al., 2007).

With this partial overview of the variables assessed in intervention studies in mind, the importance of considering not only the impact of the PSD intervention but also the impact of attributes such as age, gender, and exposure was clear, as additional research is necessary on the impact attributes have on attitude change.

Population and Sample

The target population for this study was middle school children in the sixth grade. This target population was determined based on (a) the PSD materials, (b) the current body of PSD intervention research, (c) the social impact of the peer group of adolescent children, and (d) the effect of the age variable on attitude. The PSD materials are designed for children ages 6 through 15 and include a fun and active set of activities that provide education about the Paralympics, individual differences, and acceptance (Official Website of the Paralympic Movement, n.d.b). The rationale for using sixth grade participants was to target children who fall within the range of appropriate ages for the PSD materials. In addition, 100% of the research on PSD has used middle school students as the subjects (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009). All studies have included a pencil and paper survey that requires a certain level of language and cognitive ability, thus adding to the rationale for using middle school students as subjects. Adding to the research body in a comparable way allows for similarities and differences to be explored across the research, observations and conclusions to be made, and analyses and syntheses to take place.

Additionally, the social impact of the adolescent peer group relates directly to attitude change (Sable, 1995). Sable (1995) suggests that attitude change can occur when altering an adolescent's feelings and thoughts toward a peer with a disability, which increases the potential for the inclusion of peers with disabilities. Sable notes that being accepted by a peer group allows an adolescent to gain social recognition and to experience the positive values held by the group. Ultimately, because attitudes are amassed through experience, attitudes represent the outcome of the socialization process

(Fishbein, 1967; Sable, 1995; Shaw & Wright, 1967). The age variable was also relevant, as research shows that as grade level increases, attitudes and beliefs about inclusion become less favorable (Bell & Morgan, 2000; Kalyvas & Reid, 2003; Townsend & Hassall, 2007; Verderber et al., 2003). By focusing on middle school children, this study had a greater impact on students who may not have been initially receptive to the inclusion of students with disabilities in physical education classes.

The sample recommended for this study was in Riverdale, NY (a suburb of the Bronx) and included students at the Horace Mann School Middle Division. Horace Mann is one of the ten largest independent schools in America, with approximately 1,750 students from Nursery through Grade 12, including approximately 440 in the Middle Division and 147 in the sixth grade. Horace Mann students are geographically diverse, as students span 150 different ZIP Codes in three states. Thirty percent of the students are from diverse racial backgrounds, and 17% of the student body receives financial aid (Horace Mann Faculty Handbook, 2012). Horace Mann School's statement on diversity, found in the Faculty Handbook (2012), is as follows:

Diversity at Horace Mann School means attracting and admitting the best and brightest young people regardless of race, ethnicity, gender, socioeconomic class, sexual orientation, religion, or disability and ensuring that they have the opportunity and support to succeed at Horace Mann School. It is our strong belief that diversity is everyone's concern and is in everyone's best interest beginning in the Nursery Division, and continuing through the Upper Division. (p. 4)

Horace Mann School is incorporated as a nonprofit organization under the Education Law of New York State and holds a charter from the New York State Board of

Regents (Horace Mann Faculty Handbook, 2012). Horace Mann is accredited by the New York State Association of Independent Schools (NYSAIS) and is also a member of the Association of Teachers in Independent Schools (ATIS), the National Association of Independent Schools (NAIS), New York City's Guild of Independent Schools, the Educational Records Bureau (ERB), and the Independent School Admission Association of Greater New York (ISAAGNY) (Horace Mann Faculty Handbook, 2012).

Horace Mann School is focused on diversity education through its Office of Diversity Initiatives. The Office of Diversity Initiatives attends to four areas of diversity work: (a) making culture more explicit, (b) affirming identity, (c) creating context for understanding through academics, and (d) engaging the community in meaningful dialogue (Horace Mann Faculty Handbook, 2012; see Figure 1).

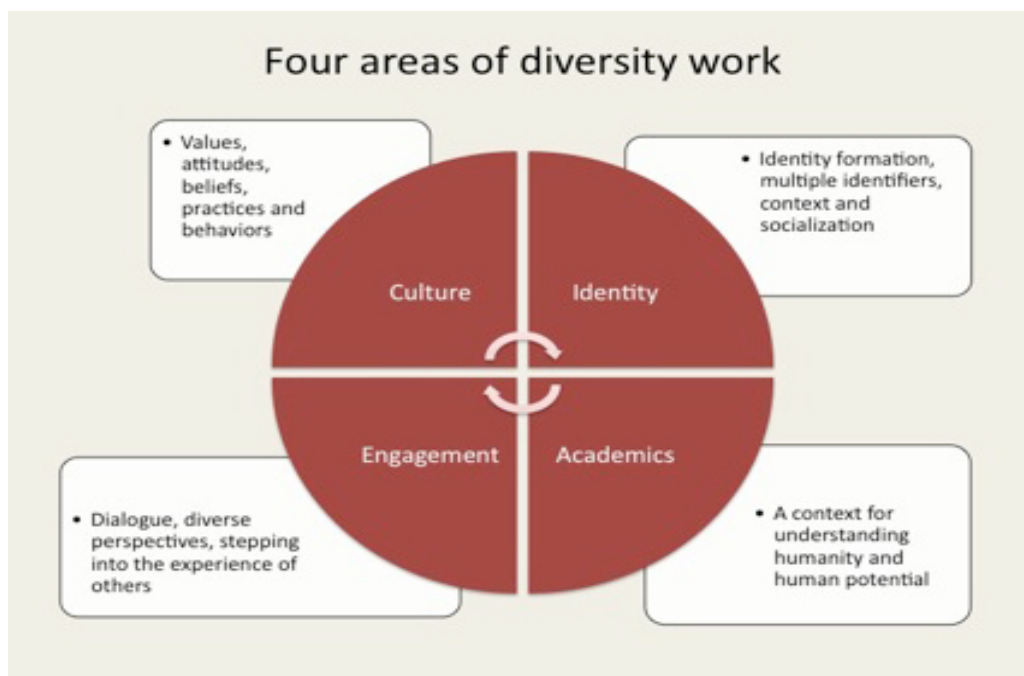


Figure 1. Four areas of diversity work (Horace Mann Faculty Handbook, 2012).

Horace Mann School is broadly committed to inclusion, as seen in the following statement from the Horace Mann Faculty Handbook (2012):

Horace Mann School actively seeks to enrich and to nurture a school community with a diverse student body, a diverse faculty, staff and administration, and a rigorous and innovative curriculum. Our goal is to move with purpose and conviction toward greater inclusion. We define inclusion as policies, practices and programs based on a set of shared community values. Inclusivity is measured by the degree to which people of all backgrounds, people of all perspectives and people of all beliefs have an equal opportunity to contribute, to belong and to achieve within the community. We believe that inclusion requires everyone to recognize, to respect and to value difference. (p. 4)

Because diversity is integral to the daily life of the school, the administration is supportive of diversity initiatives (such as PSD) that are both meaningful and purposeful in their creation and delivery. Since the creation of the Office of Diversity Initiatives in the summer of 2010, disability awareness has not been addressed as a diversity initiative. Also of note, less than 1% of the student population identifies as having a physical disability (T. Kelly, personal communication, February 5, 2013).

Using the G*Power 3 for ANCOVA power analysis program (Erdfelder, Faul, & Buchner, 1996), a reasonable sample size for this study was determined to be 128 total participants to result in an 80% chance of rejecting a false null hypothesis (Appendix B). Calculation input included four groups ($\text{gender} \times \text{psd} = 2 \times 2 = 4$) with one covariate (pretest), a .80 power level, .05 alpha, and .25 effect size (Faul, Erdfelder, Lang, & Buchner, 2007). The Horace Mann Middle Division has a total of 147 sixth grade

students, all of whom were invited to participate in this study. This number of participants met the expectations set forth in the power analysis to result in an 80% chance of rejecting a false null hypothesis.

Instruments

This section will describe the instruments used in this study, including literature supporting the use of the instruments. This section will conclude with a short summary related to the approval process for studying human subjects.

Using a true experimental design, the instruments used for data collection were the Children's Attitudes Toward Integrated Physical Education- Revised Inventory (CAIPE-R; Block, 1995), the Adjective Checklist (Siperstein, 2006), and the newly created Fidelity Criteria. The Block's (1995) CAIPE-R can be found in Appendix C, Siperstein's (2006) Adjective Checklist can be found in Appendix D, and the Fidelity Criteria instrument in Appendix E. Data were collected using a pencil and paper survey, with the Adjective Checklist and Fidelity Criteria (posttest treatment group and retention test all) attached to the CAIPE-R. The rationale for attaching the surveys was to keep papers together, to associate the target of the checklist to the child in a wheelchair described in the CAIPE-R, and to streamline hand out and collection time.

Children's Attitudes Toward Integrated Physical Education- Revised

The first instrument used to collect data for this study was the Children's Attitudes Toward Integrated Physical Education- Revised Inventory (CAIPE-R; Block, 1995). According to Block (1995), the CAIPE-R was developed to:

- (a) specifically measure attitudes of children without disabilities toward including peers with either physical or intellectual disabilities in general physical education,

and (b) describe preliminary data regarding attributes and relative contribution of selected attributes of middle school-aged children toward having peers with disabilities in their regular physical education class. (p. 62)

The original CAIPE inventory was validated using a sample of 44 subjects from the sixth grade and was specific to including a peer with autism, and the CAIPE-R was validated using a sample of 208 subjects from the fifth and sixth grades and was specific to including a peer who uses a wheelchair (Block, 1995). Content validity, as noted by Obrusnikova et al. (2003), was measured by expert judgment. This instrument is a validated attitude survey with an internal reliability coefficient of .87, a test-retest reliability coefficient of .78 for the general attitude scale, and a .66 internal and .56 test-retest reliability coefficient for the sport-specific scale (Block & Zeman, 1996).

The CAIPE-R (Block, 1995) begins with a short student demographics survey and then moves to a brief description of a fictitious student with a physical disability. The description discusses how the student will participate in physical education class. After the leader reads the description, the students respond to statements regarding their attitudes toward having this student in their physical education class. The instrument has two sections: one with six general attitude statements about inclusion, and one with five statements related to rule modifications that would accommodate this student. A 4-point Likert scale that includes *yes*, *probably yes*, *probably no*, and *no* is used to record responses (Block, 1995). When computing scores, a single CAIPE-R attitude score can be determined, or two scores (inclusion in general physical education and sport modifications) can be calculated, or a combination of these two options can be calculated, totaling three scores (Block, 1995). For this study, three scores were totaled (a single

CAIPE-R score, an Inclusion subscale score, and a Sport Modification subscale score). Scores were totaled by assigning a number value to each level of the Likert scale: *yes* = 4, *probably yes* = 3, *probably no* = 2, *no* = 1, which were then added together based on the responses to get a total. Total scores ranged from 11- 44 on the CAIPE-R, 6-24 on the Inclusion subscale, and 5-20 on the Sport Modification subscale. These scores are translated in Table 2, and correspond to the Likert scale (relatively high = 3.5, neutral = 2.5, relatively low = 1.5).

Table 2

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 – 44)	39	28	17
Inclusion Subscale (range 6 – 24)	21	15	9
Sport Modification Subscale (range 5 – 20)	17.7	12.5	7.5

The second general attitude statement about inclusion (question four on the survey) is a negative response question, and thus was inverted: *yes* = 1, *probably yes* = 2, *probably no* = 3, *no* = 4. Changes were made to the CAIPE-R for use in this study and are listed in Appendix F. The changes to the CAIPE-R were approved by Martin Block, Ph.D., author of the instrument. Dr. Block agreed that the changes do not impact the reliability or validity of the instrument. The edited CAIPE-R can be found in Appendix G.

The CAIPE-R instrument was appropriate for use in this study based on previous research and on the purpose of the instrument. All previous research regarding the impact

PSD has on attitudes of students has been conducted using the CAIPE-R or a slightly modified version to account for foreign language barriers (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009). As previously mentioned, the CAIPE-R was designed to measure attitudes of children without disabilities toward including peers with disabilities in regular physical education. In addition, it was designed to describe preliminary data about attributes and the contribution of certain attributes of middle school-aged children toward having peers with disabilities in their regular physical education class (Block, 1995). The rationale for the design of the CAIPE-R was aligned with the purpose of this research study.

The Adjective Checklist

The second instrument used to collect data for this study was Siperstein's (2006) Adjective Checklist. The Adjective Checklist measures the cognitive attitudes of participants and has been recognized as a tool to identify stereotypes. Siperstein (2006) notes that the Adjective Checklist was designed with an open-ended format so that children can choose adjectives to describe a person or group with descriptors based on their opinions, just as they would in a classroom setting. According to Sherrill (1988), the foundation of this instrument is the assumption that subjects reveal their opinions and feelings based on the adjective choices they make. Siperstein's Adjective Checklist was developed specifically for school-aged children and contains 34 adjectives, half of which are positive in nature (smart, kind, clever), and half of which are negative in nature (stupid, cruel, ugly). The 34 adjectives describe affective feelings, academic behaviors, physical appearance, and social behavior, and are grouped into three categories: (a) positive, (b) negative, and (c) negative affect (Siperstein, 2006). Participants circle the

adjectives from the list that they believe describe a specific student or a category of students (Sherrill, 1988), and can circle as few or as many adjectives as they wish. For this study, the adjectives were used to describe a child in a wheelchair, following the same hypothetical description of “Taylor” used for the CAIPE-R.

The Adjective Checklist can be scored in one of two ways: (a) by summing the adjectives chosen in each of the three categories or (b) by subtracting the total number of negative adjectives circled from the total number of positive adjectives circled, and then adding a constant of 20. Scores can range from 4-36, with those scores that are 20 or above indicating a positive attitude, and those scores that lower than 20 indicating a negative attitude (Siperstein, 2006). Siperstein (1980) determined that the Adjective Checklist demonstrated acceptable internal consistency with a coefficient alpha of .81 after studying 2,000 children ages 8-14 who used the checklist four different times to describe three different types of disabilities and their best friend.

The Adjective Checklist instrument was appropriate for use in this study based on previous research and based on the purpose of the instrument. Two of the three previous research studies regarding the impact PSD has on attitudes of students have been conducted using a combination of the Adjective Checklist and the CAIPE-R (Liu et al., 2010; Xafopoulos et al., 2009). As previously mentioned, the Adjective Checklist was designed to measure the cognitive attitudes of participants and has been recognized as a tool to measure stereotypes (Siperstein & Bak, 1977). For this study, students indicated which adjectives they associated with a child in a wheelchair. The CAIPE-R and the Adjective Checklist were combined into a packet for the pretest, the posttest, and the retention measure (Appendix H).

Fidelity Criteria

The third instrument used to collect data for this study was a Fidelity Criteria instrument, administered to the participants immediately following PSD (January 10th) and again on February 21st (as a part of the retention measure). Fidelity assessments incorporate a theoretical basis of comparison to which the intervention is faithful (Hulleman & Cordray, 2009). Fidelity helps to determine if the implementation of a program is aligned with the intended program theory (Weiss, 1998), and helps to promote external validity (Mowbray, Holter, Teague, & Bybee, 2003; O'Donnell, 2008).

This instrument was constructed based on the Change Model (Swafford, Jones, & Thornton, 1997) as follows: (a) specify the model, (b) analyze the critical components (what is the range of variation), and (c) identify the fidelity indices (intervention component plus mediator equals outcome). Construction of the instrument, following these steps, is outlined in Appendix I. This outline specifies the intervention components (each intervention component is a component of contact theory), the mediators, the outcomes, and the ranges. During construction of the instrument, experts in the field were consulted, including university professors, school administrators, and middle school teachers. Experts were asked to review the questions for content, objectivity, clarity, developmental appropriateness, and adherence to the design steps (Change Model). Experts recommended slight grammatical changes to reflect the sixth grade reading level, and specific descriptions of larger words and concepts. Edits were made according to these recommendations.

The instrument was designed with twelve questions. Questions one, five, nine, and twelve were used in the quantitative analysis of the instrument, while the remaining

questions were used for qualitative purposes in the discussion of the treatment. The four quantitative questions represent the four components of contact theory (one component per question), and the corresponding qualitative questions allow the participants to record additional information related to the component reflected in the preceding quantitative question. Questions one, five, nine, and twelve were coded with a one when they met the component of Allport's (1954) contact theory (equal status, cooperative, multiple contact experiences, support from authority) at the high end of the range, and were coded with a zero when they scored in the middle or low end of the range (indicating that the component was partially met or not met at all).

Fidelity measures are designed to operationalize the theoretical criteria of an intervention study, measuring the critical components of the theoretical basis of the intervention and contributing to the generalizability of the results (O'Donnell, 2008). Analyses were conducted to determine frequency significance, estimates of reliability, and evidence of content, criterion-related, and construct validity of the Fidelity Criteria instrument, which was administered immediately following PSD.

The Institutional Review Board

Before data collection began, permission to conduct the study was granted by the Institutional Review Board at the University of Virginia, who determined the study to be exempt. The Head of Horace Mann School, who is the school's legally authorized representative, approved the study and labeled it a Horace Mann School Diversity Program. As such, the Head of School assumed consent and assent, as the study was part of the school curriculum. Additionally, information was sent to parents about the study, including the option to opt their child out of the study. The Institutional Review Board at

the University of Virginia approved the following protocol, number 2012-0389-00 on November 29th, 2012, with modifications approved on January 7th, 2013 (see Appendix J).

Procedure

Paralympic School Day (PSD) is a disability awareness program created to raise awareness and provide a platform for attitude change. To start, the researcher reviewed the entire PSD program, paying special attention to the goals of the program: (a) to create an environment in which participants experience a realistic and holistic portrayal of disability sport and of athletes who participate in disability sport, (b) to stimulate learning using a balanced mix of activities and teaching methods, and (c) to provide the opportunity for reflection and debriefing (IPC, 2006). Next, the researcher reviewed the twenty PSD activity cards, which are divided into four categories, each category representing one of the values of PSD: (a) respect for sporting achievement, (b) respect and acceptance of individual differences, (c) sport as a human right, and (d) empowerment and social support in sport (IPC, 2007). All of the activity cards are color coded into four categories based on these values (Appendix K). It is recommended that PSD planners attempt to combine activities from multiple value areas when executing a PSD event (IPC, 2007). The researcher compiled a preliminary list of nine possible PSD activities, including at least one from each category, to use during the event:

1. Goalball (Activity Card 3)
2. Sitting Volleyball (Activity Card 4)
3. Wheelchair Basketball (Activity Card 5)
4. A Fairy Tale (Activity Card 8)

5. Equipment (Activity Card 11)
6. Paralympic Games (Activity Card 16)
7. Quiz (Activity Card 17)
8. Athlete Story (Activity Card 18)
9. Classification (Activity Card 19)

The researcher determined that the Activity Card number four, “A Fairy Tale,” would be known as its subheading, “Discussion about Inclusion,” which is age appropriate for middle school students.

The researcher considered the composition of previous PSD programs (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009), as well as the research about Allport’s (1954) contact theory. Although the PSD intervention aligns with Allport’s four necessary conditions for contact: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority, time constraints may prevent a PSD program from utilizing all twenty PSD activities. Therefore, the planner must be mindful that the activities selected from the group of twenty best represent the conditions of contact theory.

The researcher met on September 12th, 2012, with the Head of School to obtain permission to plan and execute the PSD awareness intervention study. This meeting resulted in permission granted and financial support (if needed) granted. An organization plan for follow-up meetings was also discussed. After this meeting, the researcher brainstormed a list of Paralympic athletes, mainly on the East Coast, to contact about speaking at PSD. Based on their experience with speaking, sport, age, personal stories, and involvement in the most recent London 2012 Paralympic Games, the researcher

selected: (a) Trevon Jenifer, (b) Victoria Arlen, (c) Kendra Lancaster, (d) Raymond Martin, and (e) Kari Miller. Attention was given to athletes that were in high school or in their early twenties, as the students would likely connect with athletes with whom they have commonalities and shared experiences.

At the recommendation of the Head of School, on September 27th, 2012, the researcher contacted a school alumni member who is founder and president of Achilles International, an organization that enables people with disabilities to participate in mainstream athletics. The purpose of this contact was to share information about the program and determine if further contacts could be ascertained to help with the execution of the program (Appendix L). A follow-up phone conversation occurred on September 28th, 2012, during which the researcher was invited to the bi-weekly Achilles group training runs, and during which the researcher gathered phone contact numbers for the coach of the Nassau Kings (Long Island, NY) Wheelchair Basketball team, and for two local Paralympic athletes from the Beijing 2008 Paralympic Games.

Next, the researcher contacted the coach of the United States Paralympic Men's Wheelchair Basketball Team (Appendix M) to explain the program and ask for contact information for one of the players, Trevon Jenifer, and then contacted the player (Appendix M) to ascertain if he was interested in being a part of PSD. These contacts occurred on September 28th, 2012, and October 1st, 2012, respectively. Responses are also included in the aforementioned appendix, and both occurred on October 1st, 2012. In addition, the researcher contacted the mother of Kendra Lancaster, Paralympian, on October 1st, 2012, using contact information from a mutual acquaintance (Appendix N).

On October 2nd, 2012, the researcher met with the Head of Diversity Initiatives at

Horace Mann School to discuss the intervention and obtain support in executing PSD as a school diversity program. This meeting resulted in support for the program as a school diversity program and the following recommendations: (a) to use both a male featured athlete and a female featured athlete in the PSD intervention; (b) to attempt to have one athlete be a current high school student; and (c) to arrange for processing and debriefing as one of the PSD activity stations to immediately bring thoughts and feelings to the surface, which would allow students to identify and label beliefs about and experiences related to disability. Interestingly, this recommendation for processing and debriefing directly aligns with the aforementioned goal of the PSD program related to reflection and debriefing. Following this meeting, the researcher completed the online form on Paralympic athlete Victoria Arlen's website to contact Victoria about PSD.

The researcher contacted Victoria Arlen via social media on October 5th, 2012, and received a response, including a personal email address, on October 6th, 2012. The researcher followed this social media message with an email message (Appendix O) on October 7th, 2012, and received a response on October 9th, 2012 (Appendix O).

The researcher met with the coach of the Nassau Kings Wheelchair Basketball team on October 6th, 2012, to share details about PSD and to ask for support in obtaining 18 wheelchairs appropriate for use by middle school students during PSD. This meeting was successful, and follow-up conversations occurred once a month leading up to the PSD program.

To meet the goal of Paralympic athletes running the activity stations, the researcher contacted the coach of the USA Women's Sitting Volleyball Team on October 20th, 2012, to introduce the program and request contact information for players who live

on the East Coast of the U.S. (Appendix P). His response (Appendix P) led the researcher to contact two Sitting Volleyball Paralympians, Nicky Nieves and Kari Miller (Appendix P), both of whom were very interested in the program. Both agreed to be guests at the PSD event.

On October 24th, 2012, the researcher learned that it might not be possible to attain 18 wheelchairs for use at PSD, and created a modified plan to execute the wheelchair basketball station. In the event that 18 wheelchairs were not available, the featured athlete, Trevon Jenifer, and his assistants would lead the station just as they would lead an inclusion practice, with students participating both in wheelchairs and without wheelchairs. This inclusion experience would further the goals of PSD by creating an atmosphere where students were integrated and enjoying a skill practice session together.

On October 25th, 2012, the researcher met with the Head of the Middle Division to obtain support and discuss logistics. This meeting resulted in support for the program and the following big picture decisions: (a) PSD date set: January 10th, 2013; (b) PSD timing coordinated with the class schedule: three 45-minute class periods in a row will be utilized, also known as periods A, B, and C; (c) involvement established for the grade-level Dean of Students to act as the liaison between the researcher and the sixth grade teachers; (d) connection made between PSD and the school value being emphasized in the Middle Division: Mature Behavior; (e) financial support confirmed (if needed) to secure the guest athletes and equipment necessary for the program; (f) one period set aside for the guest athlete joint presentation, while the other two to be used for four 18-minute stations in and around the athletic complex; (g) decision made that control group

students will take part in their regularly scheduled morning classes during A, B, and C periods; (h) decision made that pretest data collection will take place on January 8th, 2013, at the end of H period, and posttest data collection will take place at the end of C period on January, 10th, 2013 (including administration of the Fidelity Criteria for the treatment group); and (i) once posttest data collection is complete at the end of C period, PSD will be officially over for the purposes of the research study. However, so that all students in the sixth grade experience the awareness program, it was decided that control group students would take part in the PSD activities during F, G, and H periods (and will be administered the Fidelity Criteria immediately following their PSD experience). Additionally, it was determined that retention data would be collected on February 21st, 2013 (six weeks after the intervention) on all subjects (experimental and control). Based on the scheduling of January 10th, 2012, the control group will receive the PSD treatment after the official end of the study (after the posttest data are collected) and thus will be able to take the retention measure along with the treatment group (at the retention measure, the entire sample is considered treatment), adding to the volume of retention scores. Retention measures ranging from four weeks to three months to eight years are recommended in a variety of intervention studies, as measuring the long-term impact of the intervention and continuity of attitude change offers additional information about the longevity of the effectiveness of the treatment (Murata et al., 2000; Reina et al., 2011; Rillotta & Nettelbeck, 2007).

The timing of the pretest and posttest was determined based on scheduling logistics at the Horace Mann Middle Division, minimizing disruption to the school schedule and the demands placed on sixth grade teachers, and on balancing the need for

instructional time. A variety of intervention studies administered the pretest and posttest immediately before and after the treatment, or within one week of treatment (Hutzler et al., 2007; Lockhart et al., 1998; Liu et al., 2010; Reina et al., 2011; and Wilhite et al., 1997).

Following the meeting with the Head of the Middle Division, the researcher revised the list of possible stations to be used for PSD to reflect the decisions about timing and execution. The original list of eight stations was shortened to five stations and specifics were determined:

1. Sitting Volleyball (Activity Card 4):
 - a. To take place in Prettyman Gymnasium A and led by two Paralympians: Kari Miller and Nicky Nieves.
 - b. Represents the PSD value of *respect for sporting achievement*.
 - c. Achieves contact theory conditions of *equal status, cooperative pursuance of common goals, personal interactions, and identification and acceptance of social norms provided by authority*, as students will experience a differentiated skill alongside authority figures, gaining respect and understanding for movement limitations.
 - d. Station leaders to discuss inclusion and integration as related to learning a new sport, practicing skills in a modified manner, and their own personal experiences with inclusion in physical activity settings.
2. Wheelchair Basketball (Activity Card 5):
 - a. To take place in Prettyman Gymnasium B and led by the male featured athlete, Trey Jenifer, Paralympic Wheelchair Basketball player, and

assisted by Tony Fitzgerald, Chris St. Remy, and Tony Kurz, members of the Nassau Kings Wheelchair Basketball Team.

- b. Represents the PSD value of *respect for sporting achievement*.
- c. Achieves contact theory conditions of *equal status, cooperative pursuance of common goals, personal interactions, and acceptance of social norms provided by authority* as students learn from and participate alongside a Paralympic athlete and local wheelchair basketball athletes to achieve skill and knowledge acquisition in a team sport atmosphere.
- d. Trey and his assistants to discuss inclusion and integration as related to learning a new sport, practicing skills in a modified manner, and their own personal experiences with inclusion in physical activity settings.

3. Discussion about Inclusion (Activity Card 8):

- a. To be in the wrestling room and led by the Head and Assistant Head of Diversity Initiatives in two smaller breakout discussion groups to facilitate increased dialogue.
- b. Represents the PSD value of *respect and acceptance of individual differences*.
- c. Achieves contact theory conditions of *acceptance of social norms provided by authority*, and supports conditions of *equal status, personal interactions, and cooperative pursuance of common goals*.

These discussions will be lead by two members of the faculty who are in positions of authority, and will challenge the idealized notion of

“normal” against which people with disabilities are often compared.

Sessions leaders will guide students in identifying common assumptions and then encourage students to test these assumptions. Students will be able to look at their feelings, beliefs, and behaviors and begin to question the impact their dispositions have on other people.

- d. Station leaders will cover topics that are broad (community setting) and narrow (physical education setting), as related to inclusion and integration.

4. Paralympic Games (Activity Card 16):

- a. To use the athletics conference room and be led by the female featured athlete, Victoria Arlen, Paralympic swimmer.
- b. Represents the PSD value of *sport as a human right*.
- c. Achieves contact theory conditions of *equal status, personal interactions, and acceptance of social norms provided by authority*, and supports the condition of *cooperative pursuance of common goals*. as students learn from and get to know a Paralympic athlete while they achieve knowledge acquisition related to adapted equipment, classifications, and the thrill and excitement of the Paralympic Games.
- d. Victoria will discuss inclusion and integration as related to practicing skills in a modified manner as well as her own personal experience with inclusion in physical activity settings.

5. Athlete Story (Activity Card 18):

- a. To use the auditorium and be led by the featured athletes, Victoria Arlen and Trey Jenifer.
- b. Represents the PSD value of *empowerment and social support in sport*.
- c. Achieves contact theory conditions of *equal status, personal interactions*, and *identification and acceptance of social norms provided by authority*, and supports the theory condition of *cooperative pursuance of common goals*, as students take part in a school-sponsored assembly led by the featured athletes, gaining appreciation for the abilities of the athletes, gaining respect for the achievements of the athletes, and learning about the lives and experiences of the athletes.
- d. Speakers will discuss inclusion and integration as related to practicing skills in a modified manner, as well as their own personal experiences with inclusion in physical activity settings.

The PSD Activity Cards for each of these five stations as well as modifications to the cards in the form of outlines created for this event can be found in Appendix Q. Having the athletes run activity stations provided increased meaningful interactions with participants; increased social contact in an enjoyable setting; increased ability to engage, get to know, and connect with participants; and provided an outlet for group goals and cooperation. All PSD activities were video recorded for playback and review by the researcher, which allowed for the interpretation of the data to be verified and crosschecked.

On October 29th, 2012, the researcher met with the Head of the Middle Division, the 6th Grade Dean, and the Director of Athletics at Horace Mann School to further discuss details and reserve shared school space. Two school gymnasiums, the school auditorium, the wrestling room, and the athletics conference room were reserved for the PSD awareness program as well as for the potential snow date. The group also discussed which method would be used for the random assignment of the sixth grade students. The researcher learned that students in the sixth grade at Horace Mann School are randomly assigned to a “House” for the entire school year (House A or House B). This assignment used the randomized block design (Trochim & Donnelly, 2007), as students were assigned to groups based on gender, and then within each gender group were randomly assigned to a House. This random assignment method works well for this experiment, as it allows for each House to have an equal proportion of male students and female students. As a result, differences between Houses cannot be attributed to gender. This randomized block design averages in gender as a potential source of variability (Lomax, 2001). Houses gather throughout the year for announcements, activities, and programs. Houses are not linked to academic schedules, age, or any other known variable. The Head of the Middle Division provided the researcher the lists of students in each House, which the researcher coded with numbers (Appendix R). The researcher flipped a coin to determine which House would receive the treatment. Results indicated that House B would be the experimental group and House A would be the control group.

Additionally, details were discussed to determine the best way to train the sixth grade teachers on passing out, proctoring, and collecting the pretests from the experimental and control group participants, and the posttests from the control

participants. It was determined that the researcher would attend a faculty meeting on December 18th, 2012 to train the sixth grade teachers on pretest and posttest procedures and protocols. The guide for this training can be found in Appendix S.

Finally, on November 20th, 2012, contracts were collected from the featured athletes, and guest letters were sent (Appendix T) outlining their responsibilities for PSD, the topic themes to be covered, the activity station details, travel and lodging specifics, and other details. Final schedules outlining both the January 8th, 2013, pretest day and the January 10th, 2013, PSD intervention/posttest day were compiled and can be found in Appendix U. An informational letter was compiled for students and parents to learn about the program, including the option to opt out of the attitude surveys (Appendix V). Additionally, an Athlete Biographies Sheet (Appendix W) and a press release (Appendix X) were created.

The researcher determined that Period A would be used for the Athlete's Story (Activity Card 18). This activity was in the auditorium from 8:35 a.m. - 9:20 a.m. and included a presentation by the featured athlete(s). Next, students travelled from the auditorium to the athletic complex from 9:20 a.m. - 9:25 a.m. and reported to their first station. The first station was from 9:25 a.m. - 9:43 a.m., the second station was from 9:45 a.m. - 10:03 a.m., the third station was from 10:05 a.m. - 10:23 a.m., and the fourth station was from 10:25 a.m. - 10:43 a.m. The group gathered together in the gymnasium to complete the posttest from 10:45 a.m. - 11:00 a.m.

On the pretest day (January 8th, 2013) and on retention posttest day (February 21st, 2013) packets were pre-marked with the name, number, and House of the student. Packets were sorted and distributed to H Period classes. Students heard an introductory

message from the proctor before the surveys were given that made them aware of the purpose of the packet and that created a teachable moment on the data collection process. A list of predicted questions was also provided, along with developmentally appropriate answers (Appendix Y)

On PSD (January 10th, 2013), all students received a nametag during homeroom (8:20 a.m. - 8:30 a.m.) with their first name, House number, and station number (to indicate which station they would start with when they got to the athletic complex). Because all students received nametags, students were not left out, nor did they feel different based on the group to which they were randomly assigned. Posttest packets were pre-marked with the name of the student, number of the student, and House of the student, and were sorted and distributed to the gymnasium (House B) and to C period teachers (House A). Before the posttest, a statement was read to all students, and a list of possible questions, including developmentally appropriate answers, was also provided (Appendix Z). On February 21st, 2013, the retention test was administered, with an introductory statement, predicted questions, and developmentally appropriate answers provided for the proctors to use when administering the test (Appendix AA).

Data Analysis

This section will describe data analysis for this study, including rationale for the statistics chosen. In this quantitative study, a true experimental design using the CAIPE-R (Block, 1995), the Adjective Checklist (Siperstein, 2006), and the Fidelity Criteria for data collection was implemented. Research shows a variety of statistical methods being used to analyze data collected during a PSD treatment: (a) paired *t*-tests to explore the differences in participant attitudes between preintervention and postintervention for both

boys and girls (using the CAIPE-R and the Adjective Checklist), as well as a paired samples *t*-test for each statement on the CAIPE-R for both boys and girls (Xafopoulos et al., 2009); (b) an independent samples *t*-test to assess pretest scores between the experimental and control groups, as well as a one-way ANOVA for pretests between boys and girls in both the experimental and control groups for general and sport-specific attitudes on the CAIPE-R, as well as a 2X2 repeated measures ANOVA to examine the effect of the treatment on general and sport-specific attitudes, and on attitudes by gender (Panagiotou et al., 2008); and (c) the Wilcoxon paired sample *t*-test to compare the difference in attitudes between the preintervention and postintervention (using both the CAIPE-R and the Adjective Checklist), as well as a one-way ANOVA to analyze the influence of gender (Liu et al., 2010).

Other researchers using the CAIPE-R to measure attitude change and the impact of attributes have utilized different data analysis tools, including (a) nonparametric Mann-Whitney *U* tests to compare the average gain from pretest to posttest for each group on the general and sport-specific attitude scales, and on the pretest attitude scores to determine if there were pretest differences (Block & Zeman, 1996); (b) the calculation of Spearman rank correlation coefficients between the pretests' measures and selected attributes (gender, level of competitiveness, exposure), and the Wilcoxon test to compare attitude scores between pretest and posttest (Obrusnikova et al., 2003); and (c) a forward stepwise regression analysis to determine if attributes (experience, family, competitiveness) significantly contributed to general or sport-specific attitudes (Block & Malloy, 1998).

Based on the research related to analyzing data collected with the CAIPE-R and

the Adjective Checklist, the proposed statistics for this research included a Pearson correlation, *t*-tests, analysis of covariance (ANCOVA), forward stepwise regression analyses, and paired samples *t*-tests for the retention data. For the Fidelity Criteria, proposed statistics included chi-square tests, reliability measures, and validity measures (including a factor analysis). After collecting the surveys, all data were entered into an Excel file and then exported into SPSS 20.0 and Mplus 7.0 (Muthén & Muthén, 1998-2012) to be analyzed in regards to the research questions. Once data were entered, the surveys were shredded. Descriptive statistics were reported on each instrument. The results of the a priori power analysis for ANCOVA determined that 128 participants were needed to result in an 80% chance of rejecting a false null hypothesis. The level of statistical significance was set at .05 for all statistical tests.

Pearson Correlation

A Pearson correlation for the CAIPE-R and the Adjective Checklist was conducted to determine concurrent validity. This correlation showed to what extent the two instruments had a linear relationship (Field, 2005).

t-Tests

Two independent *t*-tests were conducted (one for each instrument) on the pretest scores of all participants to determine if the means of the independent samples differed significantly (Field, 2005). Specifically, the mean score difference between the pretest scores of the treatment and control groups were evaluated to determine whether the groups were similar (not significantly different) prior to the treatment.

Analysis of Covariance (ANCOVA)

Four ANCOVAs were used to analyze the data collected on attitudes. The

dependent variable was posttest attitude score, the covariate was the pretest attitude score, and the independent variables were gender (male or female) and PSD treatment (PSD or No PSD). The ANCOVA allowed the marginal effect of gender and PSD on the posttest score to be determined, as it controls for the pretest score, which is not the variable of main interest. ANCOVA looks at (tests for) three different things: (a) between-group differences in gender effect and PSD effect, (b) covariate effect, and (c) interactions (if any) between gender and PSD. Partial eta squared (*Partial* η^2) was used to determine the effect size, with size as follows: small effect (.01), medium effect (.06), and large effect (.14). Partial eta squared is the variance explained by a given variable remaining after excluding variance explained by other predictors (Kirk, 1982). Because two instruments were used, including one that was broken into subscales, four ANCOVAs were run: (a) an ANCOVA for the Adjective Checklist, (b) an ANCOVA for the Inclusion subscale of the CAIPE-R, (c) an ANCOVA for the Sport Modification subscale of the CAIPE-R, and (d) an ANCOVA for the combined CAIPE-R. In addition to the ANCOVA analysis, simple paired samples *t*-tests will be conducted, and Cohen's *d* will be reported, to get an additional measure of the impact of the treatment.

