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A Multi-factorial Analysis of Elementary Students' Interest in Physical Education Considering Students' Ethnicity and Gender

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ABSTRACT

Background: Student's harboring positive interest in physical education is of great concerning in academia. More importantly, the rational as to why one would maintain a positive interest in physical education is of concern. These topics have been widely researched. However, the comparison of gender and ethnicity as it relates to students' interest in physical education is a novel investigation. **Objective:** The purpose of this study was to ascertain the relationship between elementary student's interest in physical education considering gender, ethnicity, curricular and teacher influences, and student's perceived competency. **Method:** Participants included 99 fifth-grade elementary school students (62 males, 37 females). Participant selection was conducted by utilizing 6 intact physical education classes from a single culturally diverse elementary school. The Physical Education Interest Questionnaire was the instrument used for this study as well as open-ended questions for the purpose of qualitative analysis (Van Wersch, Trew, & Turner, 1992). **Results:** Findings, indicated that students, regardless of ethnicity and gender, maintained positive interest in physical education. However, male students maintained greater interest in physical education than female students, irrespective of ethnicity. Caucasian students maintained significantly higher interest than other ethnicities. Perceived competence had the most effect on students' overall interest. Answers to open-ended questions supported these results. **Conclusion:** Although this study identified that a positive interest in physical education regardless of the subjects' gender and ethnicity existed, it is imperative that future instructors consider teaching non-mainstream individual fitness activities to students. This would lead to increased individual perceived competency and continued positive interest in physical education.

Key words: Student Interest, Physical Education, Teacher Influence, Ethnicity, Perceived Competence, Curricular Influence, Gender, Grade Level, Male, Female, Humans, Child, Training, Ethnic Groups, Students, Gender Identity, Mainstreaming, Education, Schools, Surveys, Questionnaires

INTRODUCTION

Student attitudes toward education are of great concern to educators around the world. Maintaining student interest in school will foster a productive learning environment throughout a student's educational experience (Ryan, Fleming & Maina, 2003; Safrit & Wood, 1995). Forty percent of adults (20-74), 20.6% of adolescents (ages 12-19), 18.4% of children (ages 6-11), and 13.9% of children (ages 2-5) in America are obese (National Center for Health Statistics, 2016). In Florida 18.7% of all youths (>18 years of age) reported that they were not physically active at all (Centers for Disease Control and Prevention, 2014). Positive attitudes will elicit more interest in physical education and the importance of developing and maintaining active lifestyles beyond high school and into adulthood, thus producing less overweight and obese adults. Traditionally physical education curricula introduce students to a wide array of activities and nutritional guidelines. When students opt not to enroll in physical education classes, due to lack of interest, they avert this valuable information concerning their health. The future of physical education throughout the United States is bleak to say the least. Continued research in this area plays an integral part in stifling the movement to eliminate physical education from the core curriculum in schools. Identifying possible opportunities for creating positive interest in physical education by investigating gender and ethnic difference and their association with increased interest in physical education could affect future curriculum development. Current and past research has indicated a rise in negative attitudes towards physical education in relation to increased age (Prochaska, Sallis, Slymen, & McKenzie, 2003; Rice, 1988; Silverman & Subramaniam, 1999; Stewart, Green, & Huelskamp, 1991). Only one state in the United States

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currently requires physical education every day throughout high school (Illinois). All other states have steadily decreased requirements for physical education, placing greater emphasis on subjects such as math and science in order to improve standardized testing scores. This threatens the very existence of physical education in public schools.