Regression Analysis

A forward stepwise regression analysis showed which variables significantly contributed to the variance in the dependent variable (Trochim & Donnelly, 2007). In this study, this analysis indicated which variables significantly contributed to the attitudes of nondisabled students toward the inclusion of students with disabilities in physical education, as the attitudes measured by the instruments likely had relationships with other variables that may have impacted the results. Specifically, the posttest attitude measure

was used as the dependent variable.

Attributes being evaluated in the regression analysis include (a) contact at home, (b) contact in general education classes, (c) contact in physical education classes, (d) level of competitiveness, (e) gender, (f) PSD treatment, and (g) pretest attitude measure. These relationships were quantified with the forward stepwise regression analysis, identifying the most important statistics first (Trochim & Donnelly, 2007), and effect size was calculated using partial eta squared (*Partial* η^2), with size as follows: small effect (.01), medium effect (.06), and large effect (.14). Partial eta squared is the variance explained by a given variable remaining after excluding variance explained by other predictors (Kirk, 1982). Four regression analyses were conducted, including one for each instrument, and one for each subscale of the CAIPE-R (Block, 1995).

Chi Square

The chi-square goodness-of-fit test (Snedecor & Cochran, 1989) was used to test if a sample of data came from a population with a specific distribution. A chi-square test was used on each of the four Fidelity Criteria to determine if the intervention effect satisfied the four corresponding components of Allport's (1954) contact theory. Effect size was calculated using the effect size for chi-square goodness-of-fit test (*w*) with size indicated by the small (.10), medium (.30), and large (.50) range (Snedecor & Cochran, 1989).

Reliability Measures

When an instrument is reliable, it provides consistent, repeatable results measuring the construct of interest (Hastad & Lacy, 1998). The Fidelity Criteria instrument was evaluated for reliability using Cronbach's alpha, a measure of internal

consistency, and test-retest reliability. Reliability estimates indicating a .70 minimum were considered acceptable (Nunnally, 1978).

Validity Measures

When an instrument accurately measures the attribute it is intended to measure, it is considered to have validity (Hastad & Lacy, 1998). Both qualitative and quantitative methods can be used to establish validity (Hastad & Lacy, 1998), and both were used in this study.

Content Validity Content validity investigates the manner in which the questions align with the program (theory) they are intended to measure (Hastad & Lacy, 1998). Experts in the field, professionals in the field, and instructional programs are considered sources of content validity (Hastad & Lacy, 1998). Content validity of the Fidelity Criteria was determined by constructing the questions following a specific model, and having experts and professionals in the field review and edit the items.

Face Validity Face validity is a type of criterion-related validity that addresses whether the instrument can be used for the intended purpose of measuring a specific criterion based on appearance (Thorndike, 1997). Similar to the aforementioned content validity measure, experts and professionals in the field judged the face validity.

Construct Validity A factor analysis determined construct validity of the Fidelity Criteria. Commonly used in scale development, factor analyses determine the number of underlying factors that account for the variance in an instrument (Stevens, 2002). There are a variety of suggestions for the size of a sample necessary for factor analysis, including a range from two to twenty participants per variable (Stevens, 2002), and a range of five to ten participants per variable (Tinsley & Tinsley, 1987). The Fidelity

Criteria contain four items, reflecting one latent variable. Based on the suggested sample sizes, the size of this model is within the appropriate range.

Retention Measure

Retention scores were analyzed using paired samples *t*-tests to determine the impact PSD had on attitudes after a six-week passage of time. Retention scores were first analyzed using only an experimental group, as after the posttest data collection, the original control group took part in the PSD awareness program. This retention measure calculated the change scores from the pretest measure to the retention measure.

Additionally, the retention scores for the experimental group were analyzed using paired samples *t*-tests at the pretest, posttest, and retention test time points to determine the impact of the PSD treatment. Further paired samples *t*-tests were run using only the lowest treatment group pretest scores, to determine the impact the treatment had on those students who started with less than positive attitudes.

Conclusion

This chapter detailed the measures, population and sample, instruments, procedure and data collection, and data analysis used in this research study. The main research question posed: What is the impact of a Paralympic School Day awareness intervention on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education, and what student attributes (if any) have an effect on these attitudes?

CHAPTER FOUR

Results

The purpose of this study was to determine if the Paralympic School Day (PSD) awareness program would have a positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education classes. This study involved clear theoretical connections to Allport's (1954) contact theory, exploring the theoretical underpinnings of the Paralympic School Day curriculum.

Quantitative methodology was used to conduct the analysis for this study, and results will be presented in seven sections. Section I presents descriptive statistics on each of the four attitude measures (Adjective Checklist, CAIPE-R, CAIPE-R Inclusion subscale, and CAIPE-R Sport Modification subscale) with regard to experimental and control group, and pretest and posttest group. Section II presents results of the Pearson correlation to determine the concurrent validity of the CAIPE-R and the Adjective Checklist. Section III presents the results of two *t*-tests to determine if the means of the pretest scores of the treatment and control groups differed significantly. Section IV presents results of four ANCOVAs exploring the influence of the treatment on attitude scores, as well as independent samples *t*-tests to provide additional information about the PSD effect on attitudes. Section V presents results of four forward stepwise regression analyses to determine which variables (if any) significantly contributed to the attitudes of nondisabled students toward the inclusion of students with disabilities in physical

education. Section VI presents the results of the chi-square tests, reliability measures, and factor analysis that were run on the Fidelity Criteria to assess the theoretical underpinnings of Allport's (1954) contact theory. Section VII presents the retention score analyses, assessing the longevity of the attitude change. The SPSS 20.0 and Mplus 7.0 (Muthén & Muthén, 1998-2012) were used for analyses in this study. The level of statistical significance was set at .05 for all statistical tests.

Participant Demographic Information

One hundred forty-seven participants took part in the data collection; however, due to incomplete or missing data, four participants were excluded. The missing data were a result of student absences from school on the date of the pretest, posttest, or retention data collection. For the purpose of the data analyses, the final sample comprised 143 participants ($N = 143$). Of these participants, 50.3% ($n = 72$) were male and 49.7% ($n = 71$) were female. In regard to prior contact with individuals with disabilities, 33.6% indicated that someone in their family or a close friend has a disability ($n = 48$), and 66.8% indicated that they did not have a family member or close friend with a disability ($n = 95$). Also related to prior contact, 29.4% indicated that they have or have had a classmate with a disability in one of their general education classes ($n = 42$) and 70.6% indicated that they do not have or haven't had a classmate with a disability in one of their general education classes ($n = 101$). Further, 15.4% indicated that they have or have had a classmate with a disability in one of their physical education classes ($n = 22$), and 84.6% indicated that they do not have or haven't had a classmate with a disability in one of their physical education classes ($n = 121$). In regard to competitiveness, 30.1% reported that they are very competitive ($n = 43$), 61.5% reported that they are kind of competitive ($n =$

88), and 8.4% reported that they are not competitive ($n = 12$). To determine the treatment group, 49.7% of the population was randomly assigned to the experimental group ($n = 71$), and 50.3% of the population was randomly assigned to the control group ($n = 72$). Demographic information ($N = 143$) is illustrated in Table 3.

Table 3

Demographic Information (N = 143)

Variable	N	%
PSD		
Control	72	50.3
Experimental	71	49.7
Gender		
Girl	71	49.7
Boy	72	50.3
Family Contact		
With family contact	48	33.6
Without family contact	95	66.4
GE Contact		
With GE contact	42	29.4
Without GE contact	101	70.6
PE Contact		
With PE contact	22	15.4
Without PE contact	121	84.6
Competitiveness		
Not competitive	43	30.1
Competitive	88	61.5
Very competitive	12	8.4

Note. PSD: Paralympic School Day; GE: General Education; PE: Physical Education.

Section I

Descriptive Statistics

Descriptive statistics were run on each of the four attitude measures with regard to experimental and control group, and with regard to pre, post, and retention test time points. Results indicated no violations against normality, with the exception of slight non-normality of standardized skewness and kurtosis on the Inclusion subscale for the experimental group. The posttest descriptive statistics indicated that across all measures, the treatment group had higher mean attitude scores than the control group, and the retention test means indicate relatively similar mean scores. Results of the descriptive statistics can be found in Table 4.

Table 4

Descriptive Statistics for Attitude Measures: M, SD, and Range (N = 143, N = 71)

Attitude Measure	Pretest			Posttest			Retention Test		
	<i>M</i>	<i>SD</i>	<i>Ra</i>	<i>M</i>	<i>SD</i>	<i>Ra</i>	<i>M</i>	<i>SD</i>	<i>Ra</i>
Adjective Checklist									
Control	22.56	3.13	14	21.64	3.27	16			
Experimental	22.70	3.20	13	22.73	3.07	12	26.40	5.10	19
CAIPE-R									
Control	32.47	4.38	21	31.67	4.54	25			
Experimental	32.55	5.16	28	33.68	4.90	27	33.44	4.66	25
CAIPE-R Inclusion									
Control	19.38	2.37	10	19.53	2.44	12			
Experimental	20.27	3.15	15	21.15	2.68	16	20.89	2.63	13
CAIPE-R Sport Mod									
Control	13.10	3.09	13	12.14	3.11	15			
Experimental	12.28	3.10	13	12.52	3.36	14	12.56	3.33	15

Note. Mod = Modification. Ra = Range.

Section II

Pearson Correlation

A Pearson correlation was run to determine the relationship between the CAIPE-R and the Adjective Checklist. A correlation was run for the total score of the CAIPE-R and the total score of the Adjective Checklist to get a true indication of the significance. There was a non-significant positive relationship between the two instruments: $r(141) = .078, p = .356$. Without significance, the data will be used as separate dependent variables (instead of using a sum score) in all future analyses. The extremely low strength of the correlation coefficient suggests a weak linear relationship between participants' attitudes towards inclusion and participants' adjective selections to describe a student with a disability. Results of the Pearson correlation can be found in Table 5.

Table 5

Correlation Between Attitude Instruments (N = 143)

Attitude Measure	Adjective Checklist	CAIPE-R
Adjective Checklist		
Pearson Correlation	1	.08
Sig (2-tailed)		.356
N	143	143
CAIPE-R		
Pearson Correlation	.08	1
Sig (2-tailed)	.356	
N	143	143

Note. Sig = Significance.

Section III

Random Assignment

Independent samples *t*-tests were conducted to compare pretest scores from the CAIPE-R, the Adjective Checklist, and both subscales of the CAIPE-R for the treatment and control groups. Comparison of the pretest Adjective Checklist for the control group ($M = 22.56$, $SD = 3.13$) and the treatment group ($M = 22.70$, $SD = 3.20$) revealed no significant differences between the groups: $t(141) = -0.28$, $p = .779$. Comparison of the pretest CAIPE-R for the control group ($M = 32.47$, $SD = 4.38$) and treatment group ($M = 32.55$, $SD = 5.16$) revealed no significant differences between the groups: $t(141) = -0.10$, $p = .923$. Comparison of the pretest CAIPE-R Inclusion subscale for the control group ($M = 19.38$, $SD = 2.37$) and treatment group ($M = 20.27$, $SD = 3.15$) revealed no significant differences between the groups: $t(141) = -1.92$, $p = .057$. Comparison of the pretest CAIPE-R Sport Modification subscale for the control group ($M = 13.10$, $SD = 3.09$) and treatment group ($M = 12.28$, $SD = 3.10$) revealed no significant differences between the groups: $t(141) = 1.57$, $p = .118$. These results show that the random assignment was successful, as the groups were not significantly different (were similar) prior to the treatment. Results of these *t*-tests are illustrated in Table 6.

Table 6

t-Test Results Comparing Attitude Pretest Score (N = 143)

Attitude Measure	Control		Treatment		<i>Levene's</i> <i>test</i>	<i>t</i>	<i>df</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>			
Adjective Checklist	22.56	3.13	22.70	3.20	0.00	-0.28	141	.779
CAIPE-R	32.47	4.38	32.55	5.16	1.49	-0.10	141	.923
CAIPE-R Inclusion	19.38	2.37	20.27	3.15	2.92	-1.92	141	.057
CAIPE-R Sport Mod	13.10	3.09	12.28	3.10	0.23	1.57	141	.118

Note. Mod = Modification.

Section IV

Analysis of Covariance (ANCOVA)

Four two-way factorial analyses of covariance (ANCOVA) tests were conducted for this study to address RQ1 and RQ2:

RQ1: Does the Paralympic School Day disability awareness program have an impact on the attitudes of students without disabilities towards the inclusion of students with disabilities in the physical education setting?

RQ2: Is there a relationship between gender and the attitude change of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

The dependent variable for each ANCOVA was the posttest score for the respective instrument or instrument subscale. The covariate for each ANCOVA was the pretest score for the respective instrument or instrument subscale. The independent variables were gender and PSD treatment, both including two levels: gender (male or female), and PSD treatment (PSD or No PSD). Adjective Checklist scores ranged from 4-36, and those that were 20 or above indicated a positive attitude (Siperstein, 2006). The CAIPE-R attitude score chart was explained in Chapter 3 (Table 2, pg. 84), and has been reprinted in this section, below the descriptive statistics table. Descriptive statistics are illustrated in Table 7.

Table 7

ANCOVA Descriptive Statistics for Attitude Measures by PSD and Gender (N = 143)

Attitude Measure	Girl		Boy		Overall	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Adjective Checklist						
Control	21.68	3.52	21.60	3.03	21.64	3.27
Experimental	22.06	2.50	23.35	3.43	22.73	3.07
Overall	21.86	3.06	22.50	3.34	22.18	3.21
CAIPE-R						
Control	31.92	4.28	31.40	4.85	31.67	4.54
Experimental	34.97	4.56	32.49	4.96	33.68	4.90
Overall	33.38	4.64	31.96	4.90	32.66	4.81
CAIPE-R Inclusion						
Control	20.00	2.51	19.03	2.29	19.53	2.44
Experimental	21.74	1.66	20.62	3.29	21.15	2.68
Overall	20.83	2.30	19.85	2.94	20.34	2.68
CAIPE-R Sport Modification						
Control	11.92	2.62	12.37	3.58	12.14	3.11
Experimental	13.24	3.70	11.86	2.91	12.52	3.36
Overall	12.55	3.33	12.11	3.24	12.33	3.23

Table 2 (reprinted)

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 - 44)	39	28	17
Inclusion Subscale (range 6 - 24)	21	15	9
Sport Modification Subscale (range 5 - 20)	17.7	12.5	7.5

Preliminary analyses were conducted to test the assumptions of the ANCOVA. The homogeneity-of-regression (slopes) assumption for the instruments and instrument subscales indicated that the relationship between the covariate and the dependent variable did not differ significantly as a function of the independent variables. This was determined by testing if there was a significant interaction effect between two factors and a covariate; there was not, with the exception of the Inclusion subscale, which had one interaction out of three. The data are satisfied with the homogeneity of slopes as seen in Tables 8-11. A Levene's Test of Equality of Variances (Levene, 1960) was conducted to test if the error variance of the dependent variable was equal across groups, and this is illustrated in Table 12. Residual plots showed no clear pattern, which implies there is no nonconstant variance as a function of the pretest score, and these are illustrated in Figure 2.

Table 8

Homogeneity of Regression Slopes for Adjective Checklist (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	3.04	.02	.084
(B) Gender	1	0.97	.01	.327
(C) Pretest score	1	9.64**	.07	.002
A x B x C (Interaction)	3	1.43	.03	.238
Error	136			

Note. $R^2 = .13$ (adjusted $R^2 = .09$). *Partial* η^2 = partial eta squared.

** = $p \leq .01$.

Table 9

Homogeneity of Regression Slopes for CAIPE-R (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	5.15*	0.04	.025
(B) Gender	1	0.15	< .01	.677
(C) Pretest score	1	82.97***	0.38	< .001
A x B x C (Interaction)	3	1.97	0.04	.122
Error	136			

Note. $R^2 = .43$ (adjusted $R^2 = .40$). *Partial* η^2 = partial eta squared.

* = $p \leq .05$. *** = $p \leq .001$.

Table 10

Homogeneity of Regression Slopes for CAIPE-R Inclusion Subscale (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	9.97**	.07	.002
(B) Gender	1	1.42	.01	.236
(C) Pretest score	1	77.00***	.36	< .001
A x B x C (Interaction)	3	2.72*	.06	.047
Error	136			

Note. $R^2 = .45$ (adjusted $R^2 = .43$). *Partial* η^2 = partial eta squared.

* = $p \leq .05$. ** = $p \leq .01$. *** = $p \leq .001$.

Table 11

Homogeneity of Regression Slopes for CAIPE-R Sport Modification Subscale (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	0.03	.00	.853
(B) Gender	1	0.16	< .01	.678
(C) Pretest score	1	92.45***	.41	< .001
A x B x C (Interaction)	3	0.75	.02	.526
Error	136			

Note. $R^2 = .43$ (adjusted $R^2 = .40$). *Partial* η^2 = partial eta squared.

*** = $p \leq .001$.

Table 12

Summary of Levene's Test of Homogeneity of Error Variance (N = 143)

Attitude Measure	<i>Levene's test F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
Adjective Checklist	1.73	3	139	.163
CAIPE-R	0.61	3	139	.613
CAIPE-R Inclusion	0.69	3	139	.561
CAIPE-R Sport Modification	1.54	3	139	.208

Note. $df1 = k - 1$, where $k = \#$ groups; $df2 = N - k$, where $k = \#$ groups and $N = \#$ total samples.

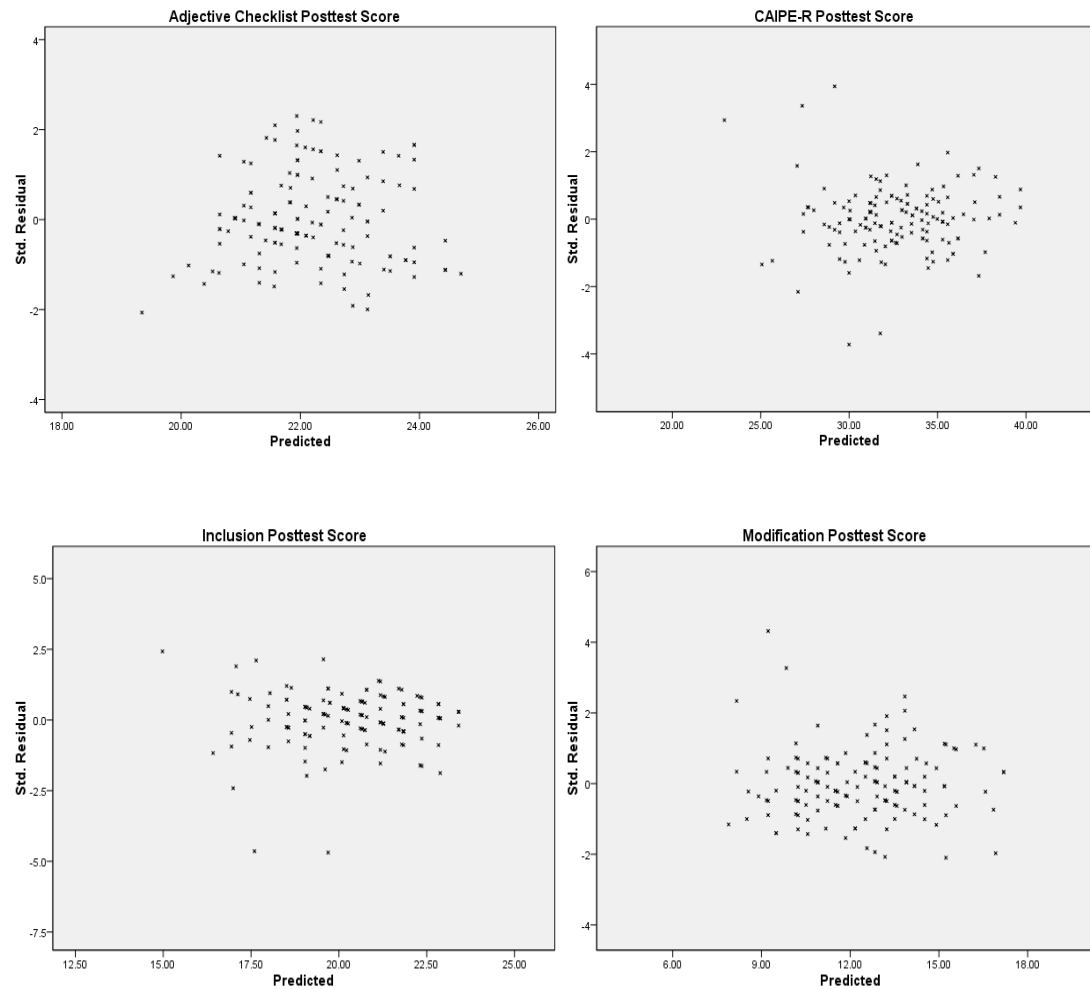


Figure 2. Residual Plots of Predicted Values vs. Standardized Residuals. These residual plots show no clear pattern, which implies there is no nonconstant variance as a function of the pretest score.

ANCOVA for Adjective Checklist. The results of the Adjective Checklist (Table 13) address the aforementioned RQ1 and RQ2, specifically addressing Sub RQ1-a:

Does the Adjective Checklist indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Results indicate that the model was significant ($F(3, 139) = 5.39, p = .002$). When the pretest score was controlled, there was no significant gender effect ($F(1, 139) = 1.68, p = .197$) on the posttest score, but there was a significant PSD effect ($F(1, 139) = 4.04, p = .046, \text{Partial } \eta^2 = .03$) on the posttest score. In other words, the participants in the PSD group scored significantly higher attitudes on the Adjective Checklist than the participants in the control group (PSD: $M = 22.73, SD = 3.07$; control: $M = 21.64, SD = 3.27$). In addition, when both gender and treatment group were controlled, there was a significant pretest score effect ($F(1, 139) = 10.25, p = .002, \text{Partial } \eta^2 = .07$). Overall, the PSD treatment created significant positive changes on the Adjective Checklist scores, but should be viewed with caution as the practical significance is limited.

Table 13

ANCOVA Summary for Adjective Checklist by PSD, Gender, and Pretest Score (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	4.04*	.03	.046
(B) Gender	1	1.68	.01	.197
(C) Pretest score	1	10.25**	.07	.002
Error	139			

Note. $R^2 = .104$ (adjusted $R^2 = .085$). *Partial* η^2 = partial eta squared.

* = $p \leq .05$. ** = $p \leq .01$.

ANCOVA for CAIPE-R. The results of the CAIPE-R ANCOVA (Table 14) address the aforementioned RQ1 and RQ2, specifically addressing Sub RQ1-b:

Does the CAIPE-R indicate a statistically significant change in attitudes after participation in the Paralympic School Day disability awareness program?

Results indicate that the model was significant ($F(3, 139) = 31.22, p < .001$). When the pretest score was controlled, there was no significant gender effect ($F(1, 139) = 1.89, p = .171$) on the posttest score, but there was a significant PSD effect ($F(1, 139) = 10.04, p = .002, \text{Partial } \eta^2 = .07$) on the posttest score. In other words, the participants in the PSD group scored significantly higher attitudes on the CAIPE-R than the participants in the control group (PSD: $M = 33.68, SD = 4.90$; control: $M = 31.67, SD = 4.54$). In addition, when both gender and treatment group were controlled, there was a significant pretest score effect ($F(1, 139) = 77.82, p < .001, \text{Partial } \eta^2 = .36$) for the CAIPE-R. Overall, the PSD treatment created significant positive attitude changes on the CAIPE-R scores, but should be viewed with caution as the practical significance is limited.

Table 14

ANCOVA Summary for CAIPE-R by PSD, Gender, and Pretest Score ($N = 143$)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	10.04**	.07	.002
(B) Gender	1	1.89	.01	.171
(C) Pretest score	1	77.82***	.36	< .001
Error	139			

Note. $R^2 = .403$ (adjusted $R^2 = .390$). *Partial* η^2 = partial eta squared.

** = $p \leq .01$. *** = $p \leq .001$.

ANCOVA for Inclusion Subscale. The results of the Inclusion subscale ANCOVA (Table 15) address RQ1 and RQ2, specifically addressing Sub RQ1-c:

Does the inclusion subscale of the CAIPE-R indicate a statistically significant change in attitudes after participation in Paralympic School Day?

Results indicate that the model was significant ($F(3, 139) = 33.23, p < .001$). When the pretest score was controlled, there was no significant gender effect ($F(1, 139) = 2.66, p = .105$) on the posttest score, but there was a significant PSD effect ($F(1, 139) = 11.30, p = .001, \text{Partial } \eta^2 = .08$) on the posttest score. In other words, the participants in the PSD group scored significantly higher attitudes than the participants in the control group scored (PSD: $M = 21.15, SD = 2.68$; control: $M = 19.53, SD = 2.44$). In addition, when both gender and treatment group were controlled, there was a significant pretest score effect ($F(1, 139) = 68.46, p < .001, \text{Partial } \eta^2 = .33$) for the Inclusion subscale. Overall, the PSD treatment created significant positive attitude change on the Inclusion subscale scores, but should be viewed with caution as the practical significance is limited.

Table 15

ANCOVA Summary for Inclusion Subscale by PSD, Gender, and Pretest Score (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	11.30***	.08	.001
(B) Gender	1	2.66	.02	.105
(C) Pretest score	1	68.46***	.33	< .001
Error	139			

Note. $R^2 = .418$ (adjusted $R^2 = .405$). *Partial* η^2 = partial eta squared.

*** = $p \leq .001$.

ANCOVA for Sport Modification Subscale. The results of the Sport Modification subscale ANCOVA (Table 16) address RQ1 and RQ2, specifically Sub RQ1-d:

Does the Sport Modification subscale of the CAIPE-R indicate a statistically significant change in attitudes after participation in Paralympic School Day?

Results indicate that the model was significant ($F(3, 139) = 32.95, p < .001$). When the pretest score was controlled, there was no significant gender effect ($F(1, 139) = 0.67, p = .413$) on the posttest score, but there was a significant PSD effect ($F(1, 139) = 4.97, p = .027, \text{Partial } \eta^2 = .04$) on the posttest score. In other words, the participants in the PSD group scored significantly higher attitudes on the Sport Modification subscale than the participants in the control group scored (PSD: $M = 12.52, SD = 3.36$; control: $M = 12.14, SD = 3.11$). In addition, when both gender and treatment group were controlled, there was a significant pretest score effect ($F(1, 139) = 96.84, p < .001, \text{Partial } \eta^2 = .41$). Overall, the PSD treatment created significant positive attitude change on the Sport Modification subscale scores, but should be viewed with caution as the practical significance is limited.

Table 16

ANCOVA for Sport Modification Subscale by PSD, Gender, & Pretest Score (N = 143)

Source	<i>df</i>	<i>F</i>	<i>Partial</i> η^2	<i>p</i>
(A) Experimental group	1	4.97*	.04	.027
(B) Gender	1	0.67	.01	.413
(C) Pretest score	1	96.84***	.41	< .001
Error	139			

Note. $R^2 = .416$ (adjusted $R^2 = .403$). *Partial* η^2 = partial eta squared.

* = $p \leq .05$. *** = $p \leq .001$.

Independent Two-Sample t-Tests

Independent two-sample *t*-tests were conducted to provide an additional measurement for reporting the PSD effect on each of the attitude measures. With this analysis, posttest scores were compared between the treatment and control groups. Three of the four attitude measures indicated significant independent two-samples *t*-test scores, and all four measures met equal variance assumptions. There was a significant difference in the posttest scores on the Adjective Checklist for the treatment ($M = 22.73$, $SD = 3.06$) and control ($M = 21.64$, $SD = 3.27$) groups; $t(141) = -2.06$, $p = .041$; Cohen's $d = .35$. These results suggest that there was a significant PSD effect on Adjective Checklist posttest scores, with a small effect size. There was also a significant difference in the scores on the CAIPE-R for the treatment ($M = 33.68$, $SD = 4.90$) and control ($M = 31.67$, $SD = 4.54$) groups; $t(141) = -2.54$, $p = .012$; Cohen's $d = .43$. These results suggest that the PSD treatment had a significant impact on CAIPE-R scores, with a moderate effect size. There was a significant difference in the scores on the Inclusion subscale for the treatment ($M = 21.15$, $SD = 2.68$) and control ($M = 19.53$, $SD = 2.44$) groups; $t(141) = -3.79$, $p \leq .001$; Cohen's $d = .63$. These results suggest that the PSD treatment had a significant impact on Inclusion subscale scores, with a moderate effect size. There was not a significant difference in the scores on the Sport Modification subscale for the treatment ($M = 12.52$, $SD = 3.36$) and control ($M = 12.14$, $SD = 3.11$) groups; $t(141) = -.706$, $p = .481$. Results of this analysis can be found in Table 17, as well as attitude score translations.

Table 17

Posttest Score Independent t-Tests Comparing Treatment and Control Groups (N = 141)

Attitude Measure	Treatment		Control		<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Adjective Checklist	22.73	3.06	21.64	3.27	-2.06*	141	.041	0.35
CAIPE-R	33.68	4.90	31.67	4.54	-2.54*	141	.012	0.43
CAIPE-R Inclusion	21.15	2.68	19.53	2.44	-3.79***	141	≤.001	0.63
CAIPE-R Sport Mod	12.52	3.36	12.14	3.11	-.706	141	.481	0.12

Note. Mod = Modification.* = $p \leq .05$. *** = $p \leq .001$.

Table 2 (reprinted)

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 - 44)	39	28	17
Inclusion Subscale (range 6 - 24)	21	15	9
Sport Modification Subscale (range 5 - 20)	17.7	12.5	7.5

Paired Samples t-Tests

Four paired-samples *t*-tests were conducted to provide an additional measurement for reporting the impact of PSD on attitude change. These tests compared the attitude scores for each measure between the pretest time point and the posttest timepoint. There was not a significant difference in the scores on the Adjective Checklist for the pretest ($M = 22.70$, $SD = 3.19$) and the posttest ($M = 22.73$, $SD = 3.07$) timepoints; $t(70) = .058$, $p = .954$. These results suggest that the PSD treatment did not have a significant impact on Adjective Checklist scores. There was a significant difference in the scores on the CAIPE-R for the pretest ($M = 32.55$, $SD = 5.16$) and the posttest ($M = 33.68$, $SD = 4.90$) timepoints; $t(70) = 1.94$, $p = .05$; Cohen's $d = .23$. These results suggest that the PSD treatment had a significant impact on CAIPE-R scores, but should be judged with extreme caution because the effect size is very low. There was a significant difference in the scores on the Inclusion subscale for the pretest ($M = 20.27$, $SD = 3.15$) and the posttest ($M = 21.15$, $SD = 2.68$) timepoints; $t(70) = 2.52$, $p = .01$; Cohen's $d = .30$. These results suggest that the PSD treatment had a significant impact on Inclusion subscale scores, but should be judged with extreme caution because the effect size is very low. There was not a significant difference in the scores on the Sport Modification subscale for the pretest ($M = 12.28$, $SD = 3.10$) and the posttest ($M = 12.52$, $SD = 3.36$) timepoints; $t(70) = .742$, $p = .46$. Based on the aforementioned ANCOVA results, it is clear that controlling for gender and pretest score was critical for analyzing the true effect of the PSD treatment. Results of these paired samples *t*-tests are found in Table 18, as well as attitude score translations.

Table 18

Treatment Group Paired Samples t-Test Results Comparing Attitude Pretest and Posttest Scores (N = 70)

Attitude Measure	Pretest		Posttest		<i>t</i>	<i>df</i>	<i>p</i>	<i>Cohen's d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Adjective Checklist	22.70	3.19	22.73	3.07	.058	70	.954	0.01
CAIPE-R	32.55	5.16	33.68	4.90	1.94*	70	.05	0.23
CAIPE-R Inclusion	20.27	3.15	21.15	2.68	2.52*	70	.014	0.30
CAIPE-R Sport Mod	12.28	3.10	12.52	3.36	.742	70	.460	0.09

Note. Mod = Modification.

* = $p \leq .05$.

Table 2 (reprinted)

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 - 44)	39	28	17
Inclusion Subscale (range 6 - 24)	21	15	9
Sport Modification Subscale (range 5 - 20)	17.7	12.5	7.5

Section V

Regression Analysis

Four forward stepwise regression analyses were conducted (one on each instrument, and one on each subscale of the CAIPE-R) to address RQ3:

Do the following variables: (a) contact with a close friend or family member, (b) contact in general education, (c) contact in physical education, (d) level of competitiveness, (e) gender, (f) Paralympic School Day treatment, and (g) pretest attitude score have a statistically significant impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

Analyses were conducted to show which variables significantly contributed to the attitudes of students without disabilities toward the inclusion of peers with disabilities in physical education. The posttest attitude measure was used as the dependent variable, with simultaneous entry of the pretest attitude measure as a covariate. Attributes evaluated included: (a) contact at home, (b) contact in general education classes, (c) contact in physical education classes, (d) level of competitiveness, (e) gender, (f) PSD treatment, and (g) pretest attitude measure. By including PSD treatment and pretest attitude measure in the evaluated attributes, the forward stepwise regression analyses were able to measure if the intervention worked for some children more than for others when the pretest was held constant. Adjective Checklist scores range from 4-36, and those that were 20 or above indicated a positive attitude (Siperstein, 2006). The CAIPE-R attitude score chart (Table 2) is reprinted below. Means (*M*) and standard deviations (*SD*) for these attributes on each of the four measures are illustrated in Table 19.

Table 19

Descriptive Statistics for Forward Stepwise Regression Analysis (N = 143)

Variable	Adjective Checklist		CAIPE-R		Inclusion Subscale		Sport Modification Subscale	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Family Contact								
No fam con	22.41	3.04	32.45	4.50	20.12	2.61	12.34	3.05
Fam con	21.73	3.51	33.08	5.41	20.77	2.79	12.31	3.60
GE Contact								
No GE con	22.08	3.20	33.06	4.72	20.38	2.48	12.68	3.18
GE con	22.43	3.23	31.71	4.95	20.24	3.14	11.47	3.21
PE Contact								
No PE con	22.08	3.18	32.55	4.83	20.17	2.63	12.39	3.25
PE con	22.72	3.38	33.27	4.76	21.27	2.81	12.00	3.18
Competitive								
Very comp	22.16	3.18	31.56	6.12	19.51	3.46	12.05	3.43
Comp	22.33	3.28	33.08	3.89	20.68	2.17	12.40	3.03
Not comp	21.17	2.76	33.58	5.45	20.75	2.45	12.83	4.06
Gender								
Girl	21.18	3.06	33.38	4.63	20.83	2.30	12.55	3.33
Boy	22.50	3.34	31.96	4.98	19.85	2.94	12.11	3.24
PSD								
Control	21.64	3.27	31.67	4.54	19.53	2.44	12.14	3.11
Experimental	22.73	3.07	33.68	4.90	21.15	2.68	12.52	3.36

Note. GE: General Education; PE: Physical Education; PSD: Paralympic School Day; Fam: Family; con: Contact; Comp: Competitive.

Table 2 (reprinted)

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 - 44)	39	28	17
Inclusion Subscale (range 6 - 24)	21	15	9
Sport Modification Subscale (range 5 - 20)	17.7	12.5	7.5

Regression Analysis for Adjective Checklist. The results of the Adjective Checklist forward stepwise regression analysis indicated that PSD treatment was a significant variable ($B = 1.06$, $t(140) = 2.05$, $p = .042$, *Partial* $\eta^2 = .03$) and pretest score was a significant variable ($B = .26$, $t(140) = 3.15$, $p = .002$, *Partial* $\eta^2 = .07$). All other variables were excluded. These results confirm that the PSD treatment (when analyzed as a variable) had a statistically significant impact on Adjective Checklist attitudes; however, other attributes (gender, contact, competitiveness) did not have a significant impact on Attitude Checklist attitudes. In particular, the experimental group showed significantly higher attitudes than the control group on the Adjective Checklist (experimental: $M = 22.73$, $SD = 3.07$; control: $M = 21.64$, $SD = 3.27$). These results are illustrated in Table 20.

Table 20

Stepwise Regression for Adjective Checklist (N = 143)

Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>Partial</i> η^2
<i>Step1</i>						
Pretest score	.26	.08	.26	3.16**	.002	.07
<i>R</i> ²	.07					
<i>F</i> for change in <i>R</i> ²	9.99**					
<i>Step2</i>						
Pretest score	.26	.08	.25	3.15**	.002	.07
Experimental group	1.06	.51	.17	2.05*	.042	.03
<i>R</i> ²	.09					
<i>F</i> for change in <i>R</i> ²	4.21*					

Note. *Partial* η^2 = partial eta squared. *R*² = multiple correlation squared.

* = $p \leq .05$. ** = $p \leq .01$.

Regression Analysis for CAIPE-R. The results for the forward stepwise regression analysis of the CAIPE-R indicated that PSD treatment was a significant variable ($B = 1.96$, $t(140) = 3.11$, $p = .002$, *Partial* $\eta^2 = .07$) and pretest score was a significant variable ($B = .60$, $t(140) = 9.00$, $p < .001$, *Partial* $\eta^2 = .37$). All other variables were excluded. These results confirm that PSD treatment had a significant impact on attitudes as measured by the CAIPE-R; however, other attributes (gender, contact, competitiveness) did not have a significant impact. In particular, the experimental group showed significantly higher attitudes than the control group on the CAIPE-R (experimental: $M = 33.68$, $SD = 4.90$; control: $M = 31.67$, $SD = 4.54$). Results are illustrated in Table 21.