Gender would seem to play a role in perceptions of any kind including interest in physical education. Many researchers believe that gender may have an influence on the types of activities that people chose to engage in (Carroll & Loumidis, 2001; Chase, 2001; Goudas & Biddle, 1993; Papaioannou, 1998; Pellett, 1994; Van Wersch et al., 1992). An abundance of research points to girls having less than desirable perceptions of and attitudes toward physical education. This could be related to the male dominated traditional approach to physical education where the curriculum consists mainly of team sports and very little individual sports. Additionally, student ethnicity and how it relates to the development of positive or negative interest in physical education is of concern. Through an exhaustive search it was discovered that there has been limited research relating to this topic area. Tannehill and Zakrajsek (1993) conducted a research study pertaining to student attitudes towards physical education, which encompassed subjects of diverse ethnic cultures. Results from the study indicated that Hispanic American students (66%) believed physical education to be more important than Anglo-Americans (54%), Asian Americans (48%), and African Americans (48%). Notably 211 (57%) of the subjects reported that physical education was important whereas 145 (45%) of the subjects reported that physical education was not important. One can see that research is scant when dealing with ethnicity and its relevance to student's perceptions of and attitudes toward physical education.

Another motive effecting students' interest in physical education is the lack of student participation in the decision-making process. Chen (1996) claims that a fundamental assumption in developing physical education curricula is that "students will be interested in and motivated to learn the activities" (p. 424). In addition, Kimiecik and Harris (1996) support these findings by claiming that student feelings of satisfaction resulting from mastery and competence in specific activities will lead to greater student enjoyment. Papaioannou (1998) affirmed, "when children decide to exercise to increase their competence in an enjoyable task, they see cooperation as a vehicle toward mastery" (p. 273). Likewise, Carroll and Loumidis (2001) considered experience of enjoyment as a critical factor in determining one's motivation for continued participation in any endeavor including physical education. Mancini, Cheffers, and Zaichkowsky (1976) refer to the decision-making process as "a determinant in the direction, scope, means, and pace of a child's education" (p. 80). Schempp, Cheffers, and Zaichkowsky (1983) conducted research on the influence of decision-making on attitudes, creativity, motor skills and self-concept in elementary children. Schempp et al. (1983), and Mancini et al. (1976) came to similar conclusions by stating that students should be given the opportunity to make decisions, which will have positive effects on the student's attitudes in physical education classes.

The purpose of this study was to identify factors affecting elementary student interest toward physical education while considering gender and ethnicity as independent variables. In addition, this research should provide rational for why students choose to like or dislike physical education. This research study addressed four research questions. First, do elementary school students express positive or negative interest in their physical education classes? Second, does a student's gender influence students' interest in physical education? Third, does a student's ethnicity influence their interest in physical education? Finally, which of the following affects student interest in physical education more; teacher influence, curriculum, or student's perceived competence? There has been scant research comparing elementary students' gender and ethnicity to student interest in physical education. This offers an opportunity to investigate ethnic and gender differences in conjunction with a comparison of current curriculum, teacher influence and student perceived competence as factors relating to elementary students' interest in physical education.

H1: Elementary students will maintain positive interest in physical education.

H2: Elementary males will maintain more positive interest in physical education than females.

H3: Caucasian elementary students will maintain the greatest positive interest in physical education.

H4: Elementary students will rate perceived competence as most influential in producing positive interest in physical education.

METHOD

Participants

Participants consisted of a convenience sample of 99 fifth-grade elementary school students, 62 males and 37 females, enrolled in physical education at an ethnically diverse, low to middle socioeconomic status, Northwestern Florida School. Participant selection was conducted by utilizing 6 intact physical education classes from a single culturally diverse elementary school. Existing school records provided specific demographic information pertaining to student age, gender, and ethnicity. School enrollment totals for the elementary school was 756 students (399 males, 357 females). Racial and ethnic distribution for fifth graders consists of 54.69% Caucasian, 37.50% African American, and 2.34% Hispanic, 4.69% Asian, and .78% Multicultural. Physical Education classes met 50 minutes daily in a traditional schedule format. Three experienced physical education teachers (culminating in over 25 years of experience teaching PE), one female and two males, conducted all classes. Permission to conduct the study was obtained from the University Institutional Review Board, the school district, the school administration, and the teachers prior to the start of the study. The participants and parents were provided with active written informed consent prior to participation in the study.