Table 21

Stepwise Regression for CAIPE-R (N = 143)

Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>Partial</i> η^2
<i>Step1</i>						
Pretest score	.60	.07	.59	8.76***	< .001	.35
R^2	.35					
<i>F</i> for change in R^2	76.78***					
<i>Step2</i>						
Pretest score	.60	.07	.59	9.00***	< .001	.37
Experimental group	1.96	.63	.21	3.11**	.002	.07
R^2	.39					
<i>F</i> for change in R^2	9.68**					

Note. *Partial* η^2 = partial eta squared. R^2 = multiple correlation squared.

** = $p \leq .01$. *** = $p \leq .001$.

Regression Analysis for Inclusion Subscale CAIPE-R. The results for the forward stepwise regression analysis of the CAIPE-R Inclusion subscale indicated that competitiveness at the very competitive level was a significant variable ($B = -.85$, $t(139) = -2.25$, $p = .026$, $Partial \eta^2 = .04$); PSD treatment was a significant variable ($B = 1.15$, $t(139) = 3.31$, $p = .001$, $Partial \eta^2 = .07$); and pretest score was a significant variable ($B = .53$, $t(139) = 8.46$, $p < .001$, $Partial \eta^2 = .34$). All other variables were excluded. These results indicate that compared to other attributes (gender and contact), competitiveness and PSD treatment have a significant impact on attitude scores on the Inclusion subscale of the CAIPE-R.

In particular, the experimental group showed significantly higher attitudes than the control group when measured by the Inclusion subscale of the CAIPE-R (experimental: $M = 21.15$, $SD = 2.68$; control: $M = 19.53$, $SD = 2.44$). A closer look at the competitiveness result indicated that participants who identify themselves as very competitive have less positive attitudes than participants who identified themselves as kind of competitive and not competitive (very competitive: $M = 19.51$, $SD = 3.46$; kind of competitive: $M = 20.68$, $SD = 2.17$; not competitive: $M = 20.75$, $SD = 2.45$). The interaction effect between PSD treatment and very competitive was explored in a multiple regression and was not significant at the .05 level (PSD*Pre-Comp2).

Overall, these results confirm that competitiveness (at the very competitive level), PSD treatment, and pretest score had a significant impact on attitudes as measured by the Inclusion subscale of the CAIPE-R. These are illustrated in Table 22.

Table 22

Stepwise Regression Inclusion Subscale CAIPE-R (N = 143)

Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>Partial</i> η^2
<i>Step1</i>						
Pretest score	.57	.06	.60	8.94***	< .001	.36
<i>R</i> ²	.36					
<i>F</i> for change in <i>R</i> ²	79.9***					
<i>Step2</i>						
Pretest score	.54	.06	.57	8.60***	< .001	.35
Experimental group	1.15	.35	.21	3.25***	< .001	.07
<i>R</i> ²	.41					
<i>F</i> for change in <i>R</i> ²	10.56***					
<i>Step3</i>						
Pretest score	.53	.06	.55	8.46***	< .001	.34
Experimental group	1.15	.35	.22	3.31***	.001	.07
Very high comp	-.85	.38	-.15	-2.25*	.026	.04
<i>R</i> ²	.43					
<i>F</i> for change in <i>R</i> ²	5.08*					

Note. *Partial* η^2 = partial eta squared. *R*² = multiple correlation squared. Comp = competitiveness.

* = $p \leq .05$. *** = $p \leq .001$.

Regression Analysis for Sport Modification Subscale CAIPE-R. The results of the forward stepwise regression analysis of the Sport Modification subscale of the CAIPE-R indicated that contact in general education was a significant variable ($B = -1.03$, $t(138) = -2.31$, $p = .022$, $Partial \eta^2 = .04$); PSD treatment was a significant variable ($B = 1.00$, $t(138) = 2.41$, $p = .017$, $Partial \eta^2 = .04$); contact at home (friends or family) was a significant variable ($B = -1.07$, $t(138) = -2.42$, $p = .017$, $Partial \eta^2 = .04$); and pretest score was a significant variable ($B = .70$, $t(138) = 10.44$, $p < .001$, $Partial \eta^2 = .44$). All other variables were excluded. These results indicate that compared to other attributes, contact at home, contact in general education, and PSD treatment had a significant impact on attitude scores on the Sport Modification subscale of the CAIPE-R.

In particular, the experimental group showed significantly higher attitudes than the control group when measured by the Sport Modification subscale (experimental: $M = 12.52$, $SD = 3.36$; control: $M = 12.14$, $SD = 3.11$). The family contact variable results indicated that participants who identify themselves as having contact at home have less positive attitudes than participants who identify themselves as not having contact at home (family contact: $M = 12.31$, $SD = 3.60$; no family contact: $M = 12.34$, $SD = 3.05$). The general education contact variable results indicated that participants who identify themselves as having contact in general education have less positive attitudes than participants who identify themselves as not having contact in general education (GE contact: $M = 11.47$, $SD = 3.21$; no GE contact: $M = 12.68$, $SD = 3.18$). The interaction effect between PSD treatment and contact at home (PSD*Pre_Family), and between PSD treatment and contact in general education (PSD*Pre_GE) were explored in separate multiple regressions and were not significant at the .05 level.

Overall, these results confirm that contact in general education, PSD treatment, contact at home, and pretest score had a statistically significant impact (negative impact for contact, positive impact for PSD treatment and pretest score) on attitudes as measured by the Sport Modification subscale CAIPE-R. Results are illustrated in Table 23.

Table 23

Stepwise Regression Sport Modification Subscale CAIPE-R (N = 143)

Variables	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>Partial</i> η^2
<i>Step1</i>						
Pretest score	.65	.07	.63	9.51***	< .001	.39
<i>R</i> ²	.39					
<i>F</i> for change in <i>R</i> ²	91.03***					
<i>Step2</i>						
Pretest score	.65	.07	.63	9.7***	< .001	.40
GE contact	-1.16	.46	-.16	-2.55*	.012	.04
<i>R</i> ²	.42					
<i>F</i> for change in <i>R</i> ²	6.51*					
<i>Step3</i>						
Pretest score	.68	.07	.65	9.99***	< .001	.42
GE contact	-1.13	.45	-.16	-2.39*	.018	.04
Family contact	-.90	.44	-.13	2.02*	.045	.03
<i>R</i> ²	.44					
<i>F</i> for change in <i>R</i> ²	4.11*					
<i>Step4</i>						
Pretest score	.70	.07	.68	10.44***	< .001	.44
GE contact	-1.03	.45	-.15	-2.31*	.022	.04
Family contact	-1.07	.44	-.16	-2.42*	.017	.04
Experimental group	1.00	.41	.16	2.41*	.017	.04
<i>R</i> ²	.46					
<i>F</i> for change in <i>R</i> ²	5.82*					

Note. *Partial* η^2 = partial eta squared. *R*² = multiple correlation squared.

* = $p \leq .05$. *** = $p \leq .001$

Based on the results of the forward stepwise regression analysis of the Sport Modification subscale of the CAIPE-R, additional independent *t*-tests were conducted to test if there was a difference in mean attitude between the participants with family contact and participants without family contact, and between the participants with general education contact and participants without general education contact. At the .05 level, there was not a significant mean attitude difference between participants with and participants without family contact when the other variables were not controlled: $t(141) = -.042, p = .966$. There was a significant mean attitude difference between the participants with general education contact and participants without general education contact when the other variables were not controlled: $t(141) = -2.06, p = .041$. Further, Cohen's effect size value ($d = .35$) suggests a low to moderate practical significance. Results of the independent *t*-tests are illustrated in Table 24.

Table 24

Independent t-Test Comparing Sport Modification Attitude Differences in Family Contact vs. No Family Contact, and General Ed Contact vs. No General Ed Contact (N = 143)

Variable	<i>Levene's test</i>		<i>t</i>	<i>df</i>	<i>p</i>	<i>Cohen's d</i>
	<i>F</i>					
Family contact	2.05		-.042	141	0.966	.01
GE contact	.16		-2.06*	141	0.041	.35

Note. GE = General Education.

* = $p < .05$.

Section VI

Fidelity Criteria

Analyses were conducted on the Fidelity Criteria instrument, addressing RQ5:

Does the PSD disability awareness program satisfy the four components of Allport's (1954) contact theory: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority?

For each quantitative question, participants selected from three criteria levels: positive, neutral, and negative. For analysis, the neutral and negative levels were combined, as this study was interested in whether the population proportions of the positive responses were significantly different than the non-positive responses. The qualitative questions of the Fidelity Criteria were used as to verify (non-systematically) the overall nature of the quantitative responses, and were used to gather additional qualitative findings to use in the discussion of the results. The Fidelity Criteria sample size was $N = 145$, as all present for PSD completed the Fidelity Criteria immediately following the PSD experience. The Fidelity Criteria analyses should be viewed cautiously, as the instrument is newly designed for this study and was being tested for the first time. Descriptive statistics for the Fidelity Criteria are illustrated in Figure 3 and Table 25.

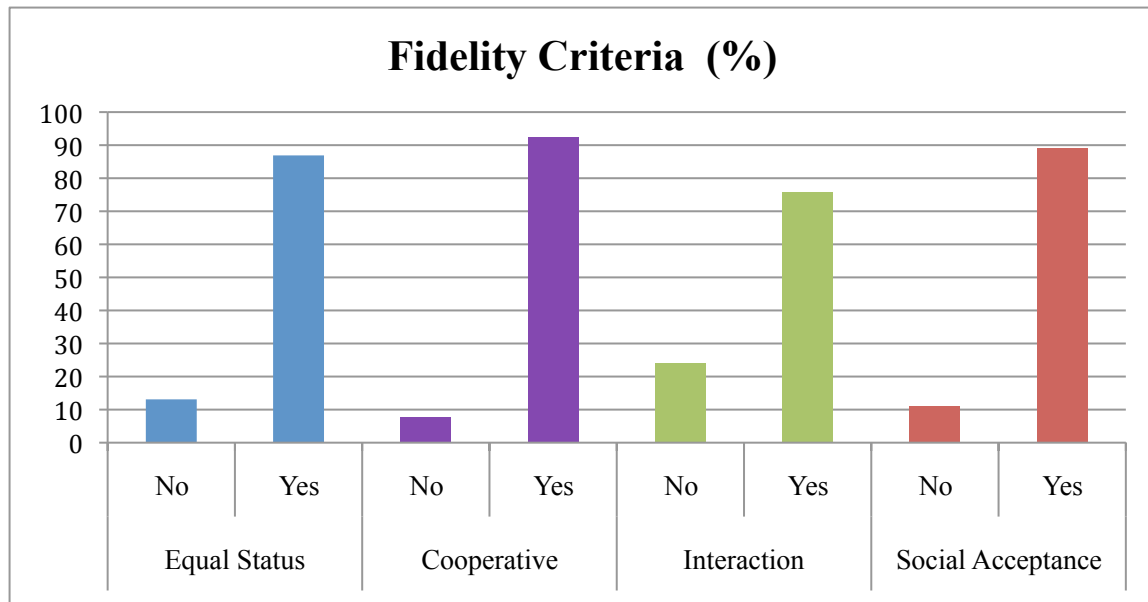


Figure 3. Bar Graph of the Distribution of Fidelity Criteria related to Contact Theory.

Table 25

Descriptive Statistics for Fidelity Criteria (N = 145)

Fidelity Criteria	N	%	M	SD
Equal Status				
Equal or inferior to me	19	13.1		
Superior to me	126	86.9		
Total	145	100.0	0.87	0.34
Cooperative Pursuance of Goals				
Independent or competitive	11	7.6		
Cooperative	134	92.4		
Total	145	100.0	0.92	0.27
Personal Interactions				
Limited or no interactions	35	24.1		
Many interactions	110	75.9		
Total	145	100.0	0.76	0.43
Social Acceptance by Authority				
Sometimes or not acceptable	16	11		
Socially acceptable	129	89		
Total	145	100.0	0.89	0.31

Chi-Square

The chi-square goodness-of-fit test (Snedecor & Cochran, 1989) was used on each of the four Fidelity Criteria to determine if the intervention effect satisfied the four corresponding components of Allport's (1954) contact theory. The four chi-square goodness-of-fit tests were conducted to test if there was a significant difference in student responses for (a) equal status: equal status versus non-equal status, (b) cooperative pursuance of common goals: cooperative versus non-cooperative, (c) personal interactions: many personal interactions versus limited to no personal interactions, and (d) identification and acceptance of social norms provided by authority: socially acceptable versus not socially acceptable.

The test results show that there was a significant difference in students' responses across all four components. Specifically, the frequency of equal status responses to question one was significantly more than the combination of the non-equal status responses: $\chi^2(1, N = 145) = 78.96, p = < .001, w = .74$. The frequency of cooperative responses to question two was significantly more than the combination of the non-cooperative responses: $\chi^2(1, N = 145) = 104.34, p = < .001, w = .85$. The frequency of many interaction responses to question three was significantly more than the combination of the non-many interaction responses: $\chi^2(1, N = 145) = 38.79, p = < .001, w = .52$. And the frequency of socially acceptable responses to question four were significantly more than the combination of the non-socially acceptable responses: $\chi^2(1, N = 145) = 88.06, p = < .001, w = .78$. All four questions indicated a large effect size ($w > .52$) (Snedecor & Cochran, 1989). Overall, these results indicate that the intervention supports the theoretical components of contact theory and can be found in Table 26.

Table 26

Summary of Chi-Square Goodness-of-Fit Test (N = 145)

Fidelity Criteria	χ^2	<i>df</i>	<i>p</i>	<i>w</i>
Equal status	78.96***	1	< .001	.74
Cooperative pursuance of goals	104.34***	1	< .001	.85
Personal interactions	38.79***	1	< .001	.52
Acceptance of social norms by authority	88.06***	1	< .001	.78

Note. *w* = effect size for chi-square goodness-of-fit test.

*** = $p < .001$

Reliability Analyses

The Fidelity Criteria were evaluated for reliability using Cronbach's alpha, a measure of internal consistency. Results indicated that the items were consistent with one another at a low level (4 items; $\alpha = .40$). Test-retest reliability, used to assess the consistency of a measure from one time point to another time point using the same sample (Trochim & Donnelly, 2007), indicated a significant Pearson's correlation of $r(143) = .829, p \leq .001$, with a six-week time gap.

Factor Analysis

To verify the data set for suitability for factor analysis, a visual inspection of the correlation matrix revealed all coefficients greater than .23 as illustrated in Table 27. It was determined that the factorability of the correlation matrix was cautiously supported, as one item is $< .3$ (Pallant, 2007).

A Confirmatory Factor Analysis (CFA) was conducted to determine the construct validity of the Fidelity Criteria. CFA with a one-factor solution clearly showed that the four fidelity criteria measured a single construct, with the test of model fit indicating: $\chi^2 (2, N = 145) = .15, p = .93$; Root Mean Square Error of Approximation (RMSEA) & 90 % CI (Confidence Interval) = .00 [.00, .05]; Weighted Root Mean Squared Residual (SRMR) = .07; Comparative Fit Index (CFI) = 1.00; and Tucker-Lewis Index (TLI) = 1.16. In structural equation modeling, a significant χ^2 indicates significant misfit of the model to the data, thus a nonsignificant χ^2 indicates a statistical basis for supporting the model. In addition, the two practical fit indexes (TLI and RMSEA) also indicate fit, with higher values on the TLI indicating close fit ($\geq .95$) and lower values on the RMSEA indicating close fit ($\leq .05$), with a RMSEA CI $\leq .05$ to satisfy the criterion of close fit to

data. Allport's (1954) contact theory was significantly indicated by each question: equal status ($B = .46, p = .006$); cooperative activities ($B = .67, p = .001$); personal interactions ($B = .70, p < .001$); and social acceptance ($B = .50, p < .001$). CFA Goodness-of-Fit statistics are located in Table 28. Factor loadings of the four Fidelity Criteria on contact theory are illustrated in Table 29. To complete this section, a single factor model of Fidelity Criteria for contact theory is illustrated in Figure 4.

Table 27

Inner-item Correlation Matrix (N = 145)

	FC1	FC2	FC3	FC4
FC1	1.000			
FC2	0.338	1.000		
FC3	0.297	0.463	1.000	
FC4	0.233	0.320	0.357	1.000

Note. FC = Fidelity Criteria.

Table 28

Confirmatory Factor Analysis Goodness-of-Fit Statistics (N = 145)

Model	χ^2	df	p	RMSEA	WRMR	CFI	TLI
<i>Participants (N = 145)</i>							
Single factor	.15	2	.93	.00	0.07	1.00	1.16

Note. RMSEA = Root Mean Square Error of Approximation; WRMR = Weighted Root Mean Square Residual; CFI = Comparative Fit Index; TLI = Tucker Lewis Index.

Table 29

Factor Loadings of the Four Fidelity Criteria on Contact Theory (N = 145)

Fidelity Checklist	<i>B</i>	<i>SE B</i>	<i>p</i>
Equal status	.46**	.17	.006
Cooperative pursuance of goals	.67***	.19	.001
Personal interactions	.70***	.13	< .001
Social acceptance by authority	.50***	.12	< .001

** = $p \leq .01$. *** = $p < .001$.

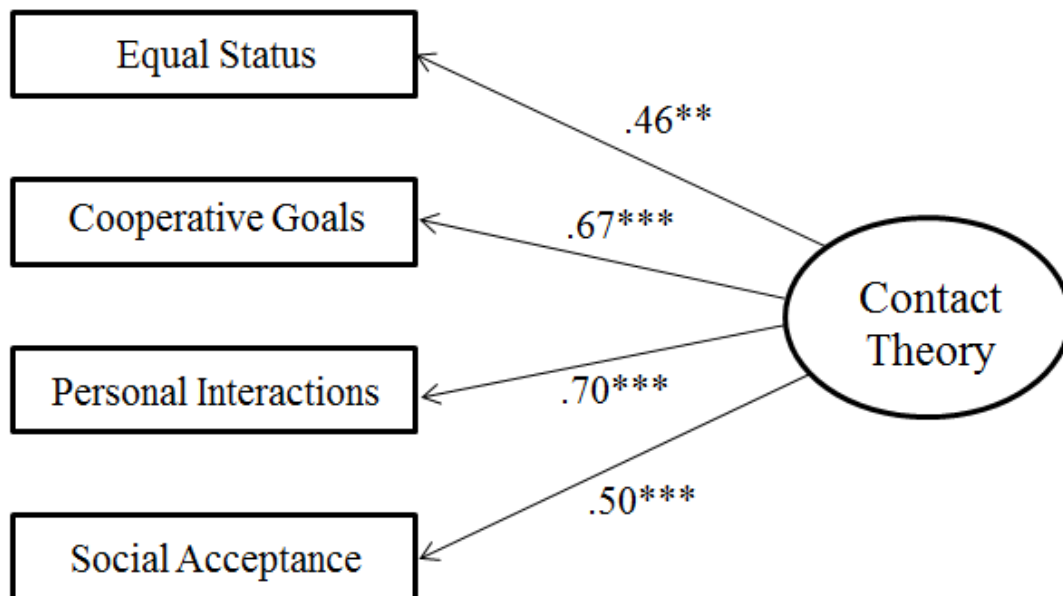


Figure 4. A Single Factor Model of Fidelity Criteria for Contact Theory. Allport's (1954) contact theory was significantly indicated by each question: equal status ($p = .006$); cooperative activities ($p = .001$); personal interactions ($p < .001$); and social acceptance ($p < .001$). A Confirmatory Factor Analysis (CFA) with a one-factor solution indicated that the four fidelity criteria measured a single construct.

Section VII

Retention Measure

Four paired samples *t*-tests were conducted for this study to address RQ5:

Does the Paralympic School Day disability awareness program have an impact on the retention (six weeks) of the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting?

The *t*-tests were conducted to compare attitude scores at the pretest measure and the retention measure (a six-week time lapse). Because the original control group took part in the PSD experience after the posttest data was collected, there was no longer a control group for this retention measure, and the entire sample was considered part of the experimental group. Accounting for missing participant data on the pretest and retention days resulted in this retention data having a sample size of $N = 142$. Adjective Checklist scores that were 20 or above indicated a positive attitude (Siperstein, 2006) and the CAIPE-R attitude score chart was explained in Chapter 3 (Table 2, pg. 84).

Results of the paired sample *t*-tests indicate there was a significant difference in the pretest scores and retention scores on two of the four measures. There was a significant difference between the Adjective Checklist pretest scores ($M = 22.65$, $SD = 3.15$) and the Adjective Checklist retention test scores ($M = 24.76$, $SD = 5.23$); $t(141) = 4.60$, $p \leq .001$, $d = .39$, but this should be viewed with caution because of the low effect size. There was not a significant difference between the CAIPE-R pretest scores ($M = 32.67$, $SD = 4.54$) and the CAIPE-R retention test scores ($M = 32.79$, $SD = 4.63$). There was a significant difference between the CAIPE-R Inclusion subscale pretest scores ($M = 19.89$, $SD = 2.65$) and the CAIPE-R Inclusion subscale retention test scores ($M = 20.26$,

$SD = 2.45$); $t(141) = 1.98, p \leq .05, d = .16$, with a small effect size. Finally, there was not a significant difference between the CAIPE-R Sport Modification subscale pretest scores ($M = 12.78, SD = 3.08$) and the CAIPE-R Sport Modification subscale retention test scores ($M = 12.53, SD = 3.44$). Results are illustrated in Table 30, with a reprint of the score translation table (Table 2).

Table 30

Paired Samples t-Tests for Attitude Scores between Pretest and Retention Test (N = 142)

Attitude Measure	Pretest		Retention Test		<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Adjective Checklist	22.65	3.15	24.76	5.23	4.60***	141	$\leq .001$.39
CAIPE-R	32.67	4.54	32.79	4.63	.558	141	.710	.05
CAIPE-R Inclusion	19.89	2.65	20.26	2.45	1.96*	141	.05	.16
CAIPE-R Sport Mod	12.78	3.08	12.53	3.44	-.898	141	.247	.08

Note. Mod = Modification.

* = $p \leq .05$. *** = $p < .001$.

Table 2 (reprinted)

Attitude Total Score Translations for CAIPE-R Instrument

Attitude Measures	Attitudes		
	Relatively High	Neutral	Relatively Low
CAIPE-R (range 11 – 44)	39	28	17
Inclusion Subscale (range 6 - 24)	21	15	9
Sport Modification Subscale (range 5 - 20)	17.7	12.5	7.5

Additional paired samples *t*-tests were conducted to compare attitude scores for the experimental group at the pretest measure, the posttest measure, and the retention measure. The sample size for this analysis of three time points was $N = 70$. Analysis indicates that attitudes were maintained over time, as there was not a significant change between posttest and retention test with exception of the Adjective Checklist. The Adjective Checklist measure indicates that attitudes improved significantly between post and retention test with a moderate effect size. It is important to note that while the change was significant, it is in the positive direction, and simply indicates that scores went from positive to even more positive with the passage of time. Descriptive information is displayed in Table 31, and results are displayed in Table 32.

Table 31

Treatment Group Descriptive Statistics for Pretest, Posttest and Retention Test ($N = 71$)

Attitude Measure	Pretest		Posttest		Retention Test	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Adjective Checklist	22.70	3.19	22.73	3.07	26.40	5.10
CAIPE-R	32.55	5.16	33.68	4.90	33.44	4.66
CAIPE-R Inclusion	20.27	3.15	21.15	2.68	20.89	2.63
CAIPE-R Sport Modification	12.28	3.10	12.52	3.36	12.56	3.33

Table 32

Treatment Group Paired Samples t-Tests between Pre, Post and Retention Test (N = 71)

Attitude Measure	<i>t</i>	<i>df</i>	<i>p</i>	<i>Cohen's d</i>
Adjective Checklist Pretest to Posttest	.058	70	.954	
Adjective Checklist Posttest to Retention Test	4.99***	70	<.001	0.59
CAIPE-R Pretest to Posttest	1.936*	70	.050	0.23
CAIPE-R Posttest to Retention Test	-.754	70	.454	
Inclusion Pretest to Posttest	2.52*	70	.014	0.30
Inclusion Posttest to Retention Test	-1.33	70	.187	
Sport Mod Pretest to Posttest	.742	70	.460	
Sport Mod Posttest to Retention Test	.248	70	.805	

Note. Mod = Modification.

* = $p \leq .05$. *** = $p < .001$.

Because many of the scores start at a relatively high position and change to a slightly higher position, it was of interest to run two additional sets of paired samples t-tests using treatment group pretest scores that could be categorized as low. Low scores on the Adjective Checklist included all scores less than 20 (thus only one additional paired samples t-test was run on the Adjective Checklist). Low scores on the CAIPE-R were divided into two subcategories: (a) scores that were neutral and lower (equal to or less than 29 on the CAIPE-R, 15 on the Inclusion Subscale, and 12.5 on the Sport Modification Subscale); and (b) scores that were less than the equivalent of “probably yes” on the CAIPE-R (less than 33 on the CAIPE-R, less than 18 on the Inclusion subscale, and less than 15 on the Sport Modification subscale). Using this second subcategory allowed the sample size to grow significantly, while still differentiating between relatively high scores and relatively neutral scores. Descriptive statistics for these two subcategories of low treatment scores are described in Table 33.

Table 33

Treatment Group Low Score Descriptive Statistics for Pre, Post and Retention Test

Attitude Measure	Pretest		Posttest		Retention	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Adjective Checklist Negative	17.50	1.20	21.38	3.54	26.86	6.44
CAIPE-R Neutral	25.21	3.77	29.71	5.50	28.70	3.86
CAIPE-R Probably Yes	28.06	3.64	30.91	4.83	30.65	4.61
Inclusion Neutral	12.20	1.92	18.00	5.70	17.75	4.79
Inclusion Probably Yes	14.73	2.72	19.00	3.87	18.50	2.91
Sport Mod Neutral	9.71	1.95	10.65	2.73	10.58	2.70
Sport Mod Probably Yes	11.13	2.40	11.65	3.12	11.59	2.93

Note. Mod = Modification.

Adjective Checklist low scores ($n = 8$) indicated a significant increase from low pretest to posttest: $t(7) = 3.72, p = .007$, Cohen's $d = 1.31$, with a very large effect size. In addition, mean scores indicate an increase from post to retention that was not significant. For the CAIPE-R, treatment group scores that were neutral or lower ($n = 14$) indicated a significant increase from low pretest to posttest: $t(13) = 2.10, p = .05$, Cohen's $d = .56$, with a medium effect size. In addition, mean scores indicate that scores remained consistent between post and retention tests. Scores in the second "low" subcategory ($n = 32$, averaging less than "probably yes" or less than 33 on the CAIPE-R) also indicated a significant increase from low pretest to posttest: $t(31) = 2.64, p = .013$, Cohen's $d = .47$ (medium effect size). In addition, mean scores indicated that attitudes remained consistent between post and retention tests. For the Inclusion subscale, treatment group scores that were neutral or lower ($n = 5$) did not indicate a significant increase from low pretest to posttest: $t(4) = 1.92, p = .127$. Mean scores did indicate that attitudes remained consistent between post and retention tests. Scores in the second "low" subcategory ($n = 11$, averaging less than "probably yes" or less than 18 on the Inclusion subscale) also indicated a significant increase from low pretest to posttest: $t(10) = 3.03, p = .013$, Cohen's $d = .91$, (a very high effect size). In addition, mean scores indicated that attitudes remained consistent between post and retention tests. Finally, Sport Modification subscale treatment group scores that were neutral or lower ($n = 34$) did not indicate a significant increase from low pretest to posttest: $t(33) = 1.95, p = .06$. Mean scores did indicate that attitudes remained consistent between post and retention tests. Scores in the second "low" subcategory ($n = 55$, averaging less than "probably yes" or less than 15 on the Sport Modification subscale) did not indicate a significant increase from low pretest

to posttest: $t(54) = 1.36, p = .179$. Mean scores indicated that attitudes remained consistent between post and retention tests. Overall, these results report that Sport Modification attitudes did not indicate significant change when using the lowest scores of the treatment group. For the other measures, these results indicate that the Inclusion subscale shows significant positive attitude change when using relatively neutral pretest scores, but not when using neutral pretest scores. For the overall CAIPE-R, these results show that both subcategories of low scores (neutral and “probably yes”) indicated significant positive attitude change from the pretest measure to the posttest measure, and consistent attitude retention. Finally, when using Adjective Checklist scores that are negative, significant positive attitude change was indicated from the pretest to the posttest measure with continued nonsignificant positive attitude change with retention. Results from the paired samples t -tests are displayed in Tables 34 and 35.

Table 34

Treatment Group Neutral Paired Samples t -Tests between Pretest, Posttest and Retention Test.

Attitude Measure	t	df	p	Cohen's d
CAIPE-R Pretest to Posttest Neutral	2.10*	13	.05	0.56
CAIPE-R Posttest to Retention Test Neutral	-1.01	13	.331	
Inclusion Pretest to Posttest Neutral	1.92	4	.127	
Inclusion Posttest to Retention Test Neutral	.264	4	.809	
Sport Mod Pretest to Posttest Neutral	1.95	33	.060	
Sport Mod Posttest to Retention Test Neutral	.093	33	.926	

Note. Mod = Modification.

* = $p \leq .05$.

Table 35

Treatment Group “probably yes” Paired Samples t-Tests between Pretest, Posttest and Retention Test

Attitude Measure	<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
Adjective Checklist Pretest to Posttest PY	3.72**	7	.007	1.31
Adjective Checklist Posttest to Retention PY	2.25	7	.065	
CAIPE-R Pretest to Posttest PY	2.64*	31	.013	0.47
CAIPE-R Posttest to Retention PY	-.351	31	.728	
Inclusion Pretest to Posttest PY	3.03*	10	.013	0.91
Inclusion Posttest to Retention PY	-.712	10	.494	
Sport Mod Pretest to Posttest PY	1.36	54	.179	
Sport Mod Posttest to Retention PY	-.068	54	.946	

Note. PY = “probably yes”. Mod = Modification.

* = $p \leq .05$. ** = $p \leq .01$

Conclusion

This chapter detailed the results of the data analyses used in this research study. The main research question posed: What is the impact of a Paralympic School Day awareness intervention on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education, and what student attributes (if any) have an effect on these attitudes?

CHAPTER FIVE

Discussion

Adapted physical education research indicates that one of the most important variables in successful inclusion practice is the attitude of the peer group, emphasizing the instrumental role that peers without disabilities play in the experiences of students with disabilities (Block, 2007; Block et al., 1995; Sherrill et al., 1994; Sherrill, 1998; Tripp et al., 1998; Tripp & Sherrill, 1991). Disability awareness programs offer an avenue for raising awareness and changing attitudes toward people with disabilities, yet theoretically based research on sport-focused disability awareness programs has been limited. The purpose of this study, therefore, was to evaluate the impact of a sport-focused disability awareness program, Paralympic School Day (PSD), on changing attitudes of students without disabilities toward the inclusion of students with disabilities in physical education, including exploration of the theoretical underpinnings of the PSD curriculum.

The major findings of this study were (a) the PSD program had a statistically significant positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting, (b) gender did not have a significant impact on attitude change, (c) competitiveness at the “very high” level significantly impacted attitudes in a negative manner on the Inclusion subscale of the CAIPE-R, (d) family contact and general education contact significantly impacted

attitudes in a negative manner on the Sport Modification subscale of the CAIPE-R, (e) the PSD program satisfied the four components of Allport's (1954) contact theory, and (f) the longevity of attitude change was significant on the Adjective Checklist retention measure and the CAIPE-R Inclusion subscale retention measure. While these are mainly positive findings, they should be considered with caution, given the nature of the sample. This chapter will examine and discuss the results of this study, including connections to pertinent literature, implications for practice, and recommendations for future research.

Impact of Paralympic School Day on Attitudes

Disability awareness programs offer an avenue for raising awareness and changing attitudes toward people with disabilities. Research indicates that structured contact, knowledge acquisition, and awareness activities are effective strategies used when facilitating attitude change through a disability awareness program (Donaldson, 1980; Horne, 1988; Towner, 1984; Triandis et al., 1984), including disability awareness programs specific to physical education (Hutzler et al., 2007; Liu et al., 2010; Loovis & Loovis, 1997; Panagiotou et al., 2008; Reina et al., 2011; Xafopoulos et al., 2009).

In this study, the International Paralympic Committee's (IPC's) Paralympic School Day disability awareness program was implemented. The PSD disability awareness curriculum combines structured contact, knowledge acquisition, and awareness activities to reach three main goals: (a) to create an environment in which participants experience a realistic and holistic portrayal of disability sport and of athletes who participate in disability sport, (b) to stimulate learning using a balanced mix of activities and teaching methods, and (c) to provide the opportunity for reflection and debriefing (IPC, 2006). Research indicates that the PSD disability awareness program has

a positive impact on the attitudes of students without disabilities towards the inclusion of students with disabilities in the physical education setting (Liu et al., 2010; Panagiotou et al., 2008; Xafopoulos et al., 2009).

Results of this study are in agreement with the research in the field, as the PSD intervention had a positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in physical education. This result offers a positive response to RQ1, thus rejecting the null hypothesis. Descriptive statistics run on each of the four attitude measures with regard to experimental and control group, and with regard to pretest and posttest group indicated an increase in attitude scores across all four measures as a result of taking part in the intervention. In addition, these descriptive statistics indicated that pretest scores for both groups started at a relatively positive level on the Adjective Checklist, the CAIPE-R, and the Inclusion subscale of the CAIPE-R, and at a neutral level on the Sport Modification subscale of the CAIPE-R. These relatively positive pretest attitude results are similar to PSD research in the field, as the attitudes started as a fairly positive level and increased to a more positive level, leaving little room for major change. While these descriptive statistics do not speak to a specific analysis, nor do they speak to significance, they do offer a basic description of the scores gathered. It is important to note the unique school environment used for this study, as diversity initiatives are a part of the school culture, and the school values indicate an expectation of mutual respect and inclusive behavior. Results of the ANCOVA measures will be discussed in relation to each of the four measures.

Adjective Checklist

Results of this study indicated that there was a significant PSD effect on the

Adjective Checklist when gender and the pretest score were controlled ($F(1, 139) = 4.036, p = .046, \text{Partial } \eta^2 = .03$), thus offering a positive answer to Sub RQ1-a and rejecting the null hypothesis that the Adjective Checklist would not indicate a statistically significant change in attitudes after participation in the PSD program. In other words, participants in PSD scored significantly higher attitudes on the Adjective Checklist than participants in the control group (PSD: $M = 22.73, SD = 3.07$; control: $M = 21.64, SD = 3.27$). These results do confirm a significant PSD effect; however, they should be viewed with caution, as the effect size is relatively small ($\text{Partial } \eta^2 = .03$), and the mean difference is also small, likely due to the scores being positive across both groups. Of note is the positive nature of the overall Adjective Checklist scores in this study, as both boys and girls in both the control and experimental groups indicated positive (> 21) scores on the Adjective Checklist at the pretest measure and the posttest measure.

Existing Adjective Checklist research related to the PSD intervention offers limited connections to this research study. Liu et al. (2010) found that mean scores of the Adjective Checklist increased from M (pretest) = 19.81 to M (posttest) = 19.92, but these results were not statistically significant at the .05 level. Because a paired sample t -test was used, the pretest score effect and gender effect were not controlled, limiting the comparability to this research study. In addition, the scores indicated negative (< 20) attitudes on the Adjective Checklist at both the pretest and posttest measure, also limiting comparability. Xafopoulos et al. (2009) conducted the Adjective Checklist analysis (paired t -tests) separately for boys and girls, thus offering results that were separated by gender. Gender will be discussed related to RQ2; however, across both genders, Xafopoulos et al. found attitudes to increase between the pretest and the posttest

(significantly for girls, non-significantly for boys). While Xafopoulos et al. used a different measure, all Adjective Checklist scores were positive (> 20) and indicated that the PSD treatment positively impacted the scores, similar to results of the current study.

According to Sherrill (1988), the foundation of this instrument is the assumption that subjects reveal their opinions and feelings based on the adjective choices they make. Because the students are responding to a hypothetical scenario depicting a hypothetical student (Taylor) who uses a wheelchair, connections to actual behaviors with peers are limited. Further, students may not have had a firm grasp on responding to a hypothetical scenario. According to Piaget's (1932) stages of cognitive development, middle school students are entering into formal-operational thought, a stage characterized by the ability to solve hypothetical and abstract problems, and the ability to work through contradicting information. Many students asked, "Will Taylor be joining us in PE?" and "Will we get to meet Taylor later this week?" indicating that perhaps their ability to conceptualize a hypothetical scenario was limited.

Additionally, students may view the negative adjectives as stereotypical or mean, adjusting their responses to indicate more favorable terms. Negative attitudes are sometimes underreported on survey measures based on "social desirability," whereby the participants give what they think is the most socially acceptable or desirable response (Fisher, 1993). Social desirability may explain the trend of elevated scores across PSD research, as the magnitude of attitude change has been relatively small in the published studies, possibly because students are providing socially acceptable answers instead of answering in an honest, truthful manner. Another explanation for the very positive responses could be a result of the school environment, as student responses may have

been favorable from the start based on the core values of Horace Mann School, including mutual respect and mature behavior. While a significant PSD effect on Adjective Checklist scores is good, the Horace Mann expectation that all students in the sample show respect, care, and cultural sensitivity to fellow students likely impacted the positive nature of the scores. One proctor reported that a student asked, “How can I circle adjectives if I’ve never met ‘Taylor’...didn’t you teach us to gather information and get to know the facts before judging someone or something?” (C. Miller, personal communication, January 8, 2013). This type of academic curiosity is cultivated at Horace Mann School, and thus may have had an impact on the adjectives selected. Future research should consider the impact of the school environment on attitude scores as well as the age and grade variations in middle school student abilities related to processing a hypothetical situation.

CAIPE-R

Results of this study indicated that there was a significant PSD effect on the CAIPE-R when gender and the pretest score were controlled ($F(1, 139) = 10.04, p = .002$, $Partial \eta^2 = .07$), thus offering a positive answer to Sub RQ1-b and rejecting the null hypothesis that the CAIPE-R would not indicate a statistically significant change in attitudes after participation in the PSD program. In other words, participants in the PSD group scored significantly higher attitudes on the CAIPE-R than participants in the control group (PSD: $M = 33.68, SD = 4.90$; control: $M = 31.67, SD = 4.54$). These results confirm a significant PSD effect; however, they should be viewed with caution, as the mean difference was relatively small and the effect size was medium (.07). Of note: the PSD CAIPE-R posttest scores correlate to a mean score that is slighter higher than the

probably yes category on the Likert scale ($M = 33.68$).

Existing CAIPE-R research related to the Paralympic School Day intervention offers very limited connections to this research study. The Liu et al. (2010), Panagiotou et al. (2008), and Xafopoulos et al. (2009) studies analyzed data based on the two score option (using the two subscales separately) and did not analyze an overall score for the CAIPE-R. Other researchers using the CAIPE-R to measure attitude change also used the two score option (Block & Malloy, 1998; Block & Zeman, 1996); however, one research team (Obrusnikova et al., 2003) calculated the overall score in a study on attitudes toward inclusion with fourth and fifth grade participants during a two-week volleyball unit. Results indicated attitudes toward inclusion were positive and stable; however, there was not a significant posttest attitude increase. Similar to the current study, both pretest and posttest scores were relatively positive, indicating an overall accepting nature for a combination of general inclusion and sport modification practices. Also similar to the current study, the positive nature of the attitudes possibly was a result of the school environment being inclusive, accepting, and built on trust (Obrusnikova et al., 2003). It is noted that the middle school child often is starting to identify their thoughts related to what is ethical and moral, while at the same time wanting to fit into a group and being preoccupied with what other people think of them (Williams-Boyd, 2003). It is interesting to consider the pattern of using the two-score option instead of the three-score or one-score option when analyzing the CAIPE-R. This pattern may offer a future research consideration, in terms of exploring the rationale behind choosing to analyze only the subscales.

Inclusion Subscale CAIPE-R

Results of this study indicated that there was a significant PSD effect on the Inclusion subscale when gender and the pretest score were controlled ($F(1, 139) = 11.30$, $p = .001$, $Partial \eta^2 = .08$), thus offering a positive answer to Sub RQ1-c and rejecting the null hypothesis that the CAIPE-R Inclusion subscale would not indicate a statistically significant change in attitudes after participation in the PSD program. In other words, participants in the PSD group scored significantly higher attitudes on the Inclusion subscale than participants in the control group scored (PSD: $M = 21.15$, $SD = 2.68$; control: $M = 19.53$, $SD = 2.44$). These results do confirm a significant PSD effect with a medium effect size ($Partial \eta^2 = .08$), even though the mean difference is small. These results should be viewed with caution due to the small mean difference and medium effect size. Of note is the positive nature ($M > 19$) of the inclusion scores for both groups, which correlate to > 3.0 or higher on the Likert scale, indicating scores averaging between the *probably yes* response and the *yes* response.

Existing CAIPE-R Inclusion subscale research related to the Paralympic School Day intervention offers limited connections to this research study. Panagiotou et al. (2008) found the PSD treatment to have a significant impact on attitude change ($F = 7.432$, $p = .007$, $\eta^2 = .42$), but because an independent sample t -test was used, the comparability to this study is limited (the pretest score effect and gender effect were not controlled). Similar to the current study, the Panagiotou et al. study found positive mean scores for the PSD group and the control group on both the pretest and the posttest measure (> 19.5), indicating a score comparable to answers of *probably yes* or higher on the subscale. Liu et al. (2010) found that mean scores of the Inclusion subscale increased from M (pretest) = 16.50 to M (posttest) = 17.25, but these results were not statistically

significant at the .05 level. Because a paired sample *t*-test was used, the pretest score effect and gender effect were not controlled, limiting the comparability to this research study. In addition, the scores indicated more neutral attitudes on the Inclusion subscale at both the pretest and posttest measure, also limiting comparability. Xafopoulos et al. (2009) conducted the Inclusion subscale analysis (paired *t*-tests) separately for boys and girls, thus offering results separated by gender. Gender will be discussed related to RQ2; however, Xafopoulos et al. found attitudes to increase non-significantly for boys between the pretest and posttest, and found attitudes to decrease non-significantly for girls between the pretest and posttest. While Xafopoulos et al. did not find significance, the Inclusion subscale scores were relatively positive, correlating to *probably yes* or higher on the Likert scale, which was similar to the results of the current study.

Inclusive environments offer all students a sense of acceptance, a sense of belonging, and a sense of feeling supported (Stainback & Stainback, 1996). Inclusion is guided by the paramount belief that diversity should be valued (Rogers, 1993), and in turn, inclusive environments embrace and venerate student diversity (Bunker, 1994). Results of the current study as well as the Xafopoulos et al. (2008) and Panagiotou et al. (2009) studies on PSD had relatively high pretest and posttest scores, possibly indicating the school environment supports diversity and inclusion in a seamless manner, connecting to all aspects of student life. While there are studies that characterize middle school as a time where students are less likely to accept those who are different from themselves (Bell & Morgan, 2000; Sable, 1995; Swaim & Morgan, 2001), this research, as well as similar research on attitudes, supports a different paradigm through which to view the middle school years, and supports the need for continued research (Block &

Malloy, 1998; Obrusnikova et al., 2003; Panagiotou et al., 2009; Xafopoulos et al., 2008).

Sport Modification Subscale CAIPE-R

Results of this study indicated that there was a significant PSD effect on the Sport Modification subscale when gender and the pretest score were controlled ($F(1, 139) = 4.97, p = .027, \text{Partial } \eta^2 = .04$), thus offering a positive answer to Sub RQ1-d and rejecting the null hypothesis that the CAIPE-R Sport Modification subscale would not indicate a statistically significant change in attitudes after participation in the PSD program. In other words, participants in the PSD group scored significantly higher attitudes on the Sport Modification subscale than participants in the control group scored (PSD: $M = 12.52, SD = 3.36$; control: $M = 12.14, SD = 3.11$). These results do confirm a significant PSD effect, but should be viewed with caution, as the effect size was small ($\text{Partial } \eta^2 = .04$) likely due to the small mean difference between the groups. Of note is the neutral nature ($M \leq 12.5$) of the overall Sport Modification subscale scores.

Existing CAIPE-R Sport Modification subscale research related to the Paralympic School Day intervention offers limited connections to this research study. Panagiotou et al. (2008) found the PSD treatment to have a non-significant positive impact on attitudes: M (pretest experimental) = 17.86, M (posttest experimental) = 18.05, while Liu et al. (2010) found the PSD treatment to have a non-significant negative impact on attitudes: M (pretest experimental) = 17.89, M (posttest experimental) = 16.86. Comparability to this study is limited because the pretest score effect and gender effect were not controlled on either of these studies. Interestingly, both studies indicated positive sport modification attitudes on both the pretest and the posttest for both groups (> 15). These correlate to Likert scale responses between *probably yes* and *yes*, and are higher than the scores in

this research study. Xafopoulos et al. (2009) conducted the Sport Modification scale analysis (paired *t*-tests) separately for boys and girls, thus offering results that were separated by gender. Gender will be discussed related to RQ2; however, Xafopoulos et al. found attitudes to decrease non-significantly for both boys and girls between the pretest and posttest. While Xafopoulos et al. measured by gender and indicated a non-significant decline similar to the results of the Liu et al. and Panagiotou et al. studies, attitudes on both the pretest and the posttest for both groups were relatively high (> 15).

Sport modification attitudes are conflicting, as research indicates relatively positive overall attitudes (even when a slight negative change is seen between pretest and posttest), while at the same time making clear that students do not want to modify rules or adapt activities to accommodate peers with disabilities (Kalyvas & Reid, 2003; Liu et al., 2010; Panagiotou et al., 2008). Some researchers speculate that the resistance to sport modifications is because of a desire to win and play at a high level of competitiveness with powerful teammates (Panagiotou et al., 2008), while others felt that students had little knowledge of adapted sport modifications at the pretest, and then learned about them through the intervention and decided they were unfavorable, thus showing a decline in score at the posttest measure (Liu et al., 2010). This heightened awareness of limitations is documented in additional inclusion studies (Ellery & Rauschenbach, 2000; Goodwin & Watkinson, 2000; Obrusnikova et al., 2003).

While the current study did show a significant increase in sport modification attitudes, this section of the instrument produced the lowest overall scores of the study ($M \leq 12.5$), which can be categorized as neutral. Because the students do not currently have peers with physical disabilities in their physical education classes, the neutral attitudes

could be a result of the concepts being unknown, as processing the hypothetical situation may not have elicited a point of reference for which the students could compare their thoughts. The physical education program at Horace Mann is highly traditional; it lacks a skill development component, is highly competitive, and is not differentiated for student success. The PSD activities were the opposite of what the students experience in physical education: the activities were differentiated for student success, had little to no wait time, focused on skill development, and were student-centered in a cooperative environment. The slight statistically significant positive increase in the neutral sport modification scores could be attributed to the mixed messages, which created disequilibrium for the participants. Disequilibrium is an intrinsic motivation technique that is shown in some research to support moral development in children, promoting increased perspectives and advanced reasoning (Ormrod, 2008; Weiner, 1990; Wentzel, 1997). The mixed messages that may have created disequilibrium included: (a) the overall competitive culture of physical education (where you would not want to modify rules and would instead want to win at all costs); (b) the focus on diversity and acceptance at Horace Mann School (where you are expected to show kindness and inclusivity to peers); and (c) the increased awareness of disability sport through practice and experience in a positive, developmentally appropriate setting (which PSD offered the experimental group). It would be of interest in the future to determine if the type of physical education program and physical education experience has an impact on attitude change as a result of participating in developmentally appropriate, success-focused PSD activities.

Relationship between Attitude Change and Gender

Results of this study indicated that there was not a significant relationship

between gender and the attitude change of students without disabilities toward the inclusion of students with disabilities in physical education, failing to reject the null hypothesis that the PSD treatment does not have a statistically significant impact on attitudes as a function of gender. In other words, when the pretest score effect and the PSD effect were controlled, there was not a significant gender effect on attitudes. Additionally, gender was examined as a variable of interest in the forward stepwise regression analysis and was not indicated as a variable of significance on any of the attitude measures.

Existing PSD research related to the relationship between gender and attitude change offers clear connections to this research study. Similar to this study, Liu et al. (2010) and Panagiotou et al. (2008) found no significant relationship between gender and attitude change when implementing the PSD awareness program, but did see trends in attitude, showing girls with slightly more positive attitudes than boys across most measures. Xafopoulos et al. (2009) found a significant relationship only between girls and attitude as measured by the Adjective Checklist.

A substantial amount of inclusion research related to the relationship between gender and attitude has been conducted, and contradictory findings have been reported. On one hand, research indicates a statistically significant relationship between attitude and gender, often concluding girls have more positive attitudes than boys (Bell & Morgan, 2000; Bossaert et al., 2011; Ferguson, 1999; Hutzler et al., 2007; Kalyvas & Reid, 2003; Loovis & Loovis, 1997; Nowicki & Sandieson, 2002; Reina et al., 2011; Siperstein et al., 2007; Slininger et al., 2000; Townsend & Hassall, 2007; Townsend, Wilton, & Vakilirad, 1993; Tripp et al., 1995; Vignes et al., 2009). On the other hand,

research indicates that there is not a significant relationship between attitude and gender (Arampatzi, Mouratidou, Evaggelinou, Koidou, & Barkoukis, 2011; Archie & Sherrill, 1989; Lockhart et al., 1998; Siperstein, Parker, Bardon, & Widaman, 2007; Tirosh, Schanin, & Reiter, 1997). This research study examined the relationship between gender and attitude in an attempt to replicate the numerous studies that indicate a significant relationship between attitude and gender in the physical education setting. Although this study did not find a significant relationship between gender and attitude, the substantial amount of differing research in the field indicates that the relationship should continue to be considered. In relation to PSD research, this study adds to the current research, offering a recommendation that the relationship between gender and attitude should be considered, but not necessarily as a relationship of main interest.

Variables that Impact Attitude

This study provided an in-depth look at the variables that may have a relationship with attitudes towards inclusion, including family contact, general education contact, physical education contact, competitiveness, gender, the PSD treatment, and pretest scores, allowing for an examination of how variables can impact attitudes.

Results of this research indicated that both the PSD treatment and the pretest attitude scores had a statistically significant impact on attitudes across all four measures, the competitiveness variable had a statistically significant impact on attitudes on the CAIPE-R Inclusion subscale, and family contact as well as general education contact had a statistically significant impact on attitudes on the CAIPE-R Sport Modification subscale. Each variable will be discussed in more detail.

PSD Treatment and Pretest Attitude Variables

The PSD treatment variable and the pretest attitude measure variable were included in the evaluated attributes so that the forward stepwise regression analyses could measure if the intervention worked for some children more than for others when the pretest measure was held constant. The pretest attitude measure variable was significant on all four measures, with a medium effect size (*Partial* $\eta^2 = .07$) for the Adjective Checklist and a large effect size for the CAIPE-R (*Partial* $\eta^2 = .37$), the Inclusion subscale (*Partial* $\eta^2 = .34$), and the Sport Modification subscale (*Partial* $\eta^2 = .44$). This significant relationship between attitude and the pretest score variable on all four measures indicates a significant linear relationship between the pretest scores and the posttest scores, confirming that the ANCOVA design works well with this data, as the covariate is significant.

The PSD treatment variable was also significant on all four measures, confirming that the PSD treatment variable had a statistically significant impact on attitudes. Specifically, the experimental group showed significantly higher attitudes than the control group showed on all four measures: the Adjective Checklist (experimental: $M = 22.73$, $SD = 3.07$; control: $M = 21.64$, $SD = 3.27$; *Partial* $\eta^2 = .03$) with a relatively small effect size; the CAIPE-R (experimental: $M = 33.68$, $SD = 4.90$; control: $M = 31.67$, $SD = 4.54$; *Partial* $\eta^2 = .07$) with a medium effect size; the Inclusion subscale (experimental: $M = 21.15$, $SD = 2.68$; control: $M = 19.53$, $SD = 2.44$; *Partial* $\eta^2 = .07$) with a medium effect size; and the Sport Modification subscale (experimental: $M = 12.52$, $SD = 3.36$; control: $M = 12.14$, $SD = 3.11$; *Partial* $\eta^2 = .04$) with a relatively medium effect size.

This research is in agreement with intervention research in the physical education field that indicates an experimental group having more positive attitudes than a control

group as a result of an intervention (Hutzler et al., 2007; Liu et al., 2010; Panagiotou et al., 2008; Reina et al., 2011; Slininger et al., 2000; Xafopoulos et al., 2009). Results should be viewed with caution, however, as the effect size for the measures ranged from relatively low to medium, and the changes between mean scores were very small. Research indicates that when scores start positive and end positive, very little room is left for a significant association or relationship, possibly explaining the low effect size and small difference in mean scores (Block, 1995; Block & Malloy, 1998; Obrusnikova et al., 2003).

Family and General Education Contact Variables

The family contact variable includes close friends and family and is reported as family contact or contact at home. The general education contact variable includes contact in general education classes (does not include physical education). Results of this study indicated that both contact at home (friends or family) and contact in general education were significant variables as measured by the CAIPE-R Sport Modification subscale. Participants who identified themselves as having contact at home indicated less positive attitudes than participants who identified themselves as not having contact at home (family contact: $M = 12.31$, $SD = 3.60$; no family contact: $M = 12.34$, $SD = 3.05$; $\text{Partial } \eta^2 = .04$) with a relatively medium effect size. Results should be viewed with considerable caution because of the small effect size and the very small difference in means. One possible explanation for why this very small difference in means resulted in being a variable of statistical significance with a relatively medium effect size: the total variation in the Sport Modification subscale posttest score was accounted for by the variation of the family contact effect, resulting in the family contact effect being

relatively large, with a small variation in error after excluding the variation explained by other predictors.

Participants who identified themselves as having contact in general education also indicated less positive attitudes than participants who identified themselves as not having contact in general education (GE contact: $M = 11.47$, $SD = 3.21$; no GE contact: $M = 12.68$, $SD = 3.18$; *Partial* $\eta^2 = .04$) with a relatively medium effect size. These results should be viewed with considerable caution because of the small effect size and the small difference in means.

Although the results of the aforementioned contact variables should be viewed with caution, the negative relationship between contact and attitude came as a surprise, and it warrants additional discussion. Family contact, general education contact, or both sometimes indicate a positive relationship with attitude (Block, 1995; Obrusnikova et al., 2003; Tirosh et al., 1997; Vignes et al., 2009), sometimes indicate a negative relationship with attitude (Wilhite et al., 1997), and sometimes indicate no relationship with attitude (Archie & Sherrill, 1989; Block & Malloy, 1998; Obrusnikova et al., 2003). Obrusnikova et al. (2003) indicated that family contact had a significant impact on attitudes, but general education contact did not. For this study, a possible explanation for the slight negative relationship between attitudes and contact on the Sport Modification subscale is aligned with a number of research studies: experience (having a family member, close friend, or classmate with a disability) may foster a negative attitude toward sport modifications, as experience can draw attention to disability, defining the possible limitations in sport-related scenarios (Ellery and Rauschenbach, 2000; Goodwin & Watkinson, 2000; Tripp et al., 1995; Wilhite et al., 1997). The relationship between

various levels of contact on the attitudes of students without disabilities toward the inclusion of peers with disabilities should continue to be explored.

Competitiveness Variable

The results of this study indicated that the competitiveness variable was significantly related to attitudes on the Inclusion subscale of the CAIPE-R, specifically at the very high level of competitiveness, where participants who identify themselves as very competitive have less positive attitudes than participants who identify themselves as kind of competitive and not competitive (very competitive: $M = 19.51$, $SD = 3.46$; kind of competitive: $M = 20.68$, $SD = 2.17$; not competitive: $M = 20.75$, $SD = 2.45$; $\text{Partial } \eta^2 = .04$). As with the aforementioned variables, results should be viewed with caution, as the effect size was relatively medium and the changes between mean scores were very small. As previously mentioned, research indicates that when scores start positive and end positive, very little room is left for a significant association or relationship (Block, 1995; Block & Malloy, 1998; Obrusnikova et al., 2003). Thus, a correlation could be drawn between the limited relationship found in this study (which was indicated on only one of the four measures used) and the research in the field that shows no significant relationship between the competitiveness variable and attitudes toward inclusion (Block, 1995; Block & Malloy, 1998; Gillespie, 2002). Considering the limited amount of research on this variable, future research could continue to explore the relationship between competitiveness and attitude toward inclusion in physical education.

Attitude Retention

Retention measures ranging from four weeks to three months to eight years are recommended in some intervention studies, as measuring the long-term impact of the

intervention and the stability and permanency of attitude change offers additional information about the longevity of the effectiveness of the program (Bossaert et al., 2011; Murata et al., 2000; Reina et al., 2011; Rillotta & Nettelbeck, 2007). Results for this study indicated that after a six-week time lapse, PSD had a statistically significant impact on the retention of attitudes of students without disabilities toward the inclusion of students with disabilities on two of the four measures.

The Adjective Checklist indicated a significant difference between the pretest scores ($M = 22.08$, $SD = .503$) and the retention test scores ($M = 24.77$, $SD = 5.23$); $t(141) = 6.33$, $p \leq .001$, $d = .53$, with a large effect size. Attitudes were positive (> 20) to start, and then became even more positive, as indicated by the adjectives selected. In addition, the CAIPE-R Inclusion subscale indicated a significant difference between the pretest scores ($M = 19.89$, $SD = 2.65$) and the retention test scores ($M = 20.26$, $SD = 2.45$); $t(141) = 1.98$, $p \leq .05$, $d = .16$, with a small effect size, likely because of the positive nature of the responses.

Previous PSD studies did not assess retention of attitudes, but one research team recommended a longitudinal follow-up as a future practice (Panagiotou et al., 2008). Two studies measuring the longevity of attitude change after inclusion or awareness experiences both involved longer treatments, and both assessed retention after significant time had passed; thus, comparability is considered with caution (Murata et al., 2000; Rillotta & Nettelbeck, 2007). The overall results of these studies can be loosely connected to the current research, as positive retention attitudes after an intervention experience were indicated.

Retention measures must account for the passage of time and maturation of the student,

both which can have an impact on attitudes (Murata et al., 2000). The passage of time for this research study was six-weeks, and during the six-week time period, the students took the attitude survey a total of three times. This repetition could be considered a practice opportunity, as repetition allows students to build upon basic ideas and move to a higher level of problem solving (Bruner, 1961). It is possible that the students' ability to address a hypothetical situation increased or became more accurate with practice, which aligns with formal-operational thought (Piaget, 1932) and the value of repetition in learning (Bruner, 1961). This growth may speak to the benefit of assessing retention after a shorter period of time (six weeks), as practice opportunities can build upon one another.

Alternately, it is possible that students were annoyed at the repetitive nature of the task and circled test answers haphazardly or quickly, thus offering less than accurate results. It is also possible that the time lapse was not long enough to indicate an accurate measure of retention. Reina et al. (2011) recommended a retention measure approximately one month after the completion of a disability awareness program; however, other studies utilize much longer lapses in time (Murata et al., 2000; Rillotta & Nettelbeck, 2007). Future research should include retention measures to assess the longevity of attitude change, and should use a combination of the CAIPE-R and the Adjective Checklist, as use of each of these instruments for retention measures is limited.

Instruments used in this study to measure attitudes at the pretest, posttest, and retention test time points included the Adjective Checklist and CAIPE-R. As previously mentioned, attitudes started out relatively high at the pretest measure and increased slightly at the posttest measure and retention measure, generally speaking. While the results of this study did not hit the ceilings of these attitude measures, they did score

relatively high (with the exception of the Sport Modification measure, which measured to be neutral). The concept of “social desirability” was presented in a previous section as a possible rationale of why attitude scores were relatively high from the start. In addition, qualitative measures were recommended as a possible avenue for better determining true thoughts, feelings, and attitudes before the treatment is administered. Overall, the high pretest scores and limited mean score changes indicate the possibility that the instruments used to measure attitudes in this study may not have been the best instruments to determine attitude change. Perhaps these Adjective Checklist and CAIPE-R are not sensitive enough to capture the attitude change, or perhaps limiting the attitude questions to the physical education scenario was not appropriate to best capture student attitudes. Future research should explore and consider different measures that may better indicate attitudes toward inclusion. Perhaps there are measures that better account for positive starting attitudes and previous exposure to inclusion settings. In depth exploration of other measures and their fit to the PSD curriculum and goals of the research is a recommended direction for future research.

Supporting the Theoretical Components of Allport’s Contact Theory

The importance of theoretically oriented research in adapted physical education is well documented (Reid, 1992; Sherrill, 1997; Sherrill & O’Connor, 1999; Slininger et al., 2000; Sutlive & Ulrich, 1998; Tripp & Sherrill, 1991). Tripp and Sherrill (1991) explained that theories allow researchers to control or explain practice, as they suggest relationships between observable phenomena. Sutlive and Ulrich (1998) explained that a researcher’s ability to control and measure important variables in exactly the same way as they were previously controlled and measured supports replication and reliability, which

in turn supports meaningful research. The common word found in the aforementioned statements is *control*. Theoretically based research offers the researcher specific components or constructs with which to explain and measure variables, thus *controlling* the variables as they are tied to theoretical constructs (Tripp & Sherrill, 1991).

The theory of interest in this research study was Allport's (1954) contact theory. Allport theorized that as people come into contact with others different from themselves, their prejudiced ideas diminish as they come to understand the other person. He specified four necessary conditions for contact to improve negative attitudes: (a) equal status, (b) cooperative pursuance of common goals, (c) personal interactions, and (d) identification and acceptance of social norms provided by authority.

Contact theory has been referenced in adapted physical education research, usually as it relates to varying levels of contact with students with disabilities and whether contact has an impact on attitudes (Archie & Sherrill, 1989; Block & Zeman, 1996; Panagiotou et al., 2008; Tripp et al., 1995). Research has tended to compare contact settings as opposed to addressing contact theory (Slininger et al., 2000). Sherrill (1998) designed a model for attitude change based on Allport's (1954) contact theory, and hypothesized that following the model would lead to behavior and attitude change; however, research does indicate that the model has not been tested. Also, the model does not include a range of criteria variation or operational definitions of the criteria for contact.

This research study addressed Allport's (1954) contact theory as the theoretical basis of the PSD awareness program, using a newly created fidelity of implementation instrument (Fidelity Criteria) to measure a single construct (contact theory) with the four

criteria (or components), seeking to control and explain the manner in which PSD satisfied these components. Results indicated that the PSD intervention supported the four theoretical components of Allport's contact theory, with statistically significant differences in student responses across all four components ($p < .001$; $w \geq .52$). In addition, results indicated that the Fidelity Criteria had strong test-retest reliability with internal consistency that was strong across time points ($r = .829$; $p \leq .001$). Results also indicated that the four components of the Fidelity Criteria instrument measured a single construct (one component significant at the $p \leq .01$ level, three components significant at the $p \leq .001$ level), thus indicating strong construct validity.

The Fidelity Criteria instrument was created to provide a basis of comparison to which the intervention is faithful (Hulleman & Cordray, 2009) and was constructed following the Swafford et al. (1997) Change Model. By analyzing the range of variation within each critical component, the instrument helped to determine if the implementation of the program (PSD) was aligned with the intended program theory (contact theory).

A few interesting discussion points related to the Fidelity Criteria arose from the data analysis of this research study. First, while the test-retest reliability was significant at the $p \leq .001$ level, Cronbach's alpha was low ($\alpha = .40$), indicating low internal consistency, suggesting that the results must be viewed with caution. When using Cronbach's alpha, a low number of items (in this case, four items) can negatively impact the measure of internal consistency and are likely the cause of the low alpha score. Considering the strength of the test-retest reliability, which indicates that the test is replicable with strong internal consistency, increasing the number of items or criteria may improve the strength of the Cronbach's alpha measurement. Notably, while conducting

the analysis for test-retest reliability, the factor analysis, chi-square measurements and frequencies were also analyzed using the retention data and indicated similarly significant results when analyzed at the retention point.

Another discussion point resulting from the data analysis of the Fidelity Criteria relates to the generalizability of the instrument. Research indicates that fidelity assessments help to promote the external validity of a study (Mowbray et al., 2003; O'Donnell, 2008), also known as the generalizability. The model used in creating the Fidelity Criteria included a step that involved analyzing each component of contact theory and defining the range of variation within the component. This particular step supported the creation of an operational analysis, which is defined to be the *a posteriori* identification of actions (verbal or physical) involved in applying a concept or theory that is dependent on experience or evidence (Ribes-Inesta, 2003; Skinner, 1945).

While this operational analysis met the goal of this research study (to determine if the PSD intervention satisfied the four components of contact theory) by providing evidence to verify support of the theory, it did not necessarily define the procedures used for producing the evidence. Thus, generalizability should be considered with caution, as the Fidelity Criteria did not necessarily include operational definitions, or definitions that provide the necessary criteria for producing and measuring a phenomenon (Green, 1992; Ribes-Inesta, 2003; Underwood, 1957). Researchers have recommended the use of operational definitions of the contact theory criteria to clearly define the process and procedure so that others can independently measure and test for the same phenomenon (Pettigrew, 1998; Slininger et al., 2000). Two of the four Fidelity Criteria questions begin to address the process of producing the evidence of the theory, but need editing and

extended procedural information to be considered operational definitions:

1. The question related to multiple contact experiences:

During the activity stations I had:

- a. *Limited interactions (1-2 interactions) with individuals with disabilities.*
- b. *No interactions with individuals with disabilities.*
- c. *Many interactions (3 or more interactions) with individuals with disabilities.*

2. The question related to cooperative pursuance of common goals:

The station activities were:

- a. *Competitive- cut throat and focused on winning and beating others*
- b. *Cooperative- I worked with others to achieve group goals*
- c. *Independent- I worked alone, there really weren't any goals*

While some researchers argue that operational definitions will never be fully adequate because our social knowledge will constantly critique, question, and rebuke even the strongest operational definitions (Green, 1992; Rosenwald, 1986), others support operational definitions as scientific necessity (Kimble, 1989; Kendler, 1983; Underwood, 1957).

A third discussion point related to the analyses conducted on the Fidelity Criteria instrument is the rationalization for the extremely positive results. The PSD program was planned and executed so that it would best align with the four components of contact theory, with all activities rooted in aspects of the contact criteria. Early planning included the intention to have the Paralympic athletes lead the station activities, allowing for multiple contact experiences, authentic interactions, and personal connections. Athletes were invited to be a part of the day based on their personal story, their charisma, their age, and their experience educating students about Paralympic Sport. This careful screening allowed the athletes to be the best possible fit for the population in this study,

as the likelihood that students would feel an equal status relationship was increased if commonalities were evident. Commonalities such as attends or attended a private school; is applying to, is currently in, or has graduated from college; is or was a high school athlete; has experience travelling the world; has been on TV; is writing or has written a book; and has supportive family and friends who are helping or have helped them pursue their dreams are all variables to which the student population could relate. Even though the sixth grade students had yet to achieve these things (like graduating from college), the environment they experience daily (family, school, and community) is aligned with the expectation that they will also achieve many of these things. The goal of the screenings was to invite athletes to present who would challenge the notion of “normal” and bring to light the amazing achievements of individuals with disabilities, thus creating an experience in which the students see the abilities of the athletes and recognize that they are just like them in many ways. Some may argue that it was impossible to have a feeling of equal status because the athletes were not of middle school age; however, the concept was not of age alignment, but instead of ability alignment, such that the students would come to understand and value individuals with disabilities as very much the same as themselves.

The PSD activities chosen were specific to the strengths of the invited athletes and also were specific to creating a cooperative environment with many opportunities for contact. Students rotated among three stations during the Wheelchair Basketball activity, thus receiving small group attention with a 6:1 ratio from the athletes. Observation and review of video footage indicated that students interacted on a personal basis with four different athletes, receiving skill feedback, hearing personal stories, working together to

succeed at the stations, and learning tips and tricks to maneuver the wheelchairs. At the Sitting Volleyball station, students split time between a large group (18:2 ratio) and small groups (9:1 ratio), and worked with the athletes to learn hand placement for movement, tips on momentum and body angle, and the fun of trying something new while sitting on the floor. Lesson plans were created with the athletes to optimize learning time, optimize personal interactions, and create cooperative challenges that the athletes participated in with the students. The qualitative data gathered from the Fidelity Criteria instrument indicated student short answer responses that supported the data indicated by the quantitative Fidelity Check questions. Students reported that stations such as the Athlete's Story (auditorium presentation), the Diversity Discussion, and the Paralympic Experience station (discussion with Victoria) were cooperative (as opposed to competitive or independent) and noted that they were cooperating to define "normal" during the diversity chat, or cooperatively listening and learning about the Athlete's Story and Paralympic Experience together as a group. When responding to which stations (if any) they had no interactions or limited interactions with individuals with disabilities, most students listed the diversity discussion (which was not led by Paralympic athletes), which is aligned with the execution of the day. When listing which stations, if any, they had many interactions with individuals with disabilities (and if those interactions were meaningful), most students responded with Wheelchair Basketball, Sitting Volleyball, and the Paralympic Experience (discussion with Victoria). Time limitations prevented a systematic analysis of the qualitative data from the Fidelity Criteria, and future research could benefit from a systematic analysis of such data.

Stations related to stories and speaking were deliberately held in small rooms,

with the recital hall hosting the large group presentation (all students sat in the first four rows) and a small conference room set up in a close-knit circle hosting the conversation with Victoria to learn more about the Paralympic experience. Both of these stations used at least half of the time for question and answer, which increased the personal meaning and contact experience, and further promoted equal status. The debriefing and processing station led by the Head and Assistant Head of Diversity Initiatives was planned with contact theory in mind, as session leaders asked thoughtful questions related to “normal,” “abnormal,” “inferior,” “superior,” and to actions and behaviors that we display in conjunction with those terms. In the qualitative questions on the Fidelity Criteria related to cooperation and equal status, students listed this station as representing both, likely because of the types of conversations that took place, based on the recordings of the station.

Finally, in the weeks prior to PSD and during the event, school administrators and faculty members supported the pre-education efforts, creating an environment of excitement and enthusiasm for the event, likely supporting the social acceptability and wow-factor surrounding the event. Brief athlete biography information was reviewed in each humanities class approximately three weeks before the event, after which the students were dismissed for a two-week winter break. The athlete biography information was specifically provided to the faculty by the researcher during a training session so that students received the same information, and so that the information would have little to no impact on pretest scores. In addition, short video clips were shown in a morning assembly led by the researcher (after pretest score collection) with the goal of introducing just enough information to elicit curiosity and thought. Teachers and administrators were

present along with the students during the entire event, taking part in the stations, asking questions, and asking for athlete autographs. All of this created an atmosphere of support and acceptance that was most likely very clear to the middle school participant.

Reflecting on the execution of PSD and the profound impact it had on the students and faculty who were a part of the program brings to fruition the importance of athlete selection, using athletes as station leaders, integrating the athletes into the school day (athletes joining the students for lunch, visiting sports practice, and being visible in the school community), involving teachers and administrators as learners, and providing a natural and holistic setting in which the athletes can have meaningful, personal conversations with the participants. These, combined with debriefing conversations that are a natural part of diversity and awareness education in this particular school environment (led by trained faculty members), offered a rich learning experience about acceptance, inclusion, the Paralympic Games, and adapted sport activities. It is important to note a great deal of time and effort was spent screening the athletes for the best possible outcome related to contact theory. In addition, once the screening process was complete and athletes were invited to attend, the cost of transportation and housing was significant. This PSD implementation method is not necessarily typical or generalizable to other PSD events, and future research should consider possible alternatives that may cost less and still meet the components of contact theory. While the attitude change was small, the aforementioned profound impact was large, justifying a need for future research that utilizes a range of implementation procedures related to cost and time.

Overall, the creation of the Fidelity Criteria as an instrument to measure if the intervention (PSD) effect satisfied the four corresponding components of Allport's (1954)

contact theory provided statistically significant results that indicated the intervention strongly supported the theoretical components. By incorporating a theoretical basis of comparison to which the PSD intervention was faithful, this study offered specific insight into controlling or explaining practice, as the theoretical basis suggests relationships between observable phenomena. As a newly created instrument, clear limits exist, providing an opportunity for growth and improvement with future research.

Implications for Practice

Results of this study have implications for future practice, as findings indicated that the PSD awareness curriculum, when planned and executed using the four necessary conditions of Allport's (1954) contact theory, had a significant impact on the attitudes of students without disabilities toward inclusion of peers with physical disabilities in physical education. This information, along with knowledge of variables that have a potential relationship with attitude, should be considered in the development of an inclusive school environment, professional development opportunities, pre-service and in-service teacher training, and future PSD planning and execution.

Findings from this study imply that schools should offer an educational environment where positive, equal status contact experiences are created, sanctioned, and supported by educational leaders and administrators. One way to offer such an environment is to support equity pedagogy, which incorporates the components of Allport's (1954) contact theory (Banks & Banks, 1995). Equity pedagogy is reflected in overall school policies and expectations, in the culture of the school, and within each classroom. Institutional support for equity pedagogy has far-reaching implications for educational research and educational policies. At the classroom level, educators can

utilize curriculum and teaching techniques and curriculum that reflect or incorporate the components of contact theory. The “equitable classroom” supports a multi-ability curriculum that offers complex instructional methods that provide differentiated, equitable learning opportunities in conjunction with positive contact experiences (Cohen & Lotan, 1995; Cohen & Lotan, 2004). Teachers can plan instruction using cooperative methods like the “jigsaw technique” that require students to work together under equal status conditions with predefined cooperative goals and objectives (Aronson & Thibodeau, 1992; Slavin, 1995). This type of classroom atmosphere supports social interdependence, as it increases the amount of time and necessary structure in which students work cooperatively with peers who they may perceive to be different, or not in their circle of friends. Research indicates that even with very young learners, classroom settings that facilitate opportunities for all children to develop and sustain relationships indicate a value of diversity and the importance of an inclusive and accepting community (Rimm-Kaufman, Voorhees, Snell, & La Paro, 2003). Research also indicates that equity is an essential attribute for young adolescents (middle school learners), with a school environment that is inviting, safe, inclusive, and supportive being a key characteristic (AMLE, 2010). Equity in the physical education setting is also a necessity, and it takes careful planning and preparation so that programming is of the highest quality, and has an emphasis on superior results for *all* students (Kelly & Melograno, 2004).

Implications for practice related to professional development activities for educators and Paralympians are supported by this research. Professional development activities that introduce the components of Allport’s (1954) contact theory and include activities for bringing the components to life in the classroom can benefit teachers and

students. In addition, professional development activities for Paralympic athletes and coaches on supporting the components of contact theory in their outreach activities and community programs, including PSD, could benefit the advancement of the Paralympic movement. Professional development activities about planning and executing PSD could also be positive, including educational sessions for athletes on the role they play in the PSD program. The implementation used in this study was not necessarily typical of replicable programs, as the program could be executed with fewer costs and fewer planning details. Introducing a range of planning options and the benefits of each would cover the wide range of teachers/schools considering the event, and would make a professional development training applicable and generalizable to most educational settings. It would be of interest to further explore the potential impact of workshops and professional development pertaining to the implementation of contact theory components in the physical education setting.