Instrumentation

The Physical Education Interest Questionnaire (See Figure 1) was the instrument used for this study. The questionnaire was developed to measure interest in physical education and related factors (Van Wersch et al., 1992). The Physical Education Interest Questionnaire is a 35-item survey. For purposes of this research, the survey has been limited to 31-items (four of the questions were deemed not appropriate for this sample). These items were separated into four sub-areas within the survey: student interest in physical education (4-8); student satisfaction or dissatisfaction with the class curriculum (10-19); the affect the physical education teacher has on the student (20-25); and students' perceived competence in physical education and the affect it has on their attitudes towards the class (9 & 26-31). In addition, the survey has a demographic section asking questions about personal attributes, gender, ethnicity, and grade level (1-3). The questionnaire utilized vocabulary at a reading level appropriate for fifth grade students ensuring understanding of the questions being asked of the participants.

The Physical Education Interest Questionnaire was used as an instrument in a prior dissertation (Barney, 2002), also in a pilot study (Trew, Turner, & Van Wersch, 1988) and in a published research study where it was found to be .70 reliable (Van Wersch et al., 1992) by way of split-half reliability analysis. Furthermore, Hatten, Hannon, Holt, and Ratliffe (2006) conducted a study where the questionnaire was found to be .87 reliable by way of test re-test reliability analysis. All answers to the first 31 questions were recorded on a Likert 3-point scale ranging from: (1) Agree, (2) Neutral, and (3) Disagree. In addition to the 31-item questionnaire, two open-ended questions were added to the survey in hopes of providing a deeper understanding of why the subjects feel the way they do about physical education. The two questions are as follows:

1. Is there anything that you **DISLIKE** about Physical Education, what is it?
2. Is there anything that you **LIKE** about Physical Ed ucation, what is it?