Findings from this study also have implications for teacher education programs, as professional preparation programs should provide pre-service teachers the opportunity to learn the components of contact theory, apply the components to lesson planning and teaching activities, and then put theory into practice by executing lessons using inclusive instructional techniques and opportunities for meaningful, cooperative contact. In addition, teacher education programs in physical education and adapted physical education can educate pre-service teachers on the PSD curriculum, as it meets a variety of important aspects of quality programs, including a focus on diversity and awareness, supporting community involvement, and messaging the importance of lifetime physical activity for all. Further, both pre-service and in-service teachers could benefit from a

focus on disability sport on a small scale, such as adding sitting volleyball as an instructional unit. This could create an opportunity for learning a new set of skills while providing a platform for focusing on inclusion and ability (Davis, 2011). Implications for training pre-service teachers on planning and executing PSD could be far-reaching, because if including PSD in a quality physical education program was taught alongside including a developmentally appropriate field day, a family fitness night, and a before or after school fitness program, the value of the program would reach scores of future educators.

Finally, findings of this study also have implications for the planning and execution of future PSD events. The PSD intervention effect was found to satisfy the four components of Allport's (1954) contact theory, with student responses indicating a significant difference between responses that indicated the component (for example: cooperative activities) and the responses that did not indicate the component (for example: competitive and independent activities). Future events should consider using the four components of contact theory in their planning and execution. In addition, modifying the curriculum to include Paralympic athletes as session leaders (as opposed to just being guests) increases the amount of contact, type of conversations, and opportunity for learning to reach all participants. With this in mind, a comprehensive search and screening process to determine which athletes will be invited to lead the station activities helps to determine if the athletes are the right fit for the population, sample, and specific program goals. Incorporating the athletes into the regular events of the school day also allows for a more holistic integration of the Paralympians. Educators also should consider modifying the PSD activity cards so that specific lesson plans can be reviewed with the

guest athletes, helping to ensure that the components of contact theory are being applied and best practices in teaching are utilized. It would be of interest to further explore the potential impact of athlete selection, training, and activity station execution pertaining to the success of the day in supporting attitude change and satisfying the components of contact theory.

Future Research

This study added to the limited research on the impact of PSD by investigating the attitudes of students without disabilities toward the inclusion of peers with disabilities in physical education. The results from this study provided support for the PSD curriculum as an effective program to facilitate attitude change, as well as an effective program to satisfy the four components of Allport's (1954) contact theory. While insights from this present study are useful, they are far from exhaustive. It is suggested that further study be conducted to:

1. Replicate the research with a more diverse sample, including but not limited to replication in public schools, replication in schools that utilize integrated physical education, replication across grade levels, replication in varying community settings (rural, suburban), and replication in varying school environments.
2. Create and validate a modified (additional items) version of the Fidelity Criteria.
 - a. Confirm the one-factor structure of the revised Fidelity Criteria instrument.
3. Consider exploring and using different attitude instrument to measure the impact the PSD curriculum has on attitude change.
 - a. Are there measures that may be more appropriate for use in measuring the

- impact PSD has on students?
- b. Are there measures that offer both quantitative results and qualitative results?
 - c. Are there measures that account for social desirability, prior exposure to inclusion settings, and the possibility of pretest attitudes that measure to be relatively high?
4. Consider the detail and insight that qualitative research could bring to the analysis of the impact PSD has on attitude change and the variables that have a relationship with attitudes.
- a. Are there other variables that have a relationship with attitudes toward inclusion that have yet to be explored?
 - b. How are students defining “disability” in the demographic portion of the survey?
 - c. What are the details of the contact experiences that students have had related to having a family member, friend, or classmate with a disability?
 - d. How can narrative stories, interviews, and student reflection journals qualify the impact of the PSD intervention?
5. Consider not just the components of contact theory (the “what”), but also the processes that bring to term and qualify the effects of the components (the “why”) of contact theory.
- a. Operationalize the qualifying processes of the four contact theory components as related to PSD.
6. Investigate the longevity of attitude change as a result of experiencing PSD after a

longer time lapse, or a series of time intervals.

- a. Will attitudes change or remain in place after three months, six months, one year, or many years as a result of the PSD experience?
 - b. What contributing variables could impact the longevity of attitude change?
 - c. What curricular or school-wide follow-up activities could support the continuity of attitude change?
7. Investigate the PSD intervention effect in regard to the inclusion of students with other disability types (not just in regard to the inclusion of a student in a wheelchair).
 - a. Consider if the types of disabilities of the Paralympic athletes leading the activities should align with the hypothetical disability on the survey.
8. Determine the impact of professional development workshops, pre-service teacher training, and in-service teacher training on the implementation of PSD using the components of contact theory, and in turn on the attitude change of students experiencing the program.
 - a. How can professional development experiences, pre-service teacher training, and in-service training be designed and implemented to increase the use of the PSD curriculum and ensure the use of the theoretical components?
9. Consider whether student attitudes toward participating in physical education, the type of physical education program, or both are related to student attitudes toward supporting inclusion in physical education and the success of the PSD intervention.

10. Replicate the athlete selection and screening process, using variables that contribute to the “fit” of the athletes, to offer additional insight on the importance of athlete “fit” to the execution of the PSD intervention.

Conclusion

This study investigated the impact of a sport-focused disability awareness program, Paralympic School Day (PSD), on changing attitudes of students without disabilities toward the inclusion of students with disabilities in physical education, including exploration of the theoretical underpinnings of the curriculum. The major findings of this study were (a) the PSD program had a statistically significant positive impact on the attitudes of students without disabilities toward the inclusion of students with disabilities in the physical education setting, (b) gender did not have a significant impact on attitude change, (c) competitiveness at the “very high” significantly impacted attitudes in a negative manner on the Inclusion subscale of the CAIPE-R, (d) family contact and general education contact significantly impacted attitudes in a negative manner on the Sport Modification subscale of the CAIPE-R, (e) the PSD program satisfied the four components of Allport’s (1954) contact theory, and (f) the longevity of attitude change was significant on the Adjective Checklist retention measure and the CAIPE-R Inclusion subscale retention measure.

Adapted physical education research indicates that one of the most important variables in successful inclusion practice is the attitude of the peer group, emphasizing the instrumental role that peers without disabilities play in the experiences of students with disabilities (Block, 2007; Block et al., 1995; Sherrill et al., 1994; Sherrill, 1998; Tripp et al., 1998; Tripp & Sherrill, 1991). Further research should be conducted to

confirm the findings of the current study, including confirmation of the one-factor model of the Fidelity Criteria instrument for Allport's (1954) contact theory. Further research should also extend the use of the PSD curriculum to gain a comprehensive understanding of the attitudes of students without disabilities toward the inclusion of peers with disabilities in physical education.

REFERENCES

- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago, IL: Dorsey.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *A handbook of social psychology* (pp. 793-844). Worcester, MA: Clark University Press.
- Allport, G. W. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.
- Allport, G. W. (1979). *The nature of prejudice* (25th anniversary ed.). Reading, MA: Addison-Wesley.
- Amir, Y. (1969). Contact hypothesis in ethnic relations. *Psychological Bulletin*, 71, 319-342.
- Antonak, R., & Livneh, H. (1988). Studies of attitudes toward the handicapped: The need for a new direction. *Social Problems*, 28, 321-337.
- Antonak, R., & Livneh, H. (2000). Measurement of attitudes towards persons with disabilities. *Disability & Rehabilitation*, 22, 211-224.

- Arampatzi, A., Mouratidou, K., Evaggelinou, C., Koidou, E., & Barkoukis, V. (2011). Social developmental parameters in primary schools: Inclusive settings' and gender differences on pupils' aggressive and social insecure behavior and their attitudes towards disability. *International Journal of Special Education*, 26(2), 58-69.
- Archie, V. W., & Sherrill, C. (1989). Attitudes toward handicapped peers of mainstreamed and nonmainstreamed children in physical education. *Perceptual & Motor Skills*, 69(1), 319-322.
- Aronson, E., & Thibodeau, R. (1992). The jigsaw classroom: A cooperative strategy for reducing prejudice. In J. Lynch, C. Modgil, and S. Modgil (Eds.), *Cultural diversity in the schools*. London, England: Falmer Press.
- Assistance to States for the Education of Children with Disabilities, 34 C. F. R. § 300.307 (2006).
- Association of Middle Level Education (AMLE) formerly known as the National Middle School Association (NMSA). (2010). *This we believe: Keys to educating young adolescents*. Westerville, OH: NMSA/AMLE.
- Bagley, M., & Green, J. (1981). *Peer attitudes toward the handicapped scale*. Austin, TX: PRO-ED.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, 44, 1175-1184.

- Bandura, A., & Walters, R. (1963). *Social learning and personality development*. New York, NY: Holt, Rinehart and Winston.
- Banks, C. A., & Banks, J. A. (1995). Equity pedagogy: An essential component of multicultural education. *Theory into Practice*, (34)3, 152-158.
- Barr, J. J., & Bracchita, K. (2008). Effects of contact with individuals with disabilities: Positive attitudes and majoring in education. *Journal of Psychology*, 142(3), 225-243.
- Bax, M. (1999). Joining the mainstream. *Developmental Medicine and Child Neurology*, 41(3), 3.
- Berg, B. (1989). *Qualitative research methods for the social sciences*. Needham Heights, MA: Allyn & Bacon.
- Bell, S. K., & Morgan, S. B. (2000). Children's attitudes and behavioral intentions toward a peer presented as obese: Does a medical explanation for the obesity make a difference? *Journal of Pediatric Psychology*, 25(3), 137-145.
- Biddle, S., & Chatzisarantis, N. (1999). Motivation for a physically active lifestyle through physical education. In Y. V. Auweele, F. Bakker, S. Biddle, M. Durand, & R. Seller (Eds.), *Psychology for physical educators* (pp. 5-26). Champaign, IL: Human Kinetics.

- Blinde, E. M., & McCallister, S. G. (1998). Listening to the voices of students with physical disabilities. *Journal of Physical Education, Recreation, and Dance*, 69(6), 64-68.
- Block, M. E. (1995). Development and validation of the children's attitudes toward integrated physical education-revised (CAIPE-R) inventory. *Adapted Physical Activity Quarterly*, 12(1), 60-77.
- Block, M. E. (2007). *A teacher's guide to including students with disabilities in general physical education* (3rd ed.). Baltimore, MD: Paul H. Brookes.
- Block, M. E., & Malloy, M. (1998). Attitudes on inclusion of a player with disabilities in a regular softball league. *Mental Retardation*, 36(2), 137-144.
- Block, M. E., Oberweiser, B., & Bain, M. (1995). Using classwide peer tutoring to facilitate inclusion of students with disabilities in regular physical education. *The Physical Educator*, 52, 47-56.
- Block, M. E., & Obrusnikova, I. (2007). Inclusion in physical education: A review of the literature from 1995-2005. *Adapted Physical Activity Quarterly*, 24(2), 103-124.
- Block, M. E., & Vogler, E. W. (1994). Inclusion in regular physical education: The research base. *Journal of Physical Education, Recreation and Dance*, (65)1, 40-44.
- Block, M. E., & Zeman, R. (1996). Including students with disabilities in regular physical education: Effects on nondisabled children. *Adapted Physical Activity Quarterly*, 13(1), 38-49.

- Bossaert, G., Colpin, H., Pijl, S. J., & Petry, K. (2011). The attitudes of Belgian adolescents towards peers with disabilities. *Research in Developmental Disabilities*, 32(2), 504-509.
- Brook, U., & Galili, A. (2000). Knowledge and attitudes of high school pupils towards children with special health care needs: An Israeli exploration. *Patient Education and Counseling*, 40(1), 5-10.
- Bruner, J. S. (1961). The act of discovery. *Harvard Educational Review*, 31(1), 21-32.
- Bunker, L. K. (1994). Virtual reality: Movement's centrality. *Quest*, 46, 456-474.
- Campbell, J. M. (2006). Changing children's attitudes toward autism: A process of persuasive communication. *Journal of Developmental & Physical Disabilities*, 18(3), 251-272.
- Campbell, J., Ferguson, J., Herzinger, C., Jackson, J., & Marino, C. (2005). Peers' attitudes toward autism differ across sociometric groups: An exploratory investigation. *Journal of Developmental & Physical Disabilities*, 17(3), 281-298.
- Cohen, E. G., & Lotan, R. A. (1995). Producing equal-status interaction in the heterogeneous classroom. *American Educational Research Journal*, 32(1), 99-120.
- Cohen, E., G., & Lotan, R. A. (2004). Equity in heterogeneous classrooms. In J. A. Banks & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (2nd ed., pp. 736-752). San Francisco, CA: Jossey-Bass.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum.
- Corrigan, P. W., River, L. P., Lundin, R. K., Penn, D. L., Uphoff-Wasowski, K., & Campion, J., et al. (2001). Three strategies about changing attitudes about schizophrenia. *Schizophrenia Bulletin*, 27(2), 187-195.
- Davis, R. W. (2011). *Teaching disability sport: A guide for physical educators* (2nd ed.). Chicago, IL: Human Kinetics.
- Derman-Sparks, L., & A.B.C. Task Force (1998). *Anti-bias curriculum: Tools for empowering young children*. Washington, DC: NAEYC.
- Donaldson, J. (1980). Changing attitudes toward handicapped persons: A review and analysis of research. *Exceptional Children*, 45, 504-514.
- Dorries, B., & Haller, B. (2001). The news of inclusive education: A narrative analysis. *Disability and Society*, 16(6), 871-891.
- Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). Intergroup contact: The past, present, and the future. *Group Processes and Intergroup Relations*, 6, 5-21.
- Ellery, P. J., & Rauschenbach, J. (2000). Impact of disability awareness activities on nondisabled student attitudes toward integrated physical education with students who use wheelchairs. *Research Quarterly for Exercise and Sport*, 71(Suppl. 1), A106.

- Ellis, D. N., Wright, M., & Cronis, T. G. (1996). A description of the instructional social interactions of students with mental retardation in regular physical education settings. *Education and Training in Mental Retardation and Developmental Disabilities, 31*, 235-241.
- Erdfelder, E., Faul, F., & Buchner, A. (1996). GPOWER: A general power analysis program. *Behavior Research Methods, Instruments, & Computers, 28*, 1-11.
- Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191.
- Favazza, P. C., LaRoe, J., & Odom, S. L. (1999). *Special friends: A manual for creating accepting environments*. Boulder, CO: Roots & Wings.
- Favazza, P. C., & Odom, S. L. (1996). Use of the acceptance scale to measure attitudes of kindergarten-age children. *Journal of Early Intervention, 20*(3), 232-48.
- Favazza, P. C., & Odom, S. L. (1997). Promoting positive attitudes of kindergarten-age children toward people with disabilities. *Exceptional Children, 63*, 405-418.
- Ferguson, J. M. (1999). High school students' attitudes toward inclusion of handicapped students in the regular education classroom. *Educational Forum, 63*(2), 173-179.
- Festinger, L. (1957). *A theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

- Field, A. (2005). *Discovering statistics using SPSS* (2nd ed.). London, England: Sage.
- Fishbein, M. (Ed.). (1967). *Readings in attitude theory and measurement*. New York, NY: John Wiley and Sons.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Fisher, R. J. (1993). Social desirability bias and the validity of indirect questioning. *Journal of Consumer Research*, (20)2, 303-315.
- Florian, V., & Kehat, D. (1987). Changing high school students' attitudes toward disabled people. *Health & Social Work*, 12, 57-63.
- Foley, J. M. (1979). Effect of labeling and teacher behavior on children's attitudes. *American Journal of Mental Deficiency*, 83, 380-384.
- Gillespie, M. (2002). Attitudes of university students toward an integrated campus recreation program. *Palaestra*, 18(3), 27-31.
- Glaser, B. G. (1998). *Doing grounded theory: Issues and discussions*. Mill Valley, VA: Sociology Press.
- Goodwin, D. L. (2001). The meaning of help in PE: Perceptions of students with physical disabilities. *Adapted Physical Activity Quarterly*, 18(3), 289-303.

- Goodwin, D. L., & Watkinson, E. J. (2000). Inclusive physical education from the perspective of students with physical disabilities. *Adapted Physical Activity Quarterly*, 17(2), 144-160.
- Green, C. D. (1992). Of immortal mythological beasts: Operationism in Psychology. *Theory & Psychology*, 2, 291-320.
- Hastad, D. N., & Lacy, A. C. (1998). *Measurement and evaluation in physical education and exercise science* (3rd ed.). Needham Heights, MA: Allyn & Bacon.
- Herek, G. M., & Capitanio, J. P. (1996). Some of my best friends: Intergroup contact, concealable stigma, and heterosexuals' attitudes toward gay men and lesbians. *Personality and Social Psychology Bulletin*, 22, 412-424.
- Holtz, K., & Tessman, G. (2007). Evaluation of a peer-focused intervention to increase knowledge and foster positive attitudes toward children with Tourette Syndrome. *Journal of Developmental and Physical Disabilities*, 19(6), 531-542.
- Horace Mann School (2012). *Horace Mann School faculty handbook*. (Available with faculty log-in from <https://www.horacemann.org>)
- Horne, M. (1985). *Attitudes toward handicapped students: Professional, peer, and parent reactions*. Hillsdale, NJ: Erlbaum.
- Horne, M. (1988). Modifying peer attitudes toward the handicapped: Procedures and research issues. In H. E. Yuker (Ed.), *Attitudes toward persons with disabilities* (pp. 203-222). New York, NY: Springer.

- Houston-Wilson, C., Dunn, J. M., van der Mars, H., & McCubbin, J. (1997). The effect of peer tutors on motor performance in integrated physical education classes. *Adapted Physical Activity Quarterly*, 14, 298-313.
- Hulleman, C. S., & Cordray, D. (2009). Moving from the lab to the field: The role of fidelity and achieved relative intervention strength. *Journal of Research on Intervention Effectiveness*, 2(1), 88-110.
- Hutzler, Y. (2003). Attitudes toward the participation of individuals with disabilities in physical activity: A review. *Quest*, 55(4), 247-373.
- Hutlzer, Y., Fliess, O., Chacham, A., & Van den Auweele, Y. (2002). Perspectives of children with physical disabilities on inclusion and empowerment: Supporting and limiting factors. *Adapted Physical Activity Quarterly*, 19, 300-317.
- Hutzler, Y., Fliess-Douer, O., Avraham, A., Reiter, S., & Talmor, R. (2007). Effects of short-term awareness interventions on children's attitudes toward peers with a disability. *International Journal of Rehabilitation Research*, 30(2), 159-161.
- International Paralympic Committee (IPC; 2007). *Paralympic School Day Project Report*. Retrieved August 14th, 2012, from www.changemakers.com.
- International Paralympic Committee (IPC; 2006). *Paralympic School Day Manual*. Retrieved August 14th, 2012, from <http://www.paralympic.org/TheIPC/WWD/ParalympicSchoolDay>

- Jellison, J. A., & Taylor, D. M. (2007). Attitudes toward inclusion and students with disabilities: A review of three decades of music research. *Bulletin of the Council for Research in Music Education*, (172), 9-24.
- Jesina, O., Lucas, S., Kudlacek, M., Janecka, Z., Machova, I., & Wittmannova, J. (2006). Effect of an intervention program on attitudes of elementary school children toward inclusion of children with disability. *Proceedings of the 8th European Conference of Adapted Physical Activity, Czech Republic*, Faculty of physical culture: Palacky University, Olomouc.
- Jones, R. L. (1984). *Attitudes and attitude change in special education: Theory and practice*. Reston, VA: The Council for Exceptional Children.
- Jordan, J. E., & Cessna, W. C. (1969). A comparison of attitudes of four occupational groups toward education and toward physically disabled persons in Japan. *Journal of Social Psychology*, 78(2), 283-284.
- Kalymon, K., Gettinger, M., & Hanley-Maxwell, C. (2010). Middle school boys' perspectives on social relationships with peers with disabilities. *Remedial and Special Education*, 31(4), 305-316.
- Kalyvas, V., & Reid, G. (2003). Sport adaptation, participation, and enjoyment of students with and without physical disabilities. *Adapted Physical Activity Quarterly*, 20(2), 182.

- Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion Quarterly*, 24(2), 163-204.
- Kelly, L. E., & Melograno, V. J. (2004). *Developing the physical education curriculum: an achievement-based approach*. Champaign, IL: Human Kinetics.
- Kendler, H. H. (1983). Operationism: A recipe for reducing confusion and ambiguity. *Journal of Mind and Behavior*, 4, 91-97.
- Kimble, G. A. (1989). Psychology from the standpoint of a generalist. *American Psychologist*, 44, 491-499.
- Kirk, R. E. (1982). *Experimental design: Procedures for the behavioral sciences* (2nd ed.). Belmont, CA: Brooks/Cole.
- Kisabeth, K. L., & Richardson, D. B. (1985). Changing attitudes toward disabled individuals: The effect of one disabled person. *Therapeutic Recreation Journal*, 19(2), 24-33.
- Kliewer, C. (1998). The meaning of inclusion. *Mental Retardation*, 36(4), 317-322.
- Levene, H. (1960). Robust tests for equality of variances. In I. Olkin, S. G. Ghurye, W. Hoeffding, W. G. Madow, & H. B. Mann (Eds.), *Contributions to probability and statistics: Essays in honor of Harold Hotelling* (pp. 278-292). Stanford University Press: Palo Alto, California.

- Liberman, L. J., Dunn, J. M., van der Mars, H., & McCubbin, J. (2000). Peer tutors' effects on activity levels of deaf students in inclusive elementary physical education. *Adapted Physical Activity Quarterly*, 17, 20-39.
- Lisboa, F. L. F. (1997). Interaction and social acceptance of children with autism in physical education. *Brazilian International Journal of Adapted Physical Education Research*, 4, 1-14.
- Liu, Y., Kudlacek, Y., & Jesina, O. (2010). The influence of Paralympic School Day on children's attitudes towards people with disabilities. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 40(2), 63-69.
- Llewellyn, A., (2000). Perceptions of mainstreaming: A systems approach. *Developmental Medicine and Child Neurology*, 42, 106-115.
- Lockhart, R. C., French, R., & Gench, B. (1998). Influence of empathy training to modify attitudes of normal children in physical education toward peers with physical disabilities. *Clinical Kinesiology*, 52(2), 35-41.
- Lomax, R. G. (2001). *An introduction to statistical concepts for education and behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Loovis, E. M., & Loovis, C. L. (1997). A disability awareness unit in physical education and attitudes of elementary school students. *Perceptual & Motor Skills*, 84(3), 768-770.

- Marom, M., Cohen, D., & Naon, D. (2007). Changing disability-related attitudes and self-efficacy of Israeli children via the Partners to Inclusion Programme. *International Journal of Disability, Development, and Education*, 54(1), 113-127.
- McManus, J., Feyes, K., & Saucier, D. (2010). Contact and knowledge as predictors of attitudes toward individuals with intellectual disabilities. *Journal of Social and Personal Relationships*. 28(3), 26-37.
- Mickel, J., & Griffin, J. (2007). *Inclusion and disability awareness training for educators*. Retrieved September 21st, 2012 from the National Association for the Education of Young Children Website:
<http://journal.naeyc.org/btj/200707/pdf/Mickel.pdf>
- Modell, S. J. (2007). Student perceptions about sports for persons with physical disabilities - an exploratory study. *Palaestra*, 23(3), 32-37.
- Morgan, S.B., Walker, M., Bieberich, A., & Bell, S. (1996). *The shared activity questionnaire*. Unpublished manuscript, University of Memphis, Memphis, TN.
- Mowbray, C., Holter, M. C., Teague, G. B., & Bybee, D. (2003). Fidelity criteria: Development, measurement, and validation. *American Journal of Evaluation*, 24, 315-340.
- Murata, N. M., Hodge, S. R., & Little, J. R. (2000). Students' attitudes, experiences, and perspectives on their peers with disabilities. *Clinical Kinesiology*, 54(3), 59-66.

- Murata, N. M., & Jansma, P. (1997). Influence of support personnel on students with and without disabilities in general physical education. *Clinical Kinesiology*, 54, 59-66.
- Muthén, L. K., & Muthén, B. O. (1998-2012). *Mplus User's Guide. Seventh Edition*. Los Angeles, CA: Authors.
- Nowicki, E. A., & Sandieson, R. (2002). A meta-analysis of school-age children's attitudes towards persons with physical or intellectual disabilities. *International Journal of Disability, Development and Education*, 49, 243-265.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York, NY: McGraw Hill.
- Obrusnikova, I., Valkova, H., & Block, M. E. (2003). Impact of inclusion in general physical education on students without disabilities. *Adapted Physical Activity Quarterly*, 20(3), 230-245.
- Obrusnikova, I., Block, M., & Dillon, S. (2010). Children's beliefs toward cooperative playing with peers with disabilities in physical education. *Adapted Physical Activity Quarterly*, 27(2), 127-142.
- Odom, S. I., McConnell, S. R., & McEvoy, M. A. (1992). Peer-related social competence and its significance for young children with disabilities. In S. I. Odom, S. R. McConnell, & M. A. McEvoy (Eds.), *Social competence of young children with disabilities: Nature, development and intervention* (pp. 3-35). Baltimore: Paul H. Brookes Publishing Co.

- O'Donnell, C. L. (2008). Defining, conceptualizing, and measuring fidelity of implementation and its relationship to outcomes in K-12 curriculum intervention research. *Review of Educational Research*, 78(1), 33-84.
- Official Website of the Paralympic Movement (n.d.a). *The IPC- What We Do: Education*. Retrieved August 14, 2012, from <http://www.paralympic.org/TheIPC/WWD/Education>
- Official Website of the Paralympic Movement (n.d.b). *The IPC - What We Do: Paralympic School Day*. Retrieved August 14, 2012 from <http://www.paralympic.org/TheIPC/WWD/ParalympicSchoolDay>
- Olson, J. M., & Zanna, M. P. (1993). Attitudes and attitude change. *Annual Review of Psychology*, 44, 117-154.
- Ormrod, J. E. (2008). *Educational Psychology: Developing Learners* (6th ed.). Upper Saddle River, NJ: Pearson.
- Pallant, J., (2011). *SPSS survival manual: A step by step guide to using SPSS* (4th ed.). Crows Nest, NSW, Australia: Allen & Unwin.
- Panagiotou, A. K., Evaggelinou, C., Doukeridou, A., Mouratidou, K., & Koidou, E. (2008). Attitudes of 5th and 6th grade Greek students toward the inclusion of children with disabilities in physical education classes after a Paralympic education program. *European Journal of Adapted Physical Activity*, 1(2), 31-43.

- Patton, M. Q. (1990). *Qualitative evaluation and research methods*. Newbury Park, CA: Sage.
- Pettigrew, T. F. (1971). *Racially separate or together?* New York, NY: McGraw Hill.
- Pettigrew, T. F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49, 65-85.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783.
- Piaget, J. (1932). *The moral judgment of the child*. New York, NY: Free Press.
- Place, K., & Hodge, S. R. (2001). Social inclusion of students with physical disabilities in GPE: A behavioral analysis. *Adapted Physical Activity Quarterly*, 18, 389-404.
- Raabe, B. (1994). Disability awareness programs resource guide. Revised. Phoenix, AZ: Arizona Department of Education, Division of Special Education.
- Rapier, J., Adelson, R., Carey, R., & Croke, K. (1972). Changes in children's attitudes toward the physically handicapped. *Exceptional Children*, (39), 219-233.
- Reid, G. (1992). Editorial. *Adapted Physical Activity Quarterly*, 9, 1-4.
- Reina, R., Lopez, V., Jimenez, M., Garcia-Calvo, T., & Hutzler, Y. (2011). Effects of awareness interventions on children's attitudes toward peers with a visual impairment. *International Journal of Rehabilitation Research*, 34(3), 243-248.

- Ribes-Inesta, E. (2003). What is defined in operational definitions? The case of operant psychology. *Behavior and Philosophy*, 31, 111-126.
- Rillotta, F., & Nettelbeck, T. (2007). Effects of an awareness program on attitudes of students without an intellectual disability towards persons with an intellectual disability. *Journal of Intellectual & Developmental Disabilities*, 32(1), 19-27.
- Rimm-Kaufman, S. E., Voorhees, M. D., Snell, M. E., & La Paro, K. M. (2003). Improving the sensitivity and responsivity of preservice teachers toward young children with disabilities. *Topics in Early Childhood Special Education*, 23(3), 151-162.
- Roberts, C. M., & Lindsell, J. S. (1997). Children's attitudes and behavioral intentions towards peers with disabilities. *International Journal of Disability, Development and Education*, 44(2), 133-145.
- Rogers, J. (1993). The inclusion revolution. *Phi Delta Kappa Research Bulletin*, 11(4), 1-6.
- Rosenbaum, P., Armstrong, R., & King, S. (1986). Children's attitudes toward disabled peers: A self-report measure. *Journal of Pediatric Psychology*, (11), 517-530.
- Rosenberg, M. J., & Hovland, C. I. (Eds.). (1960). *Attitude organization and change: An analysis of consistency among attitude components*. New Haven, CT: Yale University Press.

- Rosenwald, G. C. (1986). Why operationism won't go away: Extra-scientific incentives of social-psychological research. *Philosophy of the Social Sciences*, 16, 303-330.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43, 450-461.
- Sable, J. R. (1995). Efficacy of physical integration, disability awareness, and adventure programming on adolescents' acceptance of individuals with disabilities. *Therapeutic Recreation Journal*, 29(3), 206-217.
- Safran, S. P. (2000). Using movies to teach students about disabilities. *Teaching Exceptional Children*, 32(3), 44-47.
- Schwartz, L. K., & Simmons, J. P. (2001). Contact quality and attitudes toward the elderly. *Educational Gerontology*, 27(2), 127-137.
- Schofield, J. W. (1995). Improving intergroup relations among students. In J. A. Banks & C. A. M. Banks (Eds.), *Handbook of research on multicultural education* (pp. 635-646). New York, NY: Simon and Schuster MacMillan.
- Sebba, J., & Sachdev, D. (1997). *What works in inclusive education?* Ilford, UK: Barnardos.
- Shaw, M. E., & Wright, J.M. (1967). *Scales for the measurement of attitudes*. New York, NY: McGraw-Hill.

Sherrill, C. (1997). Editorial: Past, present, future. *Adapted Physical Activity Quarterly*, 14, 1-7.

Sherrill, C. (1998). *Adapted physical activity, recreation, and sport: Crossdisciplinary and lifespan*. (5th ed.). Boston, MA: WCB/McGraw-Hill.

Sherrill, C., & O'Conner, J. (1999). Guidelines for improving adapted physical activity research. *Adapted Physical Activity Quarterly*, 16, 1-8.

Sherrill, C., Heikinaro-Johansson, P., & Slininger, D. (1994). Equal-status relationships in the gym. *Journal of Physical Education, Recreation and Dance*, 65(1), 27-31.

Sigelman, C. K., Miller, T. E., & Whitworth, L. A. (1986). The early development of stigmatizing reactions to physical differences. *Journal of Applied Developmental Psychology*, 7, 17-32.

Sigelman, L., & Welch, S. (1993). The contact hypothesis revisited: Black-White interaction and positive racial attitudes. *Social Forces*, 71, 781-795.

Siller, J., Ferguson, L., Vann, D. H., & Holland, B. (1967). *Studies in reactions: XII. Structure of attitudes toward the physically disabled: Disability factor scales: Amputation, blindness, cosmetic conditions*. New York, NY: New York University, School of Education.

Siperstein, G. N. (1980) *Instruments for measuring children's attitudes toward the handicapped*. Boston, MA: Center for Human Services, University of Massachusetts.

- Siperstein, G. N. (2006). Adjective Checklist (ACL). In N. Salkind (Ed.), *Encyclopedia of measurement and statistics* (pp. 12-14). Thousand Oaks, CA: Sage Publications.
- Siperstein, G. N., & Bak, J. (1977). *Instruments to measure children's attitudes toward the handicapped: Adjective Checklist and Activity Preference List*. Unpublished manuscript, University of Massachusetts, Boston, MA.
- Siperstein, G. N., Parker, R. C., Bardon, J. N., & Wildaman, K. F. (2007). A national study of youth attitudes toward the inclusion of students with intellectual disabilities. *Exception Children*, 73, 435-455.
- Skinner, B. F. (1945). The operational analysis of psychological terms. *Psychological Review*, 52(5), 270-277.
- Slavin, R. E. (1980). Cooperative learning in teams: State of the art. *Educational Psychologist*, 15, 93-111.
- Slininger, D., Sherrill, C., & Jankowski, C. M. (2000). Children's attitudes toward peers with severe disabilities: Revisiting contact theory. *Adapted Physical Activity Quarterly*, 17, 435-455.
- Snedecor, G. W., & Cochran, W. G. (1989). *Statistical Methods* (8th ed.). Ames, IA: Iowa State University Press.
- Speakman, H., & Hoffman, C. (1979). The "fakeability" of the attitudes toward the disabled person scale: Form B. *Physical Therapy*, 59, 866-868.

- Stainback, W., & Stainback, S. (1996). *Inclusion: A guide for educators*. Baltimore: Paul H. Brookes.
- Stainback, W., Stainback, S., & Jackson, H. J. (1992). Toward inclusive classrooms. In S. Stainback & W. Stainback (Eds.), *Curriculum considerations in inclusive classrooms* (pp. 3-17). Baltimore, MD: Brookes.
- StatSoft, Inc. (2013). *Electronic Statistics Textbook*. Tulsa, OK: StatSoft. Retrieved January 12th, 2013 from <http://www.statsoft.com/textbook/>
- Stevens, J. P. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Stewart, C. C. (1988). Modification of student attitudes toward disabled peers. *Adapted Physical Activity Quarterly*, 5(1), 44-48.
- Strom, M. S. (1994). *Facing history and ourselves: Holocaust and human behavior: Resource Book*. Brookline, MA: Facing History and Ourselves National Foundation.
- Sutlive, V. H., & Ulrich, D. A. (1998). Interpreting statistical significance and meaningfulness in adapted physical activity research. *Adapted Physical Activity Quarterly*, 15, 103-118.
- Swafford, J. O., Jones, G. A., & Thornton, C. A. (1997). Increased knowledge in geometry and instructional practice. *Journal for Research in Mathematics Education*, 28(4), 467-483.

- Swaim, K. F., & Morgan, S. B. (2001). Children's attitudes and behavioral intentions toward a peer with Autistic behaviors: Does a brief educational intervention have an effect? *Journal of Autism and Developmental Disorders* 31(2), 195-205.
- Thomas, W. I., & Znaniecki, F. (1918). *The Polish peasant in Europe and America* (Vol. 1). Boston, MA: Badger.
- Thorndike, R. M. (1997). *Measurement and evaluation in psychology and education* (6th ed.). Upper Saddle River, NJ: Prentice Hall, Inc.
- Tinsley, H. E., & Tinsley, D. J. (1987). Use of factor analysis in counseling psychology research. *Journal of Counseling Psychology*, 34(4), 414-424.
- Tirosh, E., Schanin, M., & Reiter, S. (1997). Children's attitudes toward peers with disabilities: the Israeli perspective. *Developmental Medicine & Child Neurology* (39), 811-814.
- Towner, A. G. (1984). Modifying attitudes toward the handicapped: A review of the literature and methodology. In R. L. Jones (Ed.), *Attitude and attitude change in special education: Theory and practice* (pp. 223-257). Reston, VA: The Council for Exceptional Children.
- Townsend, M., & Hassall, J. (2007). Mainstream students' attitudes to possible inclusion in unified sports with students who have an intellectual disability. *Journal of Applied Research in Intellectual Disabilities*, 20(3), 265-273.

- Townsend, M. A., Wilton, K. M., & Vakilrad, T. (1993). Children's attitudes toward peers with intellectual disability. *Journal of Intellectual Disability Research*, 37, 405-411.
- Triandis, H. C. (1971). *Attitude and attitude change*. New York, NY: John Wiley and Sons.
- Triandis, H. C., Adampoulos, J., & Brinberg, D. (1984). Perspectives and issues in the study of attitudes. In R. L. Jones (Ed.), *Attitudes and attitude change in special education: Theory and practice* (pp. 21-40). Reston, VA: The Council for Exceptional Children.
- Tripp, A., French, R., & Sherrill, C. (1995). Contact theory and attitudes of children in physical education programs toward peers with disabilities. *Adapted Physical Education Quarterly*, 12, 323-332.
- Tripp, A., & Sherrill, C. (1991). Attitude theories of relevance to adapted physical education. *Adapted Physical Activity Quarterly*, 8(1), 12-27.
- Trochim, W., & Donnelly, J. (2007). *Research methods knowledge base* (3rd ed.). Mason, OH: Atomic Dog.
- U.S. Department of Education, National Center for Education Statistics (2012). *Digest of Education Statistics, 2011* (NCES 2012-001), Chapter 2. Retrieved October 30, 2012, from <http://nces.ed.gov/fastfacts/display.asp?id=59>
- Underwood, B. J. (1957). *Psychological research*. New York: Appleton-Century-Crofts.

- Van Biesen, D., Busciglio, A., & Vanlandewijck, Y. (2006). Attitudes towards inclusion of children with disabilities: The effect of the implementation of a Paralympic School Day on Flemish elementary children. *Proceedings of the 8th European Conference of Adapted Physical Activity, Czech Republic*. Faculty of the physical culture: Palacky University, Olomouc.
- Verderber, J. M., Rizzo, T. L., & Sherrill, C. (2003). Assessing student intention to participate in inclusive physical education. *Adapted Physical Activity Quarterly*, 20(1), 26.
- Verdugo, M. A., Jenaro, C., Arias, B. (1994). *Actitudes hacia las personas con minusvalia [Attitudes towards persons with disabilities]*. Madrid, Spain: Imsero.
- Vignes, C., Coley, N., Grandjean, H., Godeau, E., & Arnaud, C. (2008). Measuring children's attitudes towards peers with disabilities: A review of instruments. *Developmental Medicine and Child Neurology*, 50, 182-189.
- Vignes, C., Godeau, E., Sentenac, M., Coley, N., Navarro, F., Grandjean, H., et al. (2009). Determinants of students' attitudes towards peers with disabilities. *Developmental Medicine & Child Neurology*, 51(6), 473-479.
- Weiner, B. (1990). History of motivation research. *Journal of Educational Psychology*, (82), 616-622.
- Weiss, C. H. (1998). *Evaluation: Methods for studying programs and policies*. Upper Saddle River, NJ: Prentice Hall.

- Wentzel, K. R., (1997). Student motivation in middle school: The role of perceived pedagogical caring. *Journal of Educational Psychology*, (89), 411-419.
- Wilczenski, F. L. (1995). Development of a scale to measure attitudes toward inclusive education. *Educational & Psychological Measurement*, 55, 291-299.
- Wilhite, B., Mushett, C. A., Goldenberg, L., & Trader, B. R. (1997). Promoting inclusive sport and leisure participation: Evaluation of the Paralympic day in the schools model. *Adapted Physical Activity Quarterly*, 14(2), 131-146.
- Williams-Boyd, P. (2003). *Middle grades education: A reference handbook*. Santa Barbara, CA: ABC-CLIO.
- Xafopoulos, G., Kudlacek, M., & Evaggelinou, C. (2009). Effect of the intervention program “Paralympic School Day” on attitudes of children attending international school towards inclusion of students with disabilities. *Acta Universitatis Palackianae Olomucensis. Gymnica*, 39(4), 63-71.
- Yude, C., & Goodman, R. (1999). Peer problems of 9- to 11-year old children with hemiplegia in mainstream schools. Can these be predicted? *Developmental Medicine and Child Neurology*, 41, 4-8.
- Yuker, H. Y. (1988). The effects of contact on attitudes toward disabled persons: Some empirical generalizations. In H. Y. Yuker (Ed.), *Attitudes toward persons with disabilities* (pp. 261-272). New York, NY: Springer.

Yuker, H. E., & Block, J. R. (1986). *Research with the Attitude Toward Disabled Persons Scales (ADTP) 1960-1985*. Hempstead, NY: Hofstra University Center for the Study of Attitudes toward Persons with Disabilities.

Yuker, H.E., Block, J., & Youngg, J. (1966). *The measurement of attitudes toward the disabled person*. Albertson, NY: Human Resources Center.

APPENDICES

APPENDIX A

The Development of the Paralympic School Day Program

The creation of the PSD program began in 2004, when the IPC and the European Paralympic Committee (EPC) received a grant from the European Union and initiated a two-year PSD pilot project in Europe (IPC, 2007). The main objective of the pilot project was to create the PSD materials so that schools in Europe could implement the PSD program independently. The foundation of the grant was the overall belief that youth without disability will increase their awareness and understanding when they are informed about the lives and actions of persons with a disability (IPC, 2007).

Project partners for the grant project included the European Paralympic Committee; Catholic University of Leuven, Belgium; University of Olomouc, Czech Republic; University of Koblenz, Germany; Aristotle University of Thessaloniki, Greece; Latvian Disabled Children's and Youth Sport Federation, Latvia; and Swedish Development Center for Disability Sport, Sweden (IPC, 2007). Including these diverse partners was purposeful, as grant writers were seeking a broad and interdisciplinary approach to the program.

During the first phase, cultural and educational differences were taken into consideration as the pilot program was created (IPC, 2007). At the end of this first phase, teachers from participating schools and organizations took part in a training seminar about PSD that outlined the theoretical framework of the PSD concept (IPC, 2007).

During the second phase, the project was implemented, with 35 PSDs being conducted in six countries, reaching 5,000 children. According to the PSD Project Report, "children listened to stories from sportsmen with a disability, looked at sport

activities on video, participated in adapted physical activities, games, and sports, and experienced the potential accessibility of their schools.” (IPC, 2007, p. 5). The following three examples are summaries from PSD activities that were implemented during this second phase (IPC, 2007):

1. Greece: Children participated in a variety of Paralympic sport activities including boccia, goalball, sitting volleyball, and wheelchair basketball. Sessions were led by former and active Paralympic athletes who served as role models. Activities also included experiences from areas such as classification, human rights, and understanding disability.
2. Latvia: Children participated in boccia, goalball, sitting volleyball and wheelchair basketball alongside a Paralympic athlete. In addition, the athlete spoke about his experiences, inspiring the students and educating about his background.
3. Czech Republic: Children participated in wheelchair mobility, blind orienteering, and track and field events. Educational videos were used to supplement the activities. Czech Paralympians provided an inside view into the life of a Paralympic athlete.

Also during this second phase, key partnerships were developed among the Ministry of Education, elementary schools, the National Paralympic Committees involved, the sport federations for the disabled, disability advocacy groups, and the regional Paralympic committees (IPC, 2007). In addition, a PSD website was created to connect the participating nations online in a global manner during the second phase (IPC, 2007).

During the third and final phase, the resource kit was created that included the PSD manual, PSD activity cards, and a PSD DVD (IPC, 2007). The materials were

created with teacher flexibility in mind, providing a wealth of information to assist in the preparation and execution of a successful PSD while also allowing for creativity and individual adaptations based on the needs of the students (IPC, 2007).

Appendix B

Power Analysis

F tests:

ANCOVA: Fixed effects, main effects and interactions

Analysis:

A priori: Compute required sample size

Input:

Effect size f	= 0.25
α err prob	= 0.05
Power (1- β err prob)	= 0.80
Numerator df	= 1
Number of groups	= 4
Number of covariates	= 1

Output:

Noncentrality parameter λ	= 8.0000000
Critical F	= 3.9181775
Denominator df	= 123
Total sample size	= 128
Actual power	= 0.8013121

Analysis:

A priori: Compute required sample size

Input:

Effect size f	= 0.40
α err prob	= 0.05
Power (1- β err prob)	= 0.80
Numerator df	= 1
Number of groups	= 4
Number of covariates	= 1

Output:

Noncentrality parameter λ	= 8.3200000
Critical F	= 4.0470999
Denominator df	= 47
Total sample size	= 52
Actual power	= 0.8065036

Appendix C

**CHILDREN'S ATTITUDES TOWARDS
INTEGRATED PHYSICAL EDUCATION -
*REVISED (CAIPE - R)***

(Child who uses a Wheelchair)



Martin E. Block, Ph.D.

Curry School of Education

University of Virginia

**CHILDREN'S ATTITUDES TOWARDS INTEGRATED
PHYSICAL EDUCATION - REVISED (CAIPE - R)
(Child who uses a wheelchair)
Martin E. Block, Ph.D., University of Virginia**

Monitor Instructions:

I need some information from you which will take about 15 minutes to do.

First of all look at your answer sheet. Look where it says "student's name" and write your first and last name in the blank (Wait a moment to be sure that this is done).

Now circle whether you are a boy or a girl (pause).

Now write your age - you are probably ___-years-old, right (pause)?

Now write your grade - you all should be ___graders, right (pause)?

Now circle whether or not a person in your family or a very close friend of yours has a disability - you know, someone like your brother or cousin or someone who lives near you who uses a wheelchair, someone who cannot see or hear, or someone who has mental retardation (pause).

Now circle whether or not you ever had a person in one of your regular classes who had a disability - you know, someone who came from a special ed class, someone who could not see or hear, or someone who used a walker or wheelchair to move around (pause).

Now circle whether or not you ever had a person in one of your P.E. classes who had a disability.

Finally, circle whether or not you consider yourself to be:

very competitive (I mean, do you always want to win and you get upset if you lose),

kind of competitive (you like to win and play hard, but winning or losing is not the end of the world),

not competitive (you just like to play to have fun).

OK, now you can turn to the next page of your answer sheet. I am going to ask you to listen to some questions, and I want you to tell me what you think about them. These questions are about a boy named Bart who might come to your P.E. class. You can see a list of numbers on your paper with yes, probably yes, probably no, and no. For each number, I will read you a sentence out loud. Some of you will agree with the sentence, you should circle yes if you agree. Some of you will not agree with the sentence, you should circle no if you do not agree. If you think you agree but you are not sure, then circle probably yes. If you think you disagree but you are not sure, then circle probably no.

There really are no "right" answers to any of the sentences; it all depends upon how you feel about what I say. Let me give you an example. Suppose the sentence I read to you is: "Basketball is my favorite sport." If this true for you because your favorite sport is basketball, then you should circle yes. If your favorite sport is baseball or some other sport, you disagree and should circle no. If you think that basketball is your favorite sport but you are not sure (maybe you like another sport too), then circle probably yes. If you think that basketball is not your favorite sport but you are not sure (you really like baseball, but you kind of like basketball too), then circle probably no.

Remember, the answer to each question depends on you, and your answers will probably be different from other kids' answers. When you are all done, you'll probably have some yeses, some probably yeses, some probably nos, and some nos, or your answers could all be one thing. Does anyone have any questions (look around and wait for questions)?

OK, lets get started, but first let me tell you something about Bart. Bart is the same age you are. However, he cannot walk, so he uses a wheelchair to get around. Bart likes playing the same games you do, but he does not do very well in the games. Even though he can push his wheelchair, he is slower than you and tires easily. He can throw a ball, but not very far. He can catch balls that tossed straight to him, and he can hit a baseball off a tee, but he cannot shoot a basketball high enough to make basket. Because his legs do not work, he cannot kick a ball. When listen to the sentences, think about Bart.

OK, find the number 1 on your answer sheet and I'll read you you the first sentence. (Begin. Read each number and sentence one at a time, and wait until everyone has circled an "answer" before you go on to the next item. Check visually every few sentences to be sure that all numbers have a response circled. Be sure to repeat all instructions as indicated on the list of sentences. Always pause after you read a sentence, and read the instruction just before you read the next sentence.

1. I live in Virginia.
2. We usually have lunch at 9:00 o'clock in the morning.

(Now, think about Bart and remember, circle yes if you agree with the sentence, probably yes if you think you agree but you are not sure, probably no if you think you disagree but are not sure, and no if you disagree).

3. It would be OK having Bart come to my P.E. class.
4. Because Bart cannot play sports very well, he would slow down the game for everyone.
5. If we were playing a team sport such as basketball, it would be OK having a Bart on my team.
6. P.E. would be fun if Bart was in my P.E. class.

(Don't forget to think about Bart. You should mark how you feel. yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

7. If Bart were in my P.E. class, I would talk to him and be his friend.
8. If Bart were in my P.E. class, I would like to help him practice and play the games.

(Don't forget to think about Bart. Remember, circle yes if you agree with the sentence, probably yes if you think you agree but you are not sure, probably no if you think you disagree but are not sure, and no if you disagree).

9-13. Which rule changes to softball during P.E. do you think would be O.K. if a kid like Bart were playing?
Remember, circle Yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

- 9. Bart could hit a ball placed on a batting tee?
- 10. Someone could help Bart run to first base?
- 11. The distance between home and first base could be shorter for Bart?

(Don't forget to think about Bart. You should mark how you feel. yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree).

- 12. Someone could help Bart when he plays in the field.
- 13. If the ball was hit to Bart, the batter could only run as far as second base.

You are finished! Thank you for filling this out for us. Please give your answer sheet to your teacher.

ANSWER SHEET

School: _____

Date: _____

Teacher: _____

Student's Name: _____

Your Age: _____

Your Grade: _____

Circle one:

BOY

GIRL

Circle one:

YES, someone in my family or a close friend of mine has a disability

NO, I do not have any family members or friends who who have a disability

Circle one:

YES, I had someone in one of my regular classes who had a disability

NO, I never had someone in my regular classes who had a disability

Circle one:

YES, I had someone in one of my P.E. classes who had a disability

NO, I never had someone in my P.E. classes who had a disability

Circle one:

VERY COMPETITIVE
(I like to win, and I get very upset if I lose)

KIND OF COMPETITIVE
(I like to win, but it is OK if I lose sometimes)

NOT COMPETITIVE
(It really doesn't matter to me if I win or lose; I just play for fun)

- PLEASE TURN TO THE NEXT PAGE -

NOW LISTEN TO THE MONITOR AND CIRCLE YOUR ANSWER.

1. YES PROBABLY YES PROBABLY NO NO

2. YES PROBABLY YES PROBABLY NO NO

3. YES PROBABLY YES PROBABLY NO NO

4. YES PROBABLY YES PROBABLY NO NO

5. YES PROBABLY YES PROBABLY NO NO

6. YES PROBABLY YES PROBABLY NO NO

7. YES PROBABLY YES PROBABLY NO NO

8. YES PROBABLY YES PROBABLY NO NO

9. YES PROBABLY YES PROBABLY NO NO

10. YES PROBABLY YES PROBABLY NO NO

11. YES PROBABLY YES PROBABLY NO NO

12. YES PROBABLY YES PROBABLY NO NO

13. YES PROBABLY YES PROBABLY NO NO

Thank you! You are finished!

Appendix D

The Adjective Checklist (Siperstein, 2006)

NAME:

If you had to describe “Taylor” to your classmates, what kinds of words would you use? Below is a list of words to help you. Circle the words you would like to use. You can use as many or as few words as you want. Here is the list:

Healthy	Smart
Neat	Crazy
Careful	Bright
Slow	Unhappy
Lonely	Greedy
Glad	Bored
Sloppy	Mean
Pretty	Cheerful
Stupid	Helpful
Clever	Ugly
Cruel	Honest
Careless	Dumb
Alert	Happy
Proud	Ashamed
Dishonest	Friendly
Alright	Kind
Weak	Sad

Adjective Checklist (ACL) Scoring

Positive (P) Factor	Negative (N) Factor	Negative Affect (NA)
Factor		
Healthy	Sloppy	Slow
Clever	Crazy	Ashamed
Alert	Greedy	Lonely
Cheerful	Cruel	Weak
Honest	Dumb	Bored
Neat	Stupid	Sad
Pretty	Careless	Unhappy
Proud	Dishonest	
Bright	Mean	
Helpful	Ugly	
Friendly		
Careful		
Glad		
Smart		
Happy		
Kind		
Alright		

The ACL checklist can be scored two ways.

1) The child's selection of adjectives is summed for each category (Positive, Negative, and Negative Affect).

2) A composite score is computed where the negative adjectives chosen by a child is subtracted from the number of positive adjectives the child chose. Negative adjectives include adjectives in both the Negative and Negative Affect factors.

The formula follows:

$$\text{Total Score} = P - N - NA + 20.$$

A score below 20 represents a negative attitude toward the target. A score above 20 represents a positive attitude.

*NOTE: The Adjective Checklist has been used with thousands of children from grades three through six in middle and low socioeconomic communities and translated into multiple languages.

Upon request, the Center will furnish pertinent statistics regarding the development of the Adjective Checklist. Please inform the Center if you plan to use this instrument or some modification.

Appendix E

Fidelity Check Questions

1. After taking part in the five activity stations, I feel that individuals with disabilities are
 - a. Superior to me
 - b. Inferior to me
 - c. Equal in status to me
2. Which stations (if any) made you feel superior to individuals with disabilities?
3. Which stations (if any) made you feel inferior to individuals with disabilities?
4. Which stations (if any) made you feel equal in status to individuals with disabilities?
5. The station activities were:
 - a. Competitive- cut throat and focused on winning and beating others
 - b. Cooperative- I worked with others to achieve group goals
 - c. Independent- I worked alone, there really weren't any goals.
6. Which stations (if any) were competitive?
7. Which stations (if any) were cooperative?
8. Which stations (if any) were independent?
9. During the activity stations I had:
 - a. Limited interactions (1-2 interactions) with individuals with disabilities.
 - b. No interactions with individuals with disabilities.
 - c. Many interactions (3 or more interactions) with individuals with disabilities.
10. Which stations (if any) did you have no interactions or limited interactions with individuals with disabilities?
11. Which stations (if any) did you have many interactions with individuals with disabilities, and were those interactions meaningful?
12. At Horace Mann School it is:
 - a. Socially acceptable to work with and include individuals with disabilities.
 - b. Sometimes socially acceptable to work with and include individuals with disabilities.
 - c. Not socially acceptable to work with and include individuals with disabilities.

Appendix F

List of Modifications to the
Children's Attitudes Toward Integrated Physical Education- Revised (CAIPE-R)

1. The age and grade information on page 1 was edited.
2. The words "someone who came from a special ed class" were deleted from the contact in regular classes description, as Horace Mann does not have special education classes.
3. All references to "Bart" have been changed to "Taylor," which is gender neutral.
4. Formatting edits were made for ease in reading.
5. The description paragraph was edited to take out "he" and replace it with gender-neutral "Taylor." Sentence structure changed as a result of this edit.
 - a. Even though Taylor moves in the wheelchair independently...
 - b. Taylor can catch balls that are tossed straight to the chest...
6. The word Virginia was changed to Texas, in order to not confuse any of the students or proctors who are aware of the researcher's connection to Virginia.
7. The spoken passage (proctor) between statements 8-9 was modified for clarity.
8. Statements referring to "he" were modified.
9. Question marks were replaced with periods for statements 9-11.
10. Answer sheet formatting was edited so that only name and age are recorded.
11. Contact questions use the word "classmate" instead of "someone."
12. Contact questions include past and present using "have" and "have had."
13. The words "I am..." were added before the choices on competitiveness.
14. Line breaks on the answer sheet were modified to align with proctor reminders.
15. The photo on the front was changed to a non-cartoon picture.
16. Proctor reminders are listed in parentheses.

Appendix G

***CHILDREN'S ATTITUDES TOWARDS
INTEGRATED PHYSICAL EDUICATION -
REVISED (CAIPE - R)***

(Child who uses a Wheelchair)



Martin E. Block, Ph.D.

Curry School of Education

**University of Virginia
(1995)**

**CHILDREN'S ATTITUDES TOWARDS INTEGRATED
PHYSICAL EDUCATION - REVISED (CAIPE - R)**
(Child who uses a wheelchair)
Martin E. Block, Ph.D., University of Virginia

Monitor Instructions:

I need some information from you which will take about 15 minutes to do.

First of all look at your answer sheet. Look where it says "student's name" and write your first and last name (wait a moment to be sure that this is done).

Now write your age - you are probably 11-12 years-old, right (pause)?

Now circle whether you are a boy or a girl (pause).

Now circle whether or not a person in your family or a very close friend of yours has a disability - you know, someone like your brother or cousin or someone who lives near you who uses a wheelchair, someone who cannot see or hear, or someone who has mental retardation (pause).

Now circle whether or not you ever had a person in one of your regular classes who had a disability - you know, someone who could not see or hear, or someone who used a walker or wheelchair to move around (pause).

Now circle whether or not you ever had a person in one of your P.E. classes who had a disability.

Finally, circle whether or not you consider yourself to be:

very competitive (I mean, do you always want to win and you get upset if you lose),
kind of competitive (you like to win and play hard, but winning or losing is not the end of the world),
not competitive (you just like to play to have fun).

OK, now you can turn to the next page of your answer sheet. I am going to ask you to listen to some questions, and I want you to tell me what you think about them. These questions are about a child named Taylor who might come to your P.E. class. You can see a list of numbers on your paper with yes, probably yes, probably no, and no. For each number, I will read you a sentence out loud. Some of you will agree with the sentence, you should circle yes if you agree. Some of you will not agree with the sentence, you should circle no if you do not agree. If you think you agree but you are not sure, then circle probably yes. If you think you disagree but you are not sure, then circle probably no.

There really are no "right" answers to any of the sentences; it all depends upon how you feel about what I say. Let me give you an example. Suppose the sentence I read to you is: "Basketball is my favorite sport." If this true for you because your favorite sport is basketball, then you should circle yes. If your favorite sport is baseball or some other sport, you disagree and should circle no. If you think that basketball is your favorite sport but you are not sure (maybe you like another sport too), then circle probably yes. If you think that basketball is not your favorite sport but your are not sure (you really like baseball, but you kind of like basketball too), then circle probably no.

Remember, the answer to each question depends on you, and your answers will probably be different from other kids' answers. When you are all done, you'll probably have some yeses, some probably yeses, some probably nos, and some nos, or your answers could all be one thing. Does anyone have any questions (look around and wait for questions)?

CAIPE-R Scale (child who uses a wheelchair) page 2

OK, lets get started, but first let me tell you something about Taylor. Taylor is the same age you are. However, Taylor cannot walk, so Taylor uses a wheelchair to get around. Taylor likes playing the same games you do, but Taylor does not do very well in the games. Even though Taylor moves in the wheelchair independently, Taylor is slower than you and tires easily. Taylor can throw a ball, but not very far. Taylor can catch balls that are tossed straight to the chest, and Taylor can hit a baseball off a tee, but Taylor cannot shoot a basketball high enough to make basket. Because Taylor's legs do not work, Taylor cannot kick a ball. When you listen to the sentences, think about Taylor.

OK, find the number 1 on your answer sheet and I'll read you the first sentence.

(Read each number and sentence one at a time, and wait until everyone has circled an "answer" before you go on to the next item. Check visually every few sentences to be sure that all numbers have a response circled. Be sure to read all reminders as and when indicated. Always pause after you read a sentence).

1. I live in Texas.
2. We usually have lunch at 9:00 o'clock in the morning.

Now, think about Taylor and remember, circle yes if you agree with the sentence, probably yes if you think you agree but you are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

3. It would be OK having Taylor come to my P.E. class.
4. Because Taylor cannot play sports very well, Taylor would slow down the game for everyone.
5. If we were playing a team sport such as basketball, it would be OK having Taylor on my team.
6. P.E. would be fun if Taylor were in my P.E. class.

Don't forget to think about Taylor. You should mark how you feel: yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

7. If Taylor were in my P.E. class, I would talk to Taylor and we'd be friends.
8. If Taylor were in my P.E. class, I would like to help Taylor practice and play the games.

The next few statements are about rule changes during a softball unit in P.E. class. Which rule changes do you think would be O.K. if a classmate like Taylor were playing? Remember, circle yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

9. Taylor could hit a ball placed on a batting tee.
10. Someone could help Taylor run to first base.
11. The distance between home and first base could be shorter for Taylor.

Don't forget to think about Taylor. You should mark how you feel: yes if you agree, probably yes if you think you agree but are not sure, probably no if you think you disagree but are not sure, and no if you disagree.

12. Someone could help Taylor when Taylor plays in the field.
13. If the ball was hit to Taylor, the batter could only run as far as second base.

You are finished with this section of the packet. Please turn to the following page and I will review the instructions.

ANSWER SHEET

Name:
Age:
School: HM MD
Date: 1/10/13
Grade: 6th

Circle one:

BOY **GIRL**

Circle one:

YES, someone
in my family
or a close friend
of mine has
a disability.

NO, I do not
have any family
members or close
friends who have
a disability.

Circle one:

YES, I have or
have had a classmate
with a disability in one
of my regular classes.

NO, I've never had
a classmate with a
disability in one of my
regular classes.

Circle one:

YES, I have or
have had a classmate
with a disability in
one of my P.E. classes.

NO, I've never had
a classmate with a
disability in one of my
P.E. classes.

Circle one:

I am...

VERY COMPETITIVE
(I like to win, and I get
very upset if I lose.)

KIND OF COMPETITIVE
(I like to win, but it is OK if I
lose sometimes.)

NOT COMPETITIVE
(It really doesn't matter
to me if I win or lose; I just
play for fun.)

- PLEASE TURN TO THE NEXT PAGE -

LISTEN TO THE MONITOR AND CIRCLE YOUR ANSWER FOR EACH STATEMENT.

1.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

2.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

3.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

4.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

5.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

6.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

7.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

8.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

9.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

10.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

11.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

12.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

13.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

Appendix H

Horace Mann Middle Division Attitude Survey Packet

Part 1:

Attitudes Towards Integrated Physical Education Survey

Author: Martin Block, Ph.D.

The University of Virginia

1995

Part 2:

The Adjective Checklist

Author: Gary Siperstein, Ph.D.

Center for Social Development and Education

University of Massachusetts Boston

2006



Part 1: Attitudes Towards Integrated Physical Education Survey

Name:
Age:
School: HM MD
Date: 1/10/13
Grade: 6th

Circle one:

BOY **GIRL**

Circle one:

YES, someone
in my family
or a close friend
of mine has
a disability.

NO, I do not
have any family
members or close
friends who have
a disability.

Circle one:

YES, I have or
have had a classmate
with a disability in one
of my regular classes.

NO, I've never had
a classmate with a
disability in one of my
regular classes.

Circle one:

YES, I have or
have had a classmate
with a disability in
one of my P.E. classes.

NO, I've never had
a classmate with a
disability in one of my
P.E. classes.

Circle one:

I am...

VERY COMPETITIVE
(I like to win, and I get
very upset if I lose.)

KIND OF COMPETITIVE
(I like to win, but it is OK if I
lose sometimes.)

NOT COMPETITIVE
(It really doesn't matter
to me if I win or lose; I
just play for fun.)

- PLEASE TURN TO THE NEXT PAGE -

LISTEN TO THE MONITOR AND CIRCLE YOUR ANSWER FOR EACH STATEMENT.

1.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

2.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

3.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

4.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

5.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

6.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

7.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

8.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

9.	YES	PROBABLY YES	PROBABLY NO	NO
-----------	------------	---------------------	--------------------	-----------

10.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

11.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

12.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

13.	YES	PROBABLY YES	PROBABLY NO	NO
------------	------------	---------------------	--------------------	-----------

Thank you. You are finished with this section.

Part 2: The Adjective Checklist

If you had to describe “Taylor” to your classmates, what kinds of words would you use? Below is a list of words to help you. Circle the words you would like to use. You can use as many or as few words as you want. Here is the list:

Healthy	Smart
Neat	Crazy
Careful	Bright
Slow	Unhappy
Lonely	Greedy
Glad	Bored
Sloppy	Mean
Pretty	Cheerful
Stupid	Helpful
Clever	Ugly
Cruel	Honest
Careless	Dumb
Alert	Happy
Proud	Ashamed
Dishonest	Friendly
Alright	Kind
Weak	Sad

Thank you. You are finished with the packet. Please hand your packet to the teacher.

Appendix I

Constructing a Fidelity Measure: Change Model

1. Specify the Model
2. Analyze the Critical Components
 - What is the range of variation
3. Identify the fidelity indices
 - Intervention Component plus Mediator equals Outcome

Intervention Component: Equal Status

Mediator: Students experience contact that is equal status in nature during Paralympic School Day.

Outcome: Student attitudes toward inclusion and adjective choices will become more positive.

Range:

I perceive individuals with disabilities to be superior to me.

I perceive individuals with disabilities to be equal in status to me.

I perceive individuals with disabilities to be inferior to me.

Intervention Component: Cooperative Goals

Mediator: Students are engaged in cooperative activities that achieve group goals during Paralympic School Day.

Outcome: Student attitudes toward inclusion and adjective choices will become more positive.

Range:

Group goals were achieved through cooperative activities and working together.

There weren't really any goals and I worked independently.

Activities were competitive, hostile, focused on beating the other team and winning.

Intervention Component: Personal Interactions

Mediator: Students are engaged in meaningful interactions with the athletes during Paralympic School Day.

Outcome: Student attitudes toward inclusion and adjective choices will become more positive.

Range:

I didn't interact with the athletes at all.

I had limited interactions with the athletes.

I had lots of interactions with the athletes.

I had meaningful interactions with the athletes.

Intervention Component: Support from Authority

Mediator: Students will feel that it is socially acceptable to work with, include, and learn from individuals with disabilities as a result of the school administrators and teachers supporting Paralympic School Day.

Outcome: Student attitudes toward inclusion and adjective choices will become more positive.

Range:

It is socially acceptable to work with, learn from, and include individuals with disabilities.

It is not socially acceptable to work with, learn from, and include individuals with disabilities.

Appendix J

IRB Documents



In reply, please refer to: Project # 2012-0389-00

November 29, 2012

Catherine McKay and Martin Block
320 E. 83rd. St., #3E
New York, NY 10028

Dear Catherine McKay and Martin Block:

Thank you for submitting your project entitled: "Paralympic School Day" for review by the Institutional Review Board for the Social & Behavioral Sciences. The Board reviewed your Protocol on November 29, 2012.

The first action that the Board takes with a new project is to decide whether the project is exempt from a more detailed review by the Board because the project may fall into one of the categories of research described as "exempt" in the Code of Federal Regulations. Since the Board, and not individual researchers, is authorized to classify a project as exempt, we requested that you submit the materials describing your project so that we could make this initial decision.

As a result of this request, we have reviewed your project and classified it as exempt from further review by the Board for a period of four years. This means that you may conduct the study as planned and you are not required to submit requests for continuation until the end of the fourth year.

This project # 2012-0389-00 has been exempted for the period November 29, 2012 to November 28, 2016. If the study continues beyond the approval period, you will need to submit a continuation request to the Board. If you make changes in the study, you will need to notify the Board of the changes.

Sincerely,

A handwritten signature in black ink, appearing to read "Tonya R. Moon".

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences

One Morton Drive, Suite 500 • Charlottesville, VA 22903
P.O. Box 800392 • Charlottesville, VA 22908-0392
Phone: 434-924-5999 • Fax: 434-924-1992
www.virginia.edu/vpr/irb/sbs.html



UNIVERSITY of VIRGINIA

OFFICE OF THE VICE PRESIDENT FOR RESEARCH
INSTITUTIONAL REVIEW BOARD FOR THE SOCIAL AND BEHAVIORAL SCIENCES

In reply, please refer to: Project # 2012-0389-00

January 7, 2013

Catherine McKay
Martin Block
Human Services
320 E. 83rd. St., #3E
New York, NY 10028

Dear Catherine McKay and Martin Block:

The Institutional Review Board for the Behavioral Sciences has approved your December 19, 2012 modification request to your research project entitled "Paralympic School Day." You may proceed with this study.

This project # 2012-0389-00 has been approved for the period January 7, 2013 to November 28, 2016. If the study continues beyond the approval period, you will need to submit a continuation request to the Review Board. If you make changes in the study, you will need to notify the Board of the changes.

Sincerely,

Tonya R. Moon, Ph.D.
Chair, Institutional Review Board for the Social and Behavioral Sciences

One Morton Drive, Suite 500 • Charlottesville, VA 22903
P.O. Box 800392 • Charlottesville, VA 22908-0392
Phone: 434-924-5999 • Fax: 434-924-1992
www.virginia.edu/vpr/irb/sbs.html

Appendix K

Paralympic School Day Activity and Value Chart

NO.	TITLE AND ACTIVITY	VALUES
1	Athletics: Practicing Athletics (track and field) skills.	Respect for sporting achievement.
2	Boccia: Practicing Boccia skills.	
3	Goalball: Practicing Goalball skills.	
4	Sitting Volleyball: Practicing Sitting Volleyball skills.	
5	Wheelchair Basketball: Practicing Wheelchair Basketball skills.	
6	Wheelchair Rugby: Practicing Wheelchair Rugby Skills.	
7	Winter Sport: Alpine Skiing, Cross Country Skiing or Ice Sledge Hockey.	
8	A Fairy Tale: Class discussion about inclusion.	Respect and acceptance of individual differences.
9	Vision: Simulating blindness/visual impairment.	
10	Photo Game: Experiencing similarities and differences.	
11	Equipment: Obstacle course - how to use adapted equipment.	
12	Accessibility: Discovering the school's accessibility.	
13	Table Tennis: Practicing Table Tennis skills.	Sport as a human right.
14	Football: Practicing adapted Football skills.	
15	Dance: Practicing inclusive dancing.	
16	Paralympic Games: Video presentation and discussion on the Paralympics.	
17	Quiz: Gaining knowledge about Paralympic sports and athletes.	
18	Athlete Story: Meeting an athlete with a disability.	Empowerment and social support in sport.
19	Classification: Examining functional classification in Paralympic Sport.	
20	Art: Reflecting through art.	

Appendix L

Email Communication: Achilles International Founder and President

Printed by: Cathy McKay

October 14, 2012 10:48:02 AM

Title: Re: Horace Mann Paralympic School Day : horacemann

Page 1 of 2

From:  Dick Traum <dicktraum@aol.com> 9/28/12 3:29:56 AM  

Subject: Re: Horace Mann Paralympic School Day

To:  Cathy McKay

Call me. Will be in after ten. Dick. 212 354 0300

Sent from my iPad

On Sep 27, 2012, at 1:17 PM, "Cathy McKay" <Cathy_McKay@horacemann.org> wrote:

Dr. Traum,

Hello. I hope this message finds you having a great end of the week. My name is Cathy McKay and I work at Horace Mann School. Tom Kelly suggested that I contact you, as I am planning a Paralympic School Day for our Middle Division (and possible for our Nursery Division Kindergartners).

In addition to working at HM, I am a doctoral candidate at the University of Virginia in the Curry School of Education's Kinesiology Program. I just defended my oral comps two weeks ago and am hoping to propose my dissertation in early December. For my dissertation proposal, I'm planning on using the International Paralympic Committee's Paralympic School Day Curriculum as an awareness program for the Middle Division, and will be collecting data on attitudes both before and after the program. Hopefully I will find that Paralympic School Day has a positive impact on attitudes towards the inclusion of peers with disabilities.

As Dr. Kelly and I were talking about Paralympic School Day, he immediately walked over to his bookshelf, pulled out your *Go Achilles* book, and told me all about you! He mentioned that you would probably love this type of awareness program, and that you may possibly have contacts or links to resources that I could use while planning and executing the event.

I'd love to schedule a meeting with you to share the curriculum and my draft of plans for our Middle Division. Your feedback would be very valuable. I'm going to be reaching out to a few Paralympic Athletes to see if any are free to be a part of the event. I'm starting with a few athletes from the London games, however I'm not sure how easy it will be to book them to attend. Should you know of any past paralympians, I'd love to reach out to them, too.

Thanks for your time, and I look forward to hearing from you!

Cathy

Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division
55 E. 90th St.
New York, NY 10128
212.369.4600 ext. 17
cathy_mckay@horacemann.org

Appendix M

Email Communication: Wheelchair Basketball

Printed by: **Cathy McKay**
Title: **RE: Trevon Jenifer : horacemann**

October 14, 2012 10:47:23 AM
Page 1 of 2

From:  "Glatch, James" <JGLATCH@edinboro.edu> 10/1/12 12:00:00 PM  

Subject: RE: Trevon Jenifer

To:  **Cathy McKay**

Cc:  Trevon Jennifer <treyjenifer88@yahoo.com>

Hi Cathy, I have included Trevon in this email so you can contact him directly. I think that your project is a great thing and hope that we can help. Good Luck Coach Glatch

Jim Glatch, Head Coach Wheelchair Basketball

Head Coach Team USA Men

455 Scotland Road, McComb Fieldhouse

Edinboro, PA, 16444

(814) 732 - 1875 (office)

(814) 282 - 8797 (cell)

From: Cathy McKay [Cathy_McKay@horacemann.org]
Sent: Friday, September 28, 2012 11:31 AM
To: Glatch, James
Subject: Trevon Jenifer

Hello Coach Glatch,

My name is Cathy McKay and I'm a teacher at Horace Mann School in New York City. I'm also a doctoral candidate at the University of Virginia, where I'm researching attitudes of non-disabled students towards the inclusion of students with disabilities in Physical Education. My dissertation is using the International Paralympic Committee's Paralympic School Day curriculum to create an awareness program for our Horace Mann Middle Division and then I'll be measuring attitudes both before and after the awareness program.

I'm writing because I'd like to contact Trevon Jenifer to see if he'd be interested in discussing coming to our Paralympic School Day as our guest speaker and featured athlete. We are able to cover travel and expenses and can discuss a speaker fee, should he have one. I'm planning

our Paralympic School Day for the third or fourth week of January, 2013.

Should you have any other athletes from your London 2012 team who'd you recommend, please send me that information, too. I appreciate your help! The Paralympic School Day program has been researched a great deal in Europe, but this will be the first of it's kind here in America.

Thanks-
Cathy McKay

Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division
55 E. 90th St.
New York, NY 10128
212.369.4600 ext. 17
cathy_mckay@horacemann.org

From:  **treyjenifer88@yahoo.com** Oct 1, 2012 10:28:54 PM 
Subject: Re: Paralympic School Day
To:  **Cathy McKay**

Hi Cathy,

I appreciate being contacted and you bringing awareness to wheelchair basketball and the Paralympics as a whole. In saying that, I would be more than happy to be your guest speaker and featured athlete. Would you want me to talk about my Paralympic experience, my life or both? Would you want me to work with the wheelchair basketball station as well? What format would be ran at this event? How long and what days are we looking at? It would be highly appreciated if travel, room and food expenses were taken care of. However, I would prefer to drive from Edinboro to New York City in order to be accompanied by my girlfriend. As far as fees go, what are you offering other athletes, because I might want that money to be donated to the Edinboro University Wheelchair Basketball Program. I hope all works out well and I look forward to hearing from you soon.

Trey

On Oct 1, 2012, at 3:33 PM, "Cathy McKay" <Cathy_McKay@horacemann.org> wrote:

Hi Trevon. Coach Glatch passed your email to me...I hope you don't mind that I'm contacting you.

My name is Cathy McKay and I'm a teacher at Horace Mann School in New York City. I'm also a doctoral candidate at the University of Virginia, where I'm researching attitudes of non-disabled students towards the inclusion of students with disabilities in Physical Education. My dissertation is using the International Paralympic Committee's Paralympic School Day curriculum to plan an awareness program for our Horace Mann Middle Division and then I'll be measuring attitudes both before and after the awareness program.

I'm writing to see if you'd be interested in discussing coming to our Paralympic School Day as our guest speaker and featured athlete. We are able to cover travel and expenses and can discuss a speaker fee, should you have one. I'm planning our Paralympic School Day for the third or fourth week of January, 2013 (I should have the date set by the end of this week).

I'm anticipating that the whole group will be a part of a presentation on your background story, including your experiences as a paralympian and the concept of ability. This would include question and answer. Then, the group will take part in 4-6 stations in the gymnasium, including sitting volleyball, wheelchair basketball, and probably goalball. I'm still working on the details, using the curriculum to be sure I'm covering all of the goals/objectives. I'm working with Achilles and the Bulova Wheelchair BBall team to arrange to have a dozen wheelchairs for the wheelchair basketball station.

Thanks for your feedback and consideration. I followed the games online and on the NCB sports channel and enjoyed watching. As I watched, I made a small list of the top five athletes I'd love to have at this day, and you were on it! If for some reason you are not interested or available, I'd appreciate any recommendations you can give me of another athlete or two on the east coast who'd you recommend.

Looking forward to hearing from you!
Cathy McKay

Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division
55 E. 90th St.
New York, NY 10128
212.369.4600 ext. 17

cathy_mckay@horacemann.org

Appendix N

Email: Sitting Volleyball 1

Printed by: **Cathy McKay**
Title: **Kendra- sitting volleyball : horace mann**

October 14, 2012 10:48:53 AM
Page 1 of 2

From:  **Cathy McKay** October 1, 2012 3:22:56 PM 
Subject: Kendra- sitting volleyball
To:  karenlancastrsthirtyonegifts@gmail.com

Karen,
Hello. I contacted Karyn Nishimura Sneath and asked for your email- I think she let you know I was going to email you. I hope you don't mind!

I'm a teacher at Horace Mann School in NYC, and I'm a doctoral candidate at the University of Virginia. I'm studying attitudes and perceptions of children without disabilities towards the inclusion of children with disabilities in physical education programs. I'm using the International Paralympic Committee's Paralympic School Day Curriculum as my awareness intervention. It's a great curriculum and I'll be collecting data on attitudes.

One of the activities in Paralympic School day is Sitting Volleyball. I'd love to reach out to Kendra for two reasons:

1. To see if she can give me contact information for a Sitting VBall Paralympic Athlete who is on the East Coast and/or
2. To see if she'd be interested in being a guest at my Paralympic Sport Day in late January. I haven't set the date, but may be able to make it in mid-January before university classes start (Karyn mentioned that Kendra is a student at Purdue).

I'm still working out the details, but will likely be able to cover travel and lodging and what not. I'm hoping to have three paralympians there, and assuming at least two of them are from the east coast, my budget should allow me to have one athlete come from farther away. Karyn speaks very highly of both you and Kendra, so naturally you all came to mind when I started researching the curriculum!

Thanks for passing this on to Kendra. I appreciate your help!

Sincerely,
Cathy McKay

Thanks for your help!
Cathy




Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division

Appendix O

Email Communication: Swimming

Printed by: **Cathy McKay**
Title: **Re: Paralympic School Day Awareness Program : horacemann**

October 14, 2012 10:45:26 AM
Page 1 of 3

From:  Victoria Arlen <varlen11@gmail.com> 10/9/12 3:31:28 PM 
Subject: Re: Paralympic School Day Awareness Program
To:  **Cathy McKay**

Hello,

I'd love to do this! I'll have my dad call you at some point in the next few days to discuss details. Thank you for the invite!

I look forward to it!

Sincerely,
Victoria Arlen

Sent from my iPhone

On Oct 7, 2012, at 1:43 PM, "Cathy McKay" <Cathy_McKay@horacemann.org> wrote:

Victoria,

Hello. Thanks for getting back to me via facebook. I appreciate it!

As I mentioned, my name is Cathy McKay and I'm a teacher at Horace Mann School in New York City. I'm also a doctoral candidate at the University of Virginia, where I'm researching attitudes of non-disabled students towards the inclusion of students with disabilities in Physical Education. My dissertation is using the International Paralympic Committee's Paralympic School Day (PSD) curriculum to plan an awareness program for our Horace Mann Middle Division (6th graders) and then I'll be measuring attitudes both before and after the awareness program.

As I mentioned in my facebook message, I'm writing to see if you'd be interested in discussing coming to our Paralympic School Day as one of our two guest speakers and featured athletes. I'm talking with Trevon Jenifer (Wheelchair Basketball) to see if he's available to be our male featured athlete. We are able to cover travel and expenses and can pay a speaker fee, should you have one. I'm planning our Paralympic School Day for Jan. 10th, with a snow day on the 11th. It's early enough for me to move that date, however, if you are not free on the 10th.

I'm anticipating that the whole group will be a part of an auditorium presentation on

you and Trevon's background story, including your experiences and the concept of ability. This would be about 20 mins each and falls under the PSD value of "Empowerment and Social Support in Sport" and is titled "An Athlete's Story". I'll share with you the goals of our diversity office and the core value the Middle Division is working on this year, as I think both tie in seamlessly to your story and life experiences and will provide an amazing platform for the presentation.

Then, the group will take part in 4 stations in/around the gymnasium, including sitting volleyball, wheelchair basketball (both are listed under the "Respect for Sporting Achievement" Value of the PSD curriculum), a group debrief/diversity discussion (which falls under the PSD value, "respect and acceptance of individual difference), and a station where they will learn about the Paralympic Games (which falls under the "sport as a human right" PSD value). If possible, I'd like for you to lead the station on the Paralympic Games, which will be in a conference room right off of the gymnasium that is equipped with a smartboard and internet and what not. Groups of 16-18 will rotate to your station (20 mins each). The goals of this station are that participants learn about the Paralympic Games and Paralympic Sports, gain knowledge of adaptations and adapted equipment, and indirectly experience the thrill and excitement of the Games. I can share with you the actual PSD station card (that suggests what to do) and/or you can tailor it to meet the aforementioned objectives while further sharing your own experience. What's great about the PSD curriculum is that it's flexible!

The middle school is divided into 8 periods, labeled A-H, which are 45 mins each. We would have half of the 6th grade (my experimental group) attending a presentation in the auditorium during A period (starting at 8:20am), then taking part in educational stations in the gymnasium and screening room during B and C periods (90 mins total).

We'd have a lunch break for D and E periods. Then, the other half of the 6th grade would come to the auditorium for the presentation during F period, and then would take part in the educational stations during G and H periods.

We arrange for our guests to stay at the Columbia Club (it's very nice!) and we arrange transportation (car service) from the Columbia Club to our campus in Riverdale (if needed): <http://www.columbiacub.org/> There is parking at the Columbia Club (about 100 feet from the Club is a parking garage) which is a separate business, so we'd cover parking costs. Since our day will be early on the 10th, I'm guessing you'd travel in on the 9th and possibly stay until the 11th, which is fine. Of course if you wanted to head home on the 10th once our event is over, that's fine too! :)

I've given you a ton of details. I hope not too many! I figure if you know exactly what I'm planning, you can make an educated decision as to whether you'd like to be our female featured athlete on Jan. 10th, 2013.



Thanks! I look forward to hearing from you!
Cathy

Appendix P


Email Communication: Sitting Volleyball 2


Printed by: **Cathy McKay**
Title: **Re: Paralympic School Day : horacemann**

October 23, 2012 8:14:57 PM
Page 1 of 2

From:  Bill Hamiter <BHamiter@uco.edu> 10/23/12 4:58:34 AM 

Subject: Re: Paralympic School Day

To:  **Cathy McKay**

Cc:  Kari Miller <karihw11@yahoo.com>

Cathy,

Thank you for the email and work you are doing. Nicky is from Florida and actually lives in Oklahoma City now training full time. Kari has a house in Maryland but also lives in OKC training full time. At that time of the year she may be back in Maryland since we won't begin training until the 14th or 21st. Kari's email is karihw11@yahoo.com. I have copied her on this email as well.
Bill

Bill Hamiter
High Performance Director Sitting Program
Head Coach Women's National Sitting Team
100 N. University Drive, Box 99
Edmond, OK 73034
Phone: 405.974.3138
Fax: 405.974.3808
bill.hamiter@usav.org
www.usavolleyball.org

On Oct 20, 2012, at 3:02 PM, "Cathy McKay" <Cathy_McKay@horacemann.org> wrote:

Hello Coach Hamiter,

My name is Cathy McKay and I'm a teacher at Horace Mann School in New York City. I'm also a doctoral candidate at the University of Virginia, where I'm researching attitudes of non-disabled students towards the inclusion of students with disabilities in Physical Education. My dissertation is using the International Paralympic Committee's Paralympic School Day curriculum to create an awareness program for our Horace Mann Middle Division and then I'll be measuring attitudes both before and after the awareness program.

I'm writing because I'd like to contact an athlete from the Paralympic Volleyball Team to see if they'd be interested in discussing coming to our Paralympic School Day to lead the Sitting Volleyball Activity Station. We are able to cover travel, lodging, and expenses, etc.. I'm planning our Paralympic School Day for Jan. 10th, 2013. You would also be a perfect guest, in terms of leading the station, should you be interested! I've done some research and it looks like Kari Miller is listed in DC, which is the closest I can find. I notice that Nicky Nieves is from Queens, NY, but it looks like her current residence is farther away. Could you send me contact

information for athletes you think may be interested?

I appreciate your help! The Paralympic School Day program has been researched a great deal in Europe, but this will be the first of it's kind here in America.

Thanks-
Cathy McKay

Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division
55 E. 90th St.
New York, NY 10128
212.369.4600 ext. 17
cathy_mckay@horacemann.org

****Bronze+Blue=Green**** The University of Central Oklahoma is Bronze, Blue, and Green! Please print this e-mail only if absolutely necessary!

****CONFIDENTIALITY**** -This e-mail (including any attachments) may contain confidential, proprietary and privileged information. Any unauthorized disclosure or use of this information is prohibited.

From:  Nicky Nieves <n.nieves1989@gmail.com> 10/22/12 2:4... 
Subject: Re: Paralympic School Day
To:  **Cathy McKay**

Hello Cathy! I feel so honored that you emailed me about this event! I would love to participate in your Paralympic School Day!

On Sat, Oct 20, 2012 at 3:49 PM, Cathy McKay <Cathy_McKay@horacemann.org> wrote:

Nicky,

Hello. My name is Cathy McKay and I'm a teacher at Horace Mann School in New York City. I'm also a doctoral candidate at the University of Virginia, where I'm researching attitudes of non-disabled students towards the inclusion of students with disabilities in Physical Education. My dissertation is using the International Paralympic Committee's Paralympic School Day (PSD) curriculum to plan an awareness program for our Horace Mann Middle Division (6th graders) and then I'll be measuring attitudes both before and after the awareness program.

I'm writing to see if you'd be interested in coming to our Paralympic School Day to lead the Sitting Volleyball activity station. We are able to cover travel and expenses and what not. I'm planning our Paralympic School Day for Jan. 10th, with a snow day on the 11th.

After a presentation in the auditorium, the group will take part in 4 stations in/around the gymnasium, including sitting volleyball, wheelchair basketball (both are listed under the "Respect for Sporting Achievement" Value of the PSD curriculum), a group debrief/diversity discussion (which falls under the PSD value, "respect and acceptance of individual difference), and a station where they will learn about the Paralympic Games (which falls under the "sport as a human right" PSD value). Groups of 16-18 will rotate to your station (18 mins each). I can share with you the actual PSD station card (that suggests what to do) and you can tailor it how you'd like. Stations will run from approx 9:15-11 and then 1:30-3:15. We'll have lunch in between.

We arrange for our guests to stay at the Columbia Club (it's very nice!) and we arrange transportation (car service) from the Columbia Club to our campus in Riverdale (if needed): <http://www.columbiacub.org/> There is parking at the Columbia Club which is a separate business, so we'd cover parking costs. Since our day will be early on the 10th, I'm guessing you'd travel in on the 9th and possibly stay until the 11th, which is fine. Of course if you wanted to head home on the 10th once our event is over, that's fine too! :)

Let me know your thoughts. If you are not free, but know of other athletes I should contact, please email me names and contact info!

Thanks-
Cathy

Cathy McKay
Motor Learning Specialist
Horace Mann Nursery Division
55 E. 90th St.
New York, NY 10128
[212.369.4600](tel:212.369.4600) ext. 17
cathy_mckay@horacemann.org

Appendix Q

Activity Cards

PARALYMPIC SCHOOL DAY

Activity Card

4

Sitting Volleyball

Value: Respect for sporting achievement

Activity: Practicing Sitting Volleyball skills

GENERAL GOAL

Students gain respect for the sporting abilities of athletes with a movement impairment.

SPECIFIC GOALS

- To learn about the rules of Sitting Volleyball.
- To create understanding for the specific needs based on movement limitations.
- To experience Sitting Volleyball skills.
- To experience different ways of movement and the concept of differentiation.

ENVIRONMENT

- Indoor or outdoor court.

SUGGESTED EQUIPMENT

- Balls of varying size and weight, depending on age (e.g., volleyballs, balloons, beach balls, slow motion ball, monsterball, etc.).
Note: a monsterball is several balloons bound together with a very light net.
- Low net for every court (official height: 1.15m for men and 1.05m for women).

PEOPLE INVOLVED IN THE ACTIVITY

- Session leader, classroom teacher, athletes (optional).

REQUIRED KNOWLEDGE

Basic ball control skills (throwing, catching, passing).

STARTING THE ACTIVITY

The session leader divides the group in pairs and each group receives one ball. The session leader gives the task to play with the ball for about two minutes without further instructions. After two minutes, the session leader gathers all students and initiates a discussion on how to modify this activity for persons with a motor impairment.



Photo © Lieven Couderys



Photo © Getty Images



Photo © Erdelmann

RUNNING THE ACTIVITY

The aim of the following stages within this activity are to demonstrate the differences in performance among ball handling skills from a seated versus standing position.

1. Throw and catch over the net: Two students opposite each other throw and catch a ball over the net and indicate the maximal distance position with a cone. The exercise is repeated from a seated position. Compare the distances between standing and sitting.
2. Service: Students stand/sit on the service line and practice service over the net. Compare the differences between standing and sitting.
3. Moving skills: Students are lined up in two lines (one standing, one seated), one on either side of the net. While moving horizontally across the court, the students pass the ball back and forth over the net. Compare the difficulty level between sitting and standing.
4. Two-on-two game: This game is similar to Volleyball, the only difference is that students are to catch and throw rather than perform traditional Volleyball actions. With elementary school students, this game is more appropriate when considering skill level.
5. Four-on-four (or six-on-six).
6. Monsterball - an adapted version of 'Sitting Volleyball': Students are divided into teams of six players and play Volleyball from a seated position (on the knees or bottom) with a monsterball (see page 1).



Photo © Prezioso



Photo © Lieven Coudenys



Photo © Lieven Coudenys



Photo © Lieven Coudenys

GUIDELINES FOR ADAPTATION TO YOUNGER PARTICIPANTS

- Use lighter/softer/bright coloured balls and allow the students to sit on their knees instead of buttocks.
- Throw volleyball to targets from standing and sitting positions and talk about differences.

GUIDELINES FOR ADAPTATION TO OLDER PARTICIPANTS

- All exercises are performed using Volleyball skills: finger play, service, attack, defense, setting and bumping.
- Explain the rules of the game and play a regular game of Sitting Volleyball (preferably with an athlete).

REFLECTION

In order to reach the desired goals of this activity, it is extremely important that in the reflection process, the session leader emphasizes the challenges of ball handling from a sitting position. Through a group discussion, the session leader directs the conversation towards the realisation that only through physics and skill can persons with a disability practice a challenging sport such as Sitting Volleyball. Video clips (provided on the DVD) can be shown to demonstrate these skills.

Sample Questions:

- How did you feel playing? What was most difficult action to do?
- What are the differences between Sitting and Standing Volleyball?
- Is it easy to become an elite Sitting Volleyball player?
- What skills and abilities must one gain to become an elite Sitting Volleyball player?
- What difficulties might these players face in daily living situations? How might they overcome those difficulties?

sitting volleyball rules

History: Standing Volleyball became a Paralympic Sport in 1976 (it was removed in 2000 as it did not have required number of countries/territories widely and regularly practicing the sport). Sitting Volleyball first appeared on the Paralympic Programme at the Arnhem 1980 Paralympic Games.

Court: The court is separated into two equal parts divided by a centre line, each side measuring 5m x 6m.

Net: Measures 1.15 metres for men and 1.05 metres for women.

Duration: A maximum of five sets is allowed and each of the first four sets is completed when a team wins 25 points, having a difference of at least two points over the opposing team (e.g., 25:23). In case of a 2:2 set draw, a fifth set will follow which is completed when one team wins 15 points. The winning team is the first to win three sets.

Players: There are only six players allowed on the court at one time. Teams may have up to 12 athletes.

Rules: Compared to Standing Volleyball it is permitted to block an opponent's service. Contact of the feet or the legs with the opposing team's side of the court is allowed, on condition that the play of the opposing team is not obstructed. Contact with the hands is allowed with the condition that one part of the hand is either in contact with the central line or exactly above it.

Upon performing an attacking hit, the pelvis of the front zone's player must touch the ground. A defense player can take attacking action which means to send or spike the ball from whatever height behind the attacking zone, as long as the pelvis does not touch or pass over the attacking line. After the hit, the player can touch the attacking zone.

Throughout the game, the players who are involved in a defensive effort must have contact with the ground with some part of the body between the pelvis and the shoulders. In certain cases of defensive action at the back end of the court, for example while "saving the ball", the players are allowed to lose contact with the ground for a short time. But they are not allowed to stand up, lift up their body or take steps.

The official rules of Sitting Volleyball can be found at www.wovd.info.

LINKS

Website: www.paralympic.org/release/Summer_Sports/Volleyball
PSD Manual: Section Two, Chapter 8

Did you know...?

Sitting Volleyball can be played by people both with and without a disability of all ages and genders - in any combination!



Sitting Volleyball Lesson Plan Additions

Mins	Activity
1 - 2	Introductions- who are you, why sitting volleyball is amazing!
3 - 4	Overview of Sitting Volleyball <ul style="list-style-type: none"> *size of playing court is smaller *one cheek must be on the court at all times (demo and practice) * Success is based on how quickly a player moves and how well a player utilizes their hands. <ul style="list-style-type: none"> *Back Hand Position (demo and practice) *Side Hand Position (demo and practice)
5 - 7	When I say go, grab a ball and start to toss and catch the ball from a sitting position. Now, let's change this to setting. <ul style="list-style-type: none"> *Review what a set is (waste up width, fingers wide, make an M) *Demonstrate, allow for independent practice. Add a partner for challenge (set back and forth)
8 - 11	Partner up- let's do some bumping. <ul style="list-style-type: none"> *Bumping from a seated position solo. (toss to yourself and bump). *Bumping from a seated position with a partner (one partner tosses, the other bumps it back to them). *Bumping from a seated position with a partner (trying to keep a bump going). *Bumping with a partner using the net.
12-14	Reflection/Debrief: how did those skills feel? What were the challenges? <ul style="list-style-type: none"> *Station leaders story: Describe first experience with sitting volleyball- challenges/thoughts/feelings? In what manner have you experienced positive inclusion behaviors through your experiences with sitting volleyball? How has your sitting volleyball experience changed your life?
15-18	How about we do one final activity- a small group challenge where we can work together cooperatively to achieve a goal. Let's see if we can play 4-5 a side on two courts and try for both courts to keep the volley going (using bumps/sets) for at least 6 (change this depending on the group) back and forths. Sound good? We're going to join you on the court, so we can accomplish this goal together. How about the sides we are on will have one less player to make sure it's pretty fair. Remember- overall we want both teams on both courts (so all four groups) to be successful in working together to get at least six volleys. <ul style="list-style-type: none"> *The key is that it's introduced so the courts aren't competing, but instead are both working toward the same goal.

Rotate!

Wheelchair Basketball

Value: Respect for sporting achievement
Activity: Practicing Wheelchair Basketball skills

GENERAL GOAL

Students gain respect for the sporting abilities of Wheelchair Basketball athletes and achieve understanding of what team sport in a wheelchair involves.

SPECIFIC GOALS

- To create understanding for the specific needs based on the movement limitations.
- To experience Basketball skills (eg, dribbling, passing, catching, shooting, manipulate wheelchair around the Basketball court, pick up a ball from the floor) from a sitting position.
- To learn about the rules of Wheelchair Basketball.

ENVIRONMENT

- Indoor sports hall or outdoor court.

SUGGESTED EQUIPMENT

- Baskets, balls, wheelchairs (if no wheelchairs are available, chairs or scooters can be used), cones.

PEOPLE INVOLVED IN THE ACTIVITY

- Session leader, assistants and Wheelchair Basketball athletes (if available).

REQUIRED KNOWLEDGE

- Basic ball control skills (throwing, catching, passing).
- Wheelchair propulsion techniques (see activity 11: Equipment).

STARTING THE ACTIVITY

The session leader begins by demonstrating basic wheelchair manoeuvres and explains safety precautions (eg, do not lean back in the chair, do not have direct contact with another wheelchair, etc).

RUNNING THE ACTIVITY

Stage 1

The session leader instructs children on throwing and catching skills from sitting and standing position.

1. Two students stand opposite to each other giving a chest pass/bounce pass. After each successful pass, they take one step back. Repeat until the distance is too large to pass successfully. Mark the final spot with a cone. Repeat the same exercise in a sitting position.
2. The session leader provides ongoing verbal, physical cues, and/or reinforcement.



Photo © Lieven Coudensys



Photo © Lieven Coudensys



Photo © Getty Images



Photo © Getty Images



Photo © Getty Images

Stage 2

The session leader instructs children on offence/defense skills from sitting and standing position.

1. One student tries to prevent the other from moving to the other side of the court without physical contact. After a certain time, they change roles.
2. The same exercise is repeated using wheelchairs/scooters.
3. See reflection.

Stage 3

1. Dribbling on place while sitting/standing.
2. Dribbling while moving in a straight line sitting/standing.
3. Dribbling between cones in a zigzag path sitting/standing.
4. See reflection.

Stage 4

The session leader instructs students on shooting skills while sitting/standing.

1. Each child can take a number of shots to a hoop/basket, placed at a certain distance in sitting/standing position.
2. They compare the number of successful shots performed.
3. See reflection.

NB: Each time there is a reflection on the differences that children experienced when using the different positions.

Game play

After the students have practiced the skills and experienced the differences, they can follow up with a regulation (or modified adapted rules e.g., three-on-three) Wheelchair Basketball game. First it is necessary to describe basic rules of the game (e.g., travelling, fouls).



Photo © Lieven Gouderyns

Photo © Jonas Ekström



Photo © Lieven Gouderyns

Photo © Jonas Ekström

GUIDELINES FOR ADAPTATION TO YOUNGER PARTICIPANTS

- Use various size balls (size, weight, texture, colours).
- Use lower baskets (eg. large garbage can, hoola hoops tied to basket).

GUIDELINES FOR ADAPTATION TO OLDER PARTICIPANTS

- Allow more time for a regulation (modified) game of Wheelchair Basketball.
- Introduce the concept of functional classification (see relevant fact sheets).
- Ask the students to prepare adaptations for inclusive Basketball.

REFLECTION

After each stage of the activity, the session leader should reflect on the differences between Basketball from seated and standing position. The aim for the students is to understand that performing Basketball in a sitting position is totally different. Basic skills become much more complicated when you are required to perform them sitting down. Moreover, they gain appreciation for the athletic achievement of Wheelchair Basketball players. Video fragments are shown to demonstrate their skills (provided on the PSD DVD).

Sample Questions

- How did you feel playing Basketball while seated? What was most difficult?
- What are the differences between Wheelchair Basketball and standing Basketball?
- Would it be easy to become an elite Wheelchair Basketball player?
- What skills and abilities must one gain to become an elite Wheelchair Basketball player?
- What difficulties might these players face in daily life? How might they overcome those difficulties?

wheelchair basketball - quiz

1. How many players are on court at one time?
2. What is the total number of classification points in one team on court at any time?
3. How many women's teams competed during the Beijing 2008 Paralympic Games?
4. How many times are you allowed to push the wheelchair with the ball in your lap before you must make a pass or bounce?
5. Which men's team won the Wheelchair Basketball World Championship title in 2006?
6. How long does each period last in a game?

answers:

(1) five, (2) 14 points, (3) ten, (4) twice, (5) Canada, (6) 10 minutes

The official rules of Wheelchair Basketball can be found at www.iwb.org.

LINKS

Website: www.paralympic.org/release/Summer_Sports/Wheelchair_Basketball
PSD Manual: Section Two, Chapter 8

Did you know...?

The height of the hoop in Wheelchair Basketball is the same as in the running game - 3.05m!



Wheelchair Basketball Lesson Plan Additions

Mins	Activity
1- 2	Introductions- Trey, Chris, Tony, Tony Overview of Wheelchair Basketball Split up the group into 3 groups of 6 students each. Students will rotate through three stations for five mins each. Mins 3-7, 8-12, 13-17
Station One	<ul style="list-style-type: none">A. When I say go, please grab a ball and either have a seat in a folding chair or have a seat in a wheelchair (wheelchairs are lined up across from folding chairs, approx 8 feet apart). Everyone will have the chance to use a wheelchair today.B. Once you are sitting, start to practice a dribble in a stationary position.C. Those of you sitting in folding chairs, place your ball under your chair. Now, you and the person across from you (in the wheelchair) are going to work on bounce passing, chest passing, and overhead passing. Remember to use your arms and upper-body to really push that ball over to your partnerD. What are some of the things you find to be different? Do your motions feel different? Remember arm momentum, strong wrists, fully extend.E. Now we are going to start to move. Those of you in folding chairs, please stand up. You are going to pass the ball to your partner and then run to an open space on the other side of your partner. Your partner is going to catch the ball, put it in their lap, move forward to pushes, and then pass the ball back to you. After you do this twice, switch.
Station Two	<ul style="list-style-type: none">A. Now let's do some shooting. Please line up two to a cone. Cones to the right of the basket are going up for a layup, cones to the left are rebounding.B. Once you rebound, pass it to the next person in line on the right and follow up pass so you switch lines (once you shoot, move around to the rebound line).C. After two shots, switch with a station partner (to a wheelchair or to using feet).D. Tips: arm power, core strength, ball under chin, extend and follow through
Station Three	<ul style="list-style-type: none">A. Now, we're going to maneuver through an obstacle course. We'll use a combination of chairs and on foot.B. On foot challenges: cone taps, tricep dips, pivot turns, defendersC. Wheelchair challenges: stop and go, R turn, L turn, bump and move, ball circles, defendersD. Students will navigate course without the ball, then with the ball.
Rotate!	

A Fairy Tale

Value: Respect and acceptance of individual differences
Activity: Class discussion about inclusion

GENERAL GOAL

Students gain respect for the uniqueness of all human beings, regardless of their ability or appearance.

SPECIFIC GOAL

Students learn to express their feelings and opinions about persons with a disability and inclusion.

ENVIRONMENT

Classroom activity.

SUGGESTED EQUIPMENT

Story: "William the One Winged Dragon and the Castle Football World Championships" written by P. and A. Busciglio.

PEOPLE INVOLVED IN THE ACTIVITY

Session leader and assistants.

STARTING THE ACTIVITY

The session leader gathers the students around him/her, making sure that everyone sits comfortable and all students can see and hear each other.

RUNNING THE ACTIVITY

The session leader tells the students the interactive fairy tale: "William The One Winged Dragon and the Castle Football World Championships". The story consist of 10 parts and after each part, the session leader should lead a discussion about inclusion, adapting rules, prejudice etc.

GUIDELINES FOR ADAPTATION TO YOUNGER PARTICIPANTS

Use one or more animal puppets to make the story more exciting.

GUIDELINES FOR ADAPTATION TO OLDER PARTICIPANTS

The session leader provides keywords (e.g., disability, integration, inclusion, Paralympics etc.) and then uses the brainstorming method to extract possible emotions, feelings, issues, topics concerning these words.



Image © POC/Seamair version

REFLECTION

The session leader uses the story as a basis for a class discussion among the students. The inclusion of dragons with a disability in a Football game, can be used to begin a class discussion about the inclusion of persons with a disability in the school. The session leader tries to put emphasis on the uniqueness of all human beings during the discussion.

Sample questions

- How can you include an individual with a disability in your own school (different disability types)?
- How are students with a disability similar to you?
- How are students with a disability different from you?

william the one winged dragon and the castle football world championships:

Once upon a time, William, the one winged dragon, sat with steam billowing from his nose. Left behind again, he slammed his tail against the rocky ground. His brother, Sidney, was leading Team Saw-Tooth to the Castle Football World Championships. And as usual, William was left behind in the cave with the other dragons with a disability. His companions were Ursula, a blind dragon, Horace, a dragon who could not spit fire, Geraldine, a dragon with only one leg and Uncle Dieter, a dragon with no teeth.

Discussion point #1 Do you believe it is fair that the dragons with a disability should be left behind in the cave? Why do you believe so?

William was born with only one wing and could not fly. He frowned as he flapped his wing with frustration. William thought, "If only I had a chance. If only I had a chance." He knew he could help Team Saw-Tooth to victory. And actually...he was right. Because of William's inability to fly he had become a very fast runner and a quick thinker.

Discussion point #2: Can a disability be an asset, yes or no? If so, in which way?

Meanwhile, Sidney and Team Saw-Tooth arrived at the Castle Football World Championships. Every Dragon clan across all the world was represented. From the beginning of the Castle Football World Championships, Team Saw-Tooth was in trouble. Every bounce of the ball and every flight or run of attack was defended by the opposition, Team Fire-Breath. Between games, Sidney thought of his brother William. He wanted to include William and his companions in the championships. But the rules forbid dragons with a disability to participate. Sidney thought, if only William, Horace, Geraldine and Uncle Dieter were here Team Saw-Tooth would have a real chance for victory. Though rules and equipment needed to be slightly altered during practices at home, the dragons with



a disability always gave their opponents a challenging game.

Discussion point #3: Do rules made with good intentions sometimes have bad results? And if so, is it good to change the rules to benefit all players? Why?

William said to Geraldine, "I just won't have it anymore. Our clan is stronger when we are allowed to participate in the games together as one team. We should go and have a look. Maybe we can help by giving moral support at least?" Geraldine said shyly, "Gee, I just don't know. I would be scared."

Discussion point #4: Is change for good always easy? If not, why should change happen?

Uncle Dieter replied and said, "Come on Geraldine, you never miss a ball when we play against Team Saw-Tooth and what about Horace and his incredible penalty kicks. On the ground dribbling, no one is better than William. Ursula is the best goalkeeper throughout the land as she simply uses her sense of smell and touch to locate and defend the ball. And if you don't mind me saying, when I glide through the air nobody can touch me. So, I say lets go and see. Just maybe we could help?"

Discussion point #5: Does everyone have potential to do well if we look without prejudice at each person?

The journey to the Castle Football World Championships took one full day. And when William and his companions arrived it was already looking bleak for Team Saw-Tooth being that they were on the verge of elimination. William and his companions arrived finding Sidney sitting by the fire with a long face. He looked up at William and his companions and forced a smile. Why the long face asked William? Sidney said, "Team Saw-Tooth seems to be destined for defeat. The entire team agrees. We just can't compete well enough without you and your companions."

Discussion point #6: Why is unity important for the team as a whole?

William said, "Well we came to lend moral support but wish we could play for Team Saw-Tooth. We want to be included." Sidney agreed and formed a plan of action. He would go see the referee and plead his case for inclusion if the rest of his team agreed. Sidney asked William, "What would you say to the referee to gain inclusion into the championships?"

Discussion point #7: What do you think it is to include?

William thought about it for a long time. He rubbed his belly. He scratched behind his long ears. And after a moment of intense thought William replied: "The different abilities in dragons often prove to be strengths rather than weakness. Our differences bring an assortment of unique talents to a team. And in this case it will mean a more interesting and challenging games." William continued, "Now, take Ursula who can't see. At first glance nobody would believe she could play team goalie. But you have seen her play. Her sense of smell is so acute that she can locate the ball in the air and she is never faked out of position. And also her sense of hearing allows her to move at the crack of the ball. Also spitting fire is not a requirement of the game therefore not allowing Horace to play only for the reason he is unable to spit fire is wasteful and benefits nobody. Because Geraldine only has one leg she has adapted her play by using her wings to glide through the air rather than run with her paws. Once her graceful movements are set into action, she is an asset to the team. And Uncle Dieter may be a toothless dragon but the loss of teeth has simply improved his physical condition. He is forced to eat a healthy diet of only fruit and vegetables, which is why he is the strongest player physically on the team. And me, well, because I am missing a wing and am unable to fly I have learned to run like the wind instead and this has allowed me to move on the ground better than any other dragon."

Discussion point #8: Who should support the cause of inclusion? Why?

The team agreed and Sidney went to see the referee. After a long talk, the referee was convinced that William and his companions should

be allowed to play. For Ursula dirt would be used instead of grass in the 18 yard box. And therefore she would be able to feel with her paws where she was to stand on the field. For Horace, having the inability to spit fire would no longer eliminate him from the championships. Geraldine would fly instead of run through the completion of the match and Uncle Dieter could wear false teeth. In addition, William could make use of his speedy footwork on the ground and would not be required to fly at all. The referee decided, the adaptations would not affect the games negatively but rather add an element of excitement. But the referee said, "You have no chance, for tomorrow you will be playing the reigning champions, Team Fire-Breath." The referee wished Team Saw-Tooth good luck. Sidney said "thank you" and walked away with a broad smile on his face for he knew that Team Saw-Tooth had an excellent chance for victory.

Discussion point #9: What arguments can you make to persuade the referee to include the dragons with a disability?

On the morning of the championships, the sky was covered with dark clouds and rain threatened. William and his companions were nervous but confident. The plan was for William and his entire group to enter the games after half time, if necessary. The game started on a flat note for Team Saw-Tooth. The opposition scored immediately. By halftime the score was 1 to nil. It looked dreadful for Team Saw-Tooth. Sidney sat alone in the corner preparing for the second half. He had a surprise for his opponents, Team Fire-Breath. He rose and addressed the team. "It looks bleak but we have a secret weapon, William and his companions. New players will enter the championships and we will be victorious."

The ball flew through the air as the second half started. William took a pass from Uncle Dieter and dribbled with speed through each and every player from Team Fire-Breath. He scored with a bicycle kick that went straight past the opposition's goalie. Team Fire-Breath then managed to move the ball down the field in order to attempt one additional goal. Thanks to Ursula's fantastic save Team Fire-Breath did not succeed. Finally, Horace headed a perfect pass from Uncle Dieter straight into the goal to win the game with only a few seconds to spare. The crowd went wild! Team Saw-Tooth remained went on to win the championship. By including all members of the clan in the championships, the dragons with and without a disability were able to prove to everyone that differences are strengths which can and will accomplish victory.

Discussion point #10: Which dragon do you like and/or relate to the most and why?



Written by Peter and Alycia Busciglio.

LINKS

Website: www.paralympic.org
PSD Manual: Section Two, Chapter 3



Discussions About Inclusion Lesson Plan Additions

Students will take part in small group reflection discussions led by Patricia Zuroski and Markell Parker. Discussions will challenge the idealized notion of “normal” against which people with disabilities are often compared. Students will identify common assumptions, and will test these assumptions, focusing on the impact their assumptions and beliefs have on others.

Station leaders will cover topics that are broad (community setting) and narrow (physical education setting), as related to inclusion and integration.

20 minute small group processing:

1. (Turn taking)
What’s the most interesting or useful thing you’ve heard or experienced so far?
2. (Brainstorm & discussion)
Think of words you have used or heard used referring to people with disabilities.
What does it tell you about how we define “normal”?
3. (45 second reflections)
What’s one thing that has changed your perspective on disabilities or about people with disabilities?

Miriam Webster: according with, constituting, or not deviating from a norm, rule, or principle; conforming to a type, standard, or regular pattern

Online Dictionary: conforming to the standard or the common type; usual; not abnormal; regular; natural; serving to establish a standard

Paralympic Games

Value: Sport as a human right

Activity: Video presentation and discussion on the Paralympics

GENERAL GOAL

To understand that sport can be practiced by everybody.

SPECIFIC GOALS

- To learn (expand knowledge) about the Paralympic Games and Paralympic Sports.
- To gain knowledge of adaptations and adapted equipment.
- To experience (indirectly) the thrill and excitement of the Paralympic Games.

ENVIRONMENT

Large classroom that can be darkened.

SUGGESTED EQUIPMENT

- Projector and big screen (details have to be visible).
- Beamer, DVD player or video recorder and speakers.
- Paralympic Games video (provided on the PSD DVD).
- Paralympic Sports worksheet (provided on the PSD DVD).
- Paralympic mascots worksheet (provided on the PSD DVD).

PEOPLE INVOLVED IN THE ACTIVITY

Session leader and assistants.

STARTING THE ACTIVITY

The session leader should begin by explaining that a video will be shown several times and following each showing a specific task will be given. The session leader should emphasize the importance of attention and concentration while viewing.



RUNNING THE ACTIVITY

1. Before the first showing of the video no instruction is given. After the showing, the students are asked to explain what they observed from the video.
2. Before the second showing, the students are asked to name the sports showing in the video. As the students name the different sports they recognized, the session leader lists the sports on the blackboard. If not all sports are recalled, the session leader should complete the list. When the list is complete, the session leader asks the students how many of the summer sports have able-bodied equivalents and how many do not (2: Goalball and Boccia). The session leader should emphasize that the students have been previously exposed to a majority of the sports. The session leader then provides the students with the worksheet with mascot sport poses of all the 20 summer sports of the Beijing 2008 Paralympic Games (provided on the PSD DVD).
3. Before the third showing, the students are instructed to concentrate on specific equipment (e.g., wheelchair, prosthesis, eyeshades).
The task is to look for tools that athletes use during performance. Students are free to come up with numerous different answers (e.g., javelin, weights, wheelchair, bike, black mask, etc.).

As a conclusion, the session leader explains that sport for persons with a disability is simply sport in its own right (it is nothing extraordinary), but the only difference is the addition of specialized equipment and the adaptation of some rules.

Did you know...?

There are 20 sports played at the Paralympic Summer Games and five sports at the Winter Paralympics. Can you name them all?



GUIDELINES FOR ADAPTATION TO YOUNGER PARTICIPANTS

- Provide the worksheet with the 20 images of Paralympic summer Sports (provided on the PSD DVD) before the beginning of the activity.

GUIDELINES FOR ADAPTATION TO OLDER PARTICIPANTS

- Research world records (worksheet with records, where they can trace the improvement of athletic achievements).
- Place on map the hosting cities of all summer/winter Paralympic Games (see worksheet provided on the PSD DVD).
- Explore the meaning of Paralympic symbols eg. Paralympic Symbol, Paralympic Games emblem or mascots, etc (see worksheet provided on the PSD DVD).

REFLECTION

The session leader should ask the sample questions in order to create a summary of what was previously viewed.

Sample Questions:

- How would you describe the Paralympic Games?
- Which Paralympic Sport did you enjoy watching the most?
- Which Paralympic Sport would you like to try yourself?
- In which sports do athletes with blindness/visual impairment, cerebral palsy, amputees and spinal injuries participate?
- Where were the last summer/winter Paralympic Games held?
- Do you personally know a Paralympian? Have you ever met a Paralympian?
- What does one need to achieve to become a Paralympian?

Note: Students need to understand that persons with a disability are able to take part in sports at all levels. They only need specific adaptations, equipment or assistance.



Otto the Otter
Salt Lake 2002
Paralympic Winter Games



Proteas the Seahorse
ATHENS 2004
Paralympic Games



Aster the Snowflake
Torino 2006 Paralympic
Winter Games



Lele the Cow
Beijing 2008 Paralympic
Games

adapted equipment

Below are some examples of adapted equipment used by athletes at the Paralympic Games:



wheelchair



guide



blindfold



prosthesis



sit-ski



chute

LINKS

Website: [www.paralympic.org/release/Paralympic Games](http://www.paralympic.org/release/Paralympic%20Games)
PSD Manual: Section Two, Chapters 7 and 8



Paralympic Games Lesson Plan Additions

Students learn from and get to know Paralympic athlete Victoria Arlen in a small group setting, as they gain knowledge about adapted equipment, classifications, and the thrill and excitement of the Paralympic Games.

Station leader will discuss inclusion and integration as related to practicing skills in a modified manner, as well as her own personal experience with inclusion in physical activity settings.

- A. Personal Story: First Paralympic Experience
- B. Training for the Games
- C. Classification Personal Story and Official Information
- D. Adapted Equipment (for swimming or sled hockey) personal story
- E. Travelling to London- Personal Story
- F. Opening Ceremonies, Athlete Village
- G. Relationships with fellow athletes and other teams
- H. Differences in Paralympic experiences abroad
- I. The thrill of the actual events!
- J. The medal ceremony and medals (show and tell)
- K. Questions 😊

PARALYMPIC SCHOOL DAY

Activity Card 17

Athlete Story

Value: Empowerment and social support in sport
Activity: Meeting an athlete with a disability

GENERAL GOAL

Students become aware of athletes/persons with a disability and encompass a newly found respect of their athletic and personal achievements.

SPECIFIC GOALS

- To experience personal contact with an athlete with a disability.
- To hear what it is like to live with a disability.
- To gain appreciation for the fact that disability does not equate to limitation or inability.
- To learn about sport related matters (eg. rules, adaptations, skills, training, equipment, etc) in the sport of the guest athlete.
- To gain respect for the sporting abilities and achievements of the guest athlete.
- To gain exposure to the successes and failures in the sporting career of the guest athlete.

ENVIRONMENT

Classroom activity (adaptations are possible).

SUGGESTED EQUIPMENT

Special equipment related to the sport of the athlete (perhaps provided by the athlete as a demonstration).

PEOPLE INVOLVED IN THE ACTIVITY

Session leader, assistants and athletes (if available).

BACKGROUND KNOWLEDGE

Prior to this activity, the session leader should prepare the students. Students should draft questions to pose to the athletes. Detailed information about preparing for this activity can be found on the Athlete Interview Information Sheet (provided on the PSD DVD).

STARTING THE ACTIVITY

The session leader introduces the guest athlete(s) and moderates the activity.



RUNNING THE ACTIVITY

The athlete introduces him/herself and explains their own personal story and experiences through sport and in daily life. Afterwards the students are given the opportunity to ask prepared and spontaneous questions. The session leader should act as the moderator between the students and athlete(s) and lead the discussion to ensure the intended subject areas are met.

Possible topics to discuss could be:

- a) Sport: rules, classification, special equipment, adaptations, training, sport injuries, competition, travelling, sport achievements.
- b) Environmental barriers affecting daily life for a person with a disability: how to make transfers from a wheelchair to a regular chair (demonstrations), support, activities for daily living (ADL), hygiene, difficulties, disadvantages, opportunities, travelling, barriers, social attitudes, etc.
- c) Empowerment: Sport as a motivation for a healthy lifestyle.

The session leader should intervene when one topic is focused on too long. Students should leave this activity having a realistic image of what it is to live with and take part in sports while having a disability.

GUIDELINES FOR ADAPTATION TO YOUNGER PARTICIPANTS

- Be very concrete; use simple, clear language.

GUIDELINES FOR ADAPTATION TO OLDER PARTICIPANTS

- Do not underestimate the students' ability for empathy and understanding. Create an open atmosphere for students to ask a variety of questions.
- Collect stories or video material of different Paralympic athletes to discuss and compare.

REFLECTION

The session leader will ask specific questions in order to create a complete summary of what was previously discussed.

Sample questions

- What did you consider interesting? What will you remember?
- How can sport help persons with a disability?
- What does it mean to be an elite athlete with a disability?
- What does it take to become an elite athlete or athlete with a disability?
- Is society encouraging persons with a disability to get involved in sport? How could this be improved?

The session leader should try to cover the whole range of impressions the students experienced throughout the activity.

every paralympian has an incredible story to tell...

Erin Popovich (USA, Swimming):

Erin Popovich, one of the most accomplished US Paralympians, has captured more medals in the past two Paralympic Games than any other US swimmer. Erin was born with achondroplasia, a genetic disorder in which affected individuals have arms and legs that are very short, while the torso is more nearly normal size and is classified at the Paralympic Games in the 'Les Autres' sport class. She started Swimming at the age of 12 and just six months later she was competing in her first international competition. At the Sydney 2000 Paralympic Games she was the most decorated athlete with three gold and three silver medals, setting four world records and in 2004, she took a gold medal in every event she competed in (five individual, two relay) at the ATHENS 2004 Paralympic Games. Erin is currently pursuing a degree in health and science with a concentration in sports medicine at Colorado State University, while training for the Beijing 2008 Paralympic Games.

Henry Wanyoike (Kenya, Athletics):

At the age of 21, Henry, who was a promising runner on the Kenyan national team, lost 95% of his sight over night, when a stroke damaged his optic nerves. He learned to become self-sufficient again and was able to return to Athletics. His willpower and desire to be a champion led him, only one year later, to qualify for the Sydney 2000 Paralympic Games. Dragging his guide who was sick with malaria, he won the gold medal in the 5,000m, guided by the shouts of the crowds. He followed that performance with gold medals in the 5,000m and 10,000m at the ATHENS 2004 Paralympic Games. Henry is involved in numerous charity projects in Kenya and throughout the world and also runs his own organization, the Henry Wanyoike Foundation, which raises money to provide people in Kenya with cataract operations.

Gerd Schönfelder (Germany, Alpine Skiing):

Gerd was a professional ski racer before a train accident took his right arm in 1989. He had his Paralympic debut at the Tignes-Albertville 1992 Winter Paralympics and has since competed at five Winter Paralympic Games. Over that time he has won sixteen Paralympic medals, including 12 gold medals. That makes him the most decorated male athlete in Paralympic Alpine Skiing. For his many achievements, he has received Germany's highest sporting award, the Silbernes Lorbeerblatt, three times. Also note that Gerd skis without poles and reaches speeds of over 100km/hour!



Photo © Getty Images/Tom Shaw



Photo © Getty Images



Photo © Getty Images

paralympians



Photo © Getty Images

Oscar Pistorius (South Africa, Athletics):

Oscar Pistorius was born without a fibular bone in both his legs. He was only 11 months old when his legs were amputated below the knee. Following an accident in early 1994 while playing Rugby, Oscar took up Athletics and only a few months later he took the gold and set a new world record in the men's T43 (double below the knee amputee) 200m event at the ATHENS 2004 Paralympic Games, instantly making him one of the biggest stars in Paralympic Athletics. He runs on two prostheses, while most double leg amputees use a wheelchair to compete and is nicknamed "The fastest man on no legs". At the 2006 IPC Athletics World Championships, he beat his own world record in both the 200m and 400m T44 events and is currently the Senior South African Champion for able-bodied athletes. On top of his Athletics training, Oscar enjoys Water Polo, Rugby, Tennis, Cricket, Soccer and Wrestling and is also involved in a number of charities. Hey says: "When people ask me what it's like having artificial legs I reply, 'I don't know. What's it like having real legs?' To all intents and purposes, I was born like this and it's all I know".



Photo © Pizzoso

Javier Ochoa (Spain, Cycling):

In 2001, Javier Ochoa suffered a head injury during a training accident which led to traumatic brain injury and also killed his twin brother and teammate in the Tour de France. Javier achieved his earlier sporting glory as an able-bodied cyclist. In 1996, he was National Amateur Champion and in 2000 became a professional rider with the Kelme Team in Costa Blanca and finished 13th over all in the 2000 Tour de France and won the 10th stage. After spending nine weeks in a coma, Javier got back on his bike and competed again at the ATHENS 2004 Paralympic Games, where he took the gold medal in the men's CP3/4 Road Race/Time Trial and a silver medal in the men's CP3/4 Individual Pursuit.



Photo © Getty Images

Esther Vergeer (The Netherlands, Wheelchair Tennis):

From the age of six, Esther had problems with her spinal cord. During an operation she lost the ability to walk due to a lesion of her spinal cord (L3). During her rehabilitation, Esther began to play Wheelchair Basketball and Wheelchair Tennis. Esther actually played for the Dutch women's Wheelchair Basketball team before she decided to focus on Wheelchair Tennis. Esther started competing in Wheelchair Tennis internationally in 1996. By 1998 she was already ranked number two in the world and in 1999 took the number one spot. Esther then won gold in the women's singles and doubles at the Sydney 2000 Paralympic Games and again at the ATHENS 2004 Paralympic Games. She has also held the number one position consistently from 2000 to 2006. On top of her Tennis career, Esther is studying Management, Economics and Law in the Netherlands.

LINKS

Website: www.paralympic.org
PSD Manual: Section Two, Chapter 4



An Athlete's Story Lesson Plan Additions

Students will take part in an assembly led by two Paralympic athletes, Trey Jenifer and Victoria Arlen, gaining appreciation for the abilities of the athletes, gaining respect for the achievements of the athletes, and learning about the lives and experiences of the athletes.

Speakers will discuss inclusion and integration as related to practicing skills in a modified manner, and their own personal experience with inclusion in physical activity settings.

Students sit in the front, middle section of the Recital Hall: first 6 rows.

- 0-1 Introduction
- 1-10 Trey's Story (including video presentation)
- 11-20 Victoria's Story (including video presentation)
- 21-35 Question and Answer, Group Discussion

Appendix R

Participant Groups

PSD HOUSE A

STUDY ID	ADVISER	GENDER	STATION
A1	Arceri	F	S1
A65	Swaminathan	F	S1
A55	Petras	F	S1
A2	Arceri	F	S1
A26	Guerrero	F	S1
A10	Casey	F	S1
A45	Mate	F	S1
A11	Casey	F	S1
A17	Cooper	F	S1
A3	Arceri	F	S1
A36	Hickerson	M	S1
A27	Guerrero	M	S1
A37	Hickerson	M	S1
A66	Swaminathan	M	S1
A67	Swaminathan	M	S1
A4	Arceri	M	S1
A28	Guerrero	M	S1
A46	Mate	M	S1
A18	Cooper	M	S1
A5	Arceri	F	S2
A56	Petras	F	S2
A47	Mate	F	S2
A57	Petras	F	S2
A38	Hickerson	F	S2
A29	Guerrero	F	S2
A39	Hickerson	F	S2
A30	Guerrero	F	S2
A40	Hickerson	F	S2
A6	Arceri	M	S2
A58	Petras	M	S2
A48	Mate	M	S2
A41	Hickerson	M	S2
A59	Petras	M	S2
A19	Cooper	M	S2
A60	Petras	M	S2
A68	Swaminathan	M	S2
A31	Guerrero	M	S2
A61	Petras	M	S2
A69	Swaminathan	F	S3
A20	Cooper	F	S3
A42	Hickerson	F	S3
A32	Guerrero	F	S3
A12	Casey	F	S3
A21	Cooper	F	S3
A43	Hickerson	F	S3
A70	Swaminathan	F	S3
A13	Casey	F	S3
A22	Cooper	M	S3

PSD HOUSE A

A7	Arceri	M	S3
A62	Petras	M	S3
A49	Mate	M	S3
A14	Casey	M	S3
A23	Cooper	M	S3
A8	Arceri	M	S3
A15	Casey	M	S3
A50	Mate	M	S3
A33	Guerrero	F	S4
A51	Mate	F	S4
A24	Cooper	F	S4
A52	Mate	F	S4
A53	Mate	F	S4
A71	Swaminathan	F	S4
A72	Swaminathan	F	S4
A63	Petras	F	S4
A25	Cooper	F	S4
A54	Mate	M	S4
A64	Petras	M	S4
A73	Swaminathan	M	S4
A44	Hickerson	M	S4
A74	Swaminathan	M	S4
A34	Guerrero	M	S4
A35	Guerrero	M	S4
A16	Casey	M	S4
A9	Arceri	M	S4

PSD House B

STUDY ID	ADVISER	GENDER	STATION
B1	Cunha	M	S1
B10	Dutton	F	S1
B11	Dutton	F	S1
B12	Dutton	F	S1
B13	Dutton	M	S1
B14	Dutton	M	S1
B19	Friedman	F	S1
B2	Cunha	M	S1
B20	Friedman	M	S1
B21	Friedman	M	S1
B28	George	F	S1
B47	McNally	F	S1
B48	McNally	F	S1
B56	Miller	F	S1
B57	Miller	M	S1
B58	Miller	M	S1
B66	Nichols	F	S1
B67	Nichols	M	S1
B68	Nichols	M	S1
B15	Dutton	F	S2
B16	Dutton	M	S2
B22	Friedman	M	S2
B29	George	F	S2
B3	Cunha	F	S2
B30	George	M	S2
B31	George	M	S2
B37	Kolinski	F	S2
B38	Kolinski	M	S2
B4	Cunha	M	S2
B49	McNally	F	S2
B50	McNally	M	S2
B51	McNally	M	S2
B59	Miller	F	S2
B60	Miller	F	S2
B61	Miller	F	S2
B69	Nichols	F	S2
B70	Nichols	M	S2
B17	Dutton	M	S3
B23	Friedman	F	S3
B24	Friedman	F	S3
B25	Friedman	M	S3
B26	Friedman	M	S3
B32	George	F	S3
B33	George	F	S3
B39	Kolinski	F	S3
B40	Kolinski	M	S3
B41	Kolinski	M	S3
B5	Cunha	F	S3

PSD House B

B52	McNally	F	S3
B53	McNally	M	S3
B54	McNally	M	S3
B6	Cunha	M	S3
B62	Miller	F	S3
B71	Nichols	F	S3
B72	Nichols	M	S3
B18	Dutton	M	S4
B27	Friedman	F	S4
B34	George	F	S4
B35	George	M	S4
B36	George	M	S4
B42	Kolinski	F	S4
B43	Kolinski	F	S4
B44	Kolinski	F	S4
B45	Kolinski	M	S4
B46	Kolinski	M	S4
B55	McNally	M	S4
B63	Miller	M	S4
B64	Miller	M	S4
B65	Miller	M	S4
B7	Cunha	F	S4
B73	Nichols	F	S4
B8	Cunha	F	S4
B9	Cunha	F	S4

Appendix S

6th Grade Faculty Training

Paralympic School Day

December 18th, 2012 11:00am

Materials Needed:

1 student packet per faculty member
1 proctor packet per faculty member
1 PSD schedule per faculty member

Outline:

11:00-11:05	Introductions: Researcher and Research
11:05-11:10	Overview of PSD Schedule
11:10-11:15	Introduce and Review Instruments
11:15-11:20	Proctor Reminders and Questions

Appendix T

Athlete Letter

H O R A C E M A N N S C H O O L

September 2012

Dear Middle Division Guest,

Welcome to the Middle Division of Horace Mann School. We would like to take the opportunity to familiarize you with our school's mission statement and core values. In welcoming you into our community for the day, we feel it is essential for you to have an understanding of our school culture and the values we uphold which will hopefully result in having this be a meaningful experience for both you and our community.

Our mission statements is as follows:

Horace Mann School prepares a diverse community of students to lead great and giving lives. We strive to maintain a safe, secure, and caring environment in which mutual respect, mature behavior, and the life of the mind can thrive. We recognize and celebrate individual achievement and contributions to the common good.

Each year in the Middle Division we emphasize one of our five core values: the life of the mind, mature behavior, mutual respect, a secure and healthful environment and a balance between individual achievement and a caring community.

We ask that the content of your presentations to all members of our school community reflect and be consistent with our mission statement and core values. By doing so, we hope to ensure a successful visit for you and an instructive experience for all members of our community. The Division Head will need to approve all materials to be distributed or shown to members of the student body.

We look forward to your participation in the life of our middle school. Please let us know how we can help to make your visit to Horace Mann successful.

Sincerely,



Robin Ann Ingram
Head of Middle Division

Robin Ann Ingram, Head of Middle Division
231 West 246th Street; Bronx, NY 10471; 718-432-3929 Fax: 718-432-3603 E-mail: robin_ingram@horacemann.org

Appendix U

Paralympic School Day Information Sheet

PARALYMPIC SCHOOL DAY

Horace Mann School Middle Division

January 10th, 2013

Paralympic School Day (PSD) is a disability awareness program designed to integrate Paralympic ideals and values with educational activities that create awareness and understanding of disabilities and disability sport.

GOALS

- ◆ To increase awareness about disability sport and create a platform for attitude change
- ◆ To provide a realistic and holistic portrayal of disability sport
- ◆ To provide an opportunity for reflection and values clarification
- ◆ To provide meaningful, personal contact with Paralympic athletes
- ◆ To create dialogue about inclusion, facilitating growth in perceptions and beliefs

LINK TO HORACE MANN SCHOOL

- ◆ The Horace Mann Office of Diversity focuses on four areas of diversity work, including engaging the community in meaningful dialogue. This area of diversity work entails creating opportunities for dialogue, stepping into the experience of others, and experiencing diverse perspectives.
- ◆ The Horace Mann community believes that *inclusion* requires everyone to recognize, to respect, and to value difference.
- ◆ The Middle Division (MD) is focusing on the Core Value of *Mature Behavior* for the 2012-2013 school year.

PARALYMPIC VALUES AND CORRESPONDING ACTIVITIES

1. Empowerment and Social Support in Sport

- a. An Athlete's Story
 - i. Students will take part in an assembly led by two Paralympic athletes (Trey Jenifer and Victoria Arlen), gaining appreciation for the abilities of the athletes, gaining respect for the achievements of the athletes, and learning about the lives and experiences of the athletes.

2. Sport as a Human Right

- a. The Paralympic Games
 - i. Students learn from and get to know a Paralympic athlete (Victoria Arlen) in a small group setting, as they gain knowledge about adapted equipment, classifications, and the thrill and excitement of the Paralympic Games.

3. Respect for Sporting Achievement

- a. Sitting Volleyball
 - i. Students will practice sitting volleyball skills, taught by a Paralympic athlete (Nicky Nieves), gaining respect for new sport skills, and working as a small group to achieve team goals.
- b. Wheelchair Basketball
 - i. Students will practice wheelchair basketball skills, taught by a Paralympic athlete (Trey Jenifer), focusing on rule modifications, dribbling, passing, shooting, and teamwork.

4. Respect and Acceptance of Individual Differences

- a. Discussions about Inclusion
 - i. Students will take part in small group reflection discussions led by Patricia Zuroski and Markell Parker. Discussions will challenge the idealized notion of "normal" against which people with disabilities are often compared. Students will identify common assumptions, and will test these assumptions, focusing on the impact their assumptions and beliefs have on others.

PARALYMPIC SCHOOL DAY PREPARATION

January 8th, 2013

- Pretest will be administered to all 6th grade students during the last 15 minutes of H period.
- Each H period class will receive pre-labeled packets (name/number) to distribute to students.
- Cathy McKay will be present at the MD to assist with pretest administration.
- Packets will be collected by Cathy McKay at the end of H period (please hand in all packets, including those that were not used due to absence).
- Nametags to be handed out on Jan. 10th for PSD will be distributed to 6th grade teachers.
- Thank you gifts purchased from the school store.

January 9th, 2013

- Cathy McKay will leave posttests, to be administered to House A at the end of C period on 1/10, with Camille Miller, 6th Grade Dean. Packets will be pre-labeled (name/number) and sorted by C period. (3pm)
- Nametags for PSD will be sorted and left with Camille Miller to distribute to 6th grade teachers. (3pm)
- Recital Hall run-through with IT department. (3:30pm)
- Set up for gymnasiums, conference room, media room, and wrestling room after athletics are finished for the evening. (4pm-6pm)
- Dinner with the guest athletes. (7pm)

January 10th, 2013

- Final walk through to determine that all spaces are ready for the day. (7am)
- Confirm that all ramps are in place. (7:30am)

PARALYMPIC SCHOOL DAY SCHEDULE

7:50-8:00	Athletes arrive, meet in Recital Hall with IT team member
8:35-9:20 (A)	House B Recital Hall <i>Athlete's Story</i> presentation
9:25-10:45 (B/C)	House B PSD stations (rotating through four-18 min stations with 2 mins to rotate)
10:45-11:00 (C)	House B posttest in Gymnasium with Cathy McKay House A posttest in C Period Class (Camille will collect and hold for Cathy)
11:00-12:20 (D/E)	Athlete Lunch, campus tour, and break
12:20-12:30	Athletes to Recital Hall, meet with IT team member
12:45-1:30 (F)	House A Recital Hall <i>Athlete's Story</i> presentation
1:35-2:55 (G/H)	House A PSD stations (rotating through four-18 min stations with 2 mins to rotate)
2:55-3:10 (H)	House A question and answer and group photo in Gymnasium with athletes
3:10-3:30	Clean up all materials, gather posttests from MD, athletes head to Manhattan
6:00-8:00	Dinner with athletes

*Contact Information for PSD: Cathy McKay
mckayc@horacemann.org, 212.369.4600 ext.17, 540.460.7088*

Appendix V

Letter to Parents

2012 PARALYMPIC GOLD, SILVER, AND BRONZE MEDALISTS TO BE FEATURED AT MIDDLE DIVISION DIVERSITY PROGRAM

Three celebrated Paralympians from the London 2012 Games are traveling to the Horace Mann Middle Division to take part in a Paralympic School Day (PSD) disability awareness program co-sponsored by the Office of Diversity Initiatives on January 10th, 2013. PSD integrates Paralympic ideals and values with educational activities to create awareness and understanding of disabilities and disability sport. One goal of the program is to provide meaningful, personal contact between students and Paralympians, creating dialogue about inclusion, and providing a realistic and holistic portrayal of disability sport.

Victoria Arlen, Treyvon Jenifer, and Kari Miller will lead presentations and activity stations during the event. Victoria Arlen, a high school senior, brought home a gold medal and three silver medals in Swimming at the London 2012 Games. Treyvon Jenifer is a bronze medalist in Wheelchair Basketball and a two-time collegiate All-American. Kari Miller took part in both the London and Beijing Games, and is a two-time silver medalist in Sitting Volleyball. Nicky Nieves, US Sitting Volleyball Team Member and former Queens College Volleyball star, will also join the group. The life of each of these athletes is a celebration of achieving overwhelming success in spite of adversity. Each has an inspiring story to share.

The Paralympic School Day program connects directly to the work of the Office of Diversity Initiatives, as it provides a platform for knowledge acquisition and attitude change. The Paralympic School Day program is supported by the following Paralympic Education Values: (a) Empowerment and Social Support in Sport, (b) Sport as a Human Right, (c) Respect for Sporting Achievement, and (d) Respect and Acceptance of Individual Differences. Cathy McKay, Motor Learning Specialist at the Nursery Division, is working with the Office of Diversity Initiatives to plan the event and will be collecting data for her doctoral dissertation. Data collection will be in the form of completing two attitude surveys. Your child's name will not be used in any part of the study or subsequent reports associated with the study. All sixth grade students will be participating in the diversity program, however you can opt out of having your child participate in completing the surveys. If you do not want your child to complete the surveys, please contact Cathy McKay via phone (212.369.4600 ext 17) or via email (cathy_mckay@horacemann.org).

The January 10th Paralympic School Day activities and corresponding values are:

1. Empowerment and Social Support in Sport : An Athlete's Story

Students will take part in an assembly led by two Paralympic athletes (Trey Jenifer and Victoria Arlen), gaining appreciation for the abilities of the athletes, gaining respect for their achievements, and learning about the lives and experiences of the athletes.

2. Sport as a Human Right: The Paralympic Games

Students will learn from and get to know a Paralympic athlete (Victoria Arlen) in a small group setting, as they gain knowledge about adapted equipment, classifications, and the thrill and excitement of the Paralympic Games.

3. Respect for Sporting Achievement: Sitting Volleyball and Wheelchair Basketball

Students will practice sitting volleyball skills, taught by two Paralympic athletes (Kari Miller and Nicky Nieves), gaining respect for new sport skills, and working as a small group to achieve team goals. In addition, students will practice wheelchair basketball skills, taught by a Paralympic athlete (Trey Jenifer), focusing on rule modifications, dribbling, passing, shooting, and teamwork.

4. Respect and Acceptance of Individual Differences: Discussions about Inclusion

Students will take part in small group reflection discussions led by Patricia Zuroski and Markell Parker from the Office of Diversity. Discussions will challenge the idealized notion of "normal" against which people with disabilities are often compared. Students will identify common assumptions, and will test these assumptions, focusing on the impact their assumptions and beliefs have on others.

Appendix W

Athlete Biographies

Page 1

PARALYMPIC SCHOOL DAY

Horace Mann School Middle Division
January 10th, 2013

Paralympic School Day (PSD) is a disability awareness program designed to integrate Paralympic ideals and values with educational activities that create awareness and understanding of disabilities and disability sport.

ATHLETE BIOGRAPHIES

Horace Mann School is pleased to welcome the following Paralympians to campus:

VICTORIA ARLEN



Victoria Arlen brought home a gold medal and three silver medals in swimming from the London games. She is a senior at Exeter High School in New Hampshire, and she enjoys acting, modeling, fashion and community service. Victoria is an avid sportswoman, and is a member of the US Women's Sled Hockey Team as well as the US Women's Swim Team. Victoria's motto is: "Face it, embrace it, defy it, and conquer it." You can learn more about Victoria and her journey: www.victoriaarlen.com

TREY JENIFER



Trey brought home Bronze from the London games as a member of the Wheelchair Basketball Team. Trey is a graduate of Edinboro University, where he was a student athlete and two time All-American. Trey is originally from Maryland, where he was a high school wrestler, earning 3rd place in the State Tournament in his weight class. He published a book, "From the Ground Up" about his journey. You can learn more about Trey: <http://www.post-gazette.com/stories/sports/college-district/jenifers-journey-a-man-born-without-legs-wheels-his-way-to-a-paralympic-medal-654840/>

KARI MILLER



Kari is a two time Silver Medalist in Sitting Volleyball (Beijing 2008 and London 2012). Kari is originally from Washington DC, and is a veteran of the US Army. Kari works with the Paralympic Military Program at the Walter Reed National Military Medical Center. You can learn more about Kari's journey: <http://espn.go.com/espnw/athletes-life/7229718/kari-miller-goes-bosnia-backcourt>

NICKY NIEVES



Nicky is a member of the US Sitting Volleyball Team, and was an alternate for the London games. Born in the Bronx, Nicky grew up in Florida, where she was named Conference Player of the Year in Volleyball during her Senior Year. Nicky returned to NYC to be a student athlete at Queens College, where she played NCAA Division II Volleyball and from where she graduated in 2012. You can learn more about Nicky here: http://www.nypost.com/p/sports/college/more_sports/item_tlaCWjAFIm7XjUVB3WSvxO

Athlete Biographies

Page 2

PARALYMPIC SCHOOL DAY

Horace Mann School Middle Division
January 10th, 2013

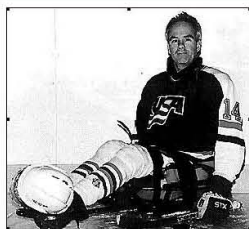
Nassau Kings Wheelchair Basketball Team Supports Paralympic School Day

Horace Mann School is grateful to the Nassau Kings Wheelchair Basketball Team for donating time and equipment to the execution of Paralympic School Day. The Kings recently won the Mayor's Cup Championship, resulting in an 8th place national finish for 2012. The Kings were founded by Wheelchair Basketball Hall of Fame Member Jack Graff in 1988, and are currently coached and managed by Anthony "Fitzy" Fitzgerald, a member of the inaugural Nassau Kings team and a U.S. Paralympian (see below).

The Kings are celebrating their 25th season in 2013.

We are pleased to welcome the following Nassau Kings to campus:

TONY FITZGERALD



Anthony Fitzgerald was a member of the inaugural U.S. Sled Hockey team that competed in the 1998 Nagano Winter Paralympic Games. In 2002, Tony served on the selection committee that assembled the gold medal winning U.S. Sled Hockey team for the Salt Lake Games. In addition to his Paralympic experiences, Tony is the coach, manager, and a player for the Nassau Kings Wheelchair Basketball team, founder of the Nassau Aviators Wheelchair Softball team, captain and co-founder of the United Spinal Islanders Sled Hockey team, and a leader in involving others in disability sports across the tri-state area. <http://www.antonnews.com/threevillagetimes/1998/05/15/sports/fitzgerald.html>

CHRISTOPHER ST. REMY



Christopher St. Remy is a stand-out player for the Long Island Nassau Kings Wheelchair Basketball team. Originally from Haiti, Chris previously attended the University of Arizona on a Wheelchair Basketball scholarship, and now is studying closer to home at Nassau Community College. Chris is the two time MVP of the Matthew Sapolin Memorial Wheelchair Basketball Tournament (formerly the NYC Mayor's Cup) championship. Since joining the Kings, he has lifted the team from the middle of the pack to the No. 8 ranking in the country. Chris was named the National Wheelchair Basketball Association's

TONY KURZ

Appendix X

Press Release

2012 PARALYMPIC MEDALISTS TO BE FEATURED AT DISABILITY AWARENESS EVENT

Three celebrated Paralympians from the London 2012 Games are traveling to New York City to take part in a Paralympic School Day (PSD) disability awareness program on January 10th, 2013 at the Horace Mann School Middle Division. PSD integrates Paralympic ideals and values with educational activities to create awareness and understanding of disabilities and disability sport. One goal of the program is to provide meaningful, personal contact between students and Paralympians, creating dialogue about inclusion and providing a realistic and holistic portrayal of disability sport.

Victoria Arlen, Treyvon Jenifer, and Kari Miller will lead presentations and activity stations during the event. Victoria Arlen brought home a gold medal and three silver medals in Swimming from the London 2012 Games. Treyvon Jenifer is a bronze medalist in Wheelchair Basketball and a two-time collegiate All-American. Kari Miller is a two-time silver medalist in Sitting Volleyball, having played in both the London and Beijing Games. Nicky Nieves, US Sitting Volleyball Team Member and former Queens College Volleyball star, will also join the group. The life of each of these athletes is a celebration of achieving overwhelming success in spite of adversity. Each has an inspiring story to share.

Horace Mann School's Office of Diversity Initiatives focuses on four areas of diversity work, one of which is engaging the community in meaningful dialogue. This area of diversity work entails creating opportunities for dialogue, stepping into the experience of others, and experiencing diverse perspectives. The Paralympic School Day program provides a platform for knowledge acquisition, adapted sport practice, and attitude change, all supported by the following Paralympic Education Values: (a) Empowerment and Social Support in Sport, (b) Sport as a Human Right, (c) Respect for Sporting Achievement, and (d) Respect and Acceptance of Individual Differences. The January 10th Activities are:

1. Empowerment and Social Support in Sport : An Athlete's Story

Students will take part in an assembly led by two Paralympic athletes (Trey Jenifer and Victoria Arlen), gaining appreciation for the abilities of the athletes, gaining respect for their achievements, and learning about the lives and experiences of the athletes.

2. Sport as a Human Right: The Paralympic Games

Students will learn from and get to know a Paralympic athlete (Victoria Arlen) in a small group setting, as they gain knowledge about adapted equipment, classifications, and the thrill and excitement of the Paralympic Games.

3. Respect for Sporting Achievement: Sitting Volleyball and Wheelchair Basketball

Students will practice sitting volleyball skills, taught by two Paralympic athletes (Kari Miller and Nicky Nieves), gaining respect for new sport skills, and working as a small group to achieve team goals. In addition, students will practice wheelchair basketball skills, taught by a Paralympic athlete (Trey Jenifer), focusing on rule modifications, dribbling, passing, shooting, and teamwork.

4. Respect and Acceptance of Individual Differences: Discussions about Inclusion

Students will take part in small group reflection discussions led by Patricia Zuroski and Markell Parker from the Office of Diversity. Discussions will challenge the idealized notion of "normal" against which people with disabilities are often compared. Students will identify common assumptions, and will test these assumptions, focusing on the impact their assumptions and beliefs have on others.

For questions about Paralympic School Day, please contact Cathy McKay: 212.369.4600 ext.17 or cathy_mckay@horacemann.org.

Appendix Y

Introduction Statement and Troubleshooting Questions: Pretest

Please read aloud before distributing the survey packets.

In a moment, I'll be passing out a survey packet. This survey is for a research study being conducted by Mrs. McKay, a teacher at the Nursery Division. Mrs. McKay is finishing her doctorate degree at the University of Virginia and is in the process of collecting data for her dissertation study. I will be reading step by step instructions once I've passed out the packets, so please stay with me as we work through the surveys together (please do not work ahead). Your answers will be coded with a number, so your name will not be linked to your answers. Please think about your feelings and beliefs, and answer in an honest and open manner.

Troubleshooting possible student questions (***no need to use these/read these if they don't come up!***):

Q: Does this have anything to do with the presentation we saw this morning about Paralympic Athletes and the activities we will be taking part in on Thursday?

A: Yes. This study uses a pretest/posttest design (aka: before/after), so we are collecting data on your attitudes today, and then will be collecting data on your attitudes on Thursday, too!

Q: What is a dissertation/dissertation study?

A: A dissertation is a five-chapter book that is the final step in earning a doctorate degree. The doctoral student proposes the topic, writes the chapters, and orally defends the project. The topic is based on some type of research in the field that impacts how people think about or practice education. The dissertation study is the actual collection of data for the topic.

Q: What is the dissertation study about?

A: Attitudes and perceptions about the inclusion of students with disabilities.

Q: What is Mrs. McKay getting her doctorate degree in?

A: Teacher Education Pedagogy and Curriculum and Instruction

Appendix Z

Introduction Statement and Troubleshooting Questions: Posttest

Please read aloud before distributing the survey packets.

In a moment, I'll be passing out a survey packet. This survey is identical to the survey you completed two days ago. The research study you heard about on Tuesday when you completed the survey at the end of H period uses a pretest/posttest design. This means that all participants complete the survey packet twice. Some participants complete it after taking part in Paralympic School Day and some participants complete it without having taken part in Paralympic School Day. Just like on Tuesday, I will be reading step by step instructions once I've passed out the packets, so please stay with me as we work through the surveys together (please do not work ahead). Your answers will be coded with a number, so your name will not be linked to your answers. Even though you are filling this survey out for a second time, please think about your feelings and beliefs, and answer in an honest and open manner, just like you did on Tuesday.

Troubleshooting possible student questions (***no need to use these/read these if they don't come up!***):

Q: Why am I filling out the same survey twice?

A: The type of study that Mrs. McKay is conducting is called a pretest/posttest design study, which means that participants complete a survey twice (pre and post).

Q: Why am I filling out the survey if I haven't taken part in Paralympic School Day activities? *****useful for the control group!***

A: This type of design collects data from some students after they take part in the activities, and collects data from some students who have not taken part in the activities (this applies to you). Usually this means that the researcher is trying to tell if the activities have an impact on your answers. This is why answering openly and honestly is important, whether you've taken part in the activities or not.

Q: Will I have to take this survey again (a third time)?

A: What a great question! You actually will be taking it again in about six weeks! This is called retention data, and is collected after a chunk of time passes (in our case, six weeks will pass) to see if the passage of time has an impact on your thoughts and feelings. Just like right now, you will answer in an open and honest manner.

Appendix AA

Introduction Statement and Troubleshooting Questions: Retention Test

Please read aloud before distributing the survey packets.

In a moment, I'll be passing out a survey packet. This survey is identical to the survey you completed six weeks ago. The research study you that was connected to Paralympic School Day used the pretest/posttest design, and includes a retention measure, which means you are taking the survey one last time now that six weeks have passed. Just like in January, I will be reading step by step instructions once I've passed out the packets, so please stay with me as we work through the surveys together (please do not work ahead). Your answers will be coded with a number, so your name will not be linked to your answers. Even though you are filling this survey out for the third time, please think about your feelings and beliefs, and answer in an honest and open manner.

Troubleshooting possible student questions ***(no need to use these/read these if they don't come up!)***:

Q: Why am I filling out the same survey three times?

A: The type of study that Mrs. McKay is conducting is called a pretest/posttest design study, and includes a retention measure. Retention data, and is collected to see if the passage of time has an impact on your thoughts and feelings.

Q: Will I have to take this survey again (a fourth time)?

A: Great question! Nope! This is the last part of the study!