Procedures

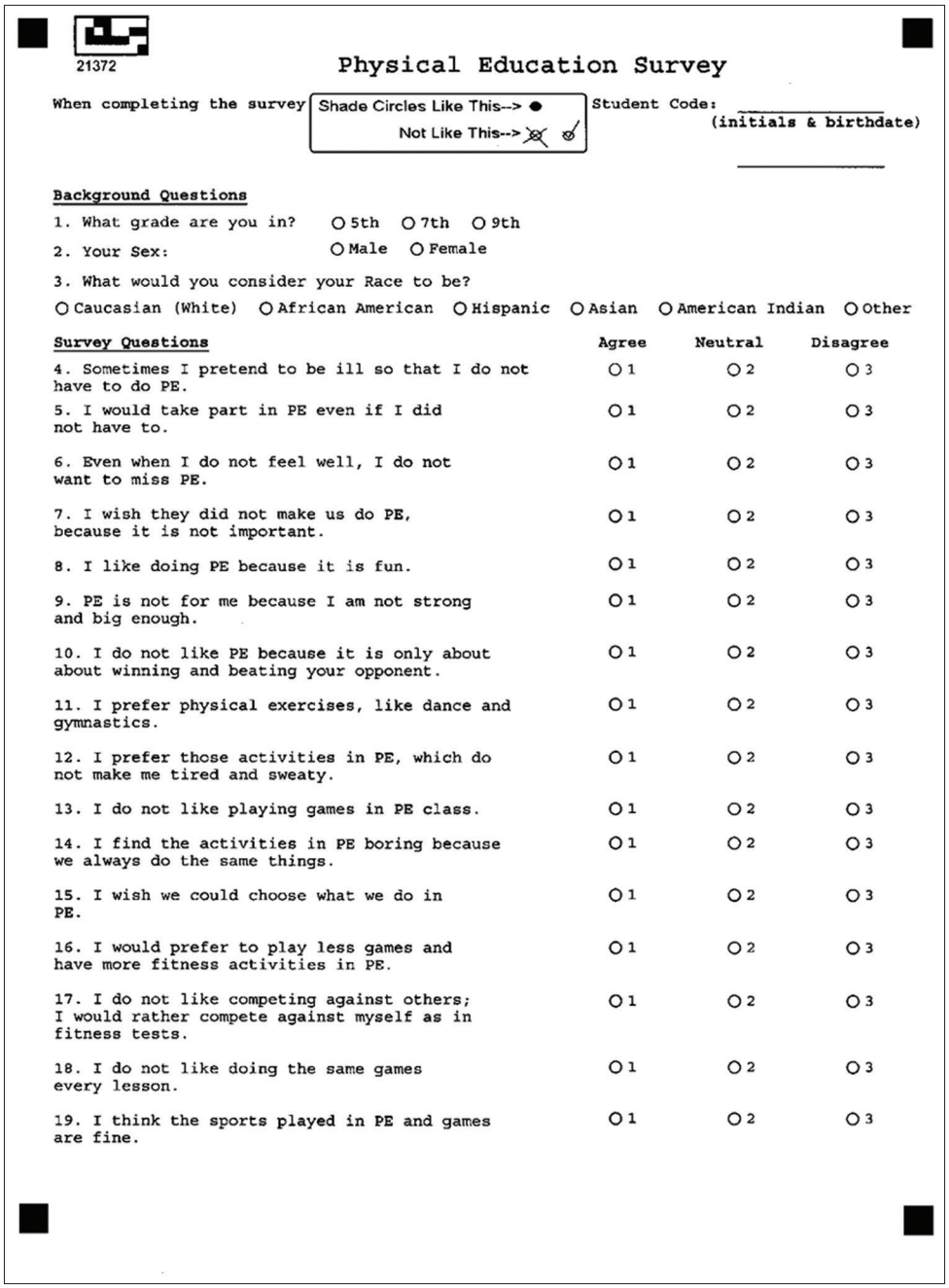
School administration, teachers, and parents were informed, prior to the study beginning, of the instrumentation and the expectations of the study. All subjects were provided with a pencil and one questionnaire, which were completed at the conclusion of the nine-week term in their respective physical education classrooms. Each student was required to complete the 31-item questionnaire (See Figure 1) by indicating on a 3-point Likert scale answers to all questions pertaining to student attitudes and perceptions of physical education. Furthermore, students provided written answers to two open-ended questions located at the end of the questionnaire asking the subjects to describe likes and dislikes pertaining to physical education. The participants had fifty minutes to complete the questionnaire and open-ended questions. Upon completion of the questionnaire, students relinquished their completed questionnaire to the proctor (the researcher). This format for collecting and administering the survey was the same for all subjects in each physical education class.

Data Analysis

IBM Statistical Package for Social Science (SPSS) software (version 26.0) was utilized to compile and analyze data from the study. Information from the responses to the questions were analyzed through comparisons of the independent variables (gender and ethnicity) and the dependent variable (students' interest in physical education) by running a 2 X 5 Univariate Analysis of Variance to identify if significance was present. Subsequently a series post-hoc Tukey analyses were completed to establish significance between groups (ethnicity and gender). These Univariate ANOVAs compared overall means of answers to the questions between race and gender of all subjects and student answers to the interest in physical education questions on the survey (questions 1-5).

Pearson product moment correlations were used to differentiate between interest in Physical Education (measured with the PE-interest subcategory) and the other three sub-categories [curriculum, teacher effect (influence), and student perceived competence]. Stepwise multiple regression analysis was conducted, with interest in physical education (measured with the PE-interest sub-category) as the dependent variable and the other three sub-categories [curriculum, teacher effect (influence), and student perceived competence] as independent variables. Multiple stepwise regressions were utilized to determine the relationships between student interest and the other two independent variables (gender and ethnicity). An alpha level of 0.05 was used for all statistical tests.

For analysis purposes, negative questions on the survey were recorded to allow for accurate computation of means, which in turn assisted in compiling and interpreting the data. Questions were not necessarily negative, although they would elicit an opposite response from a question previously considered positive. For instance, a question may have been asked in this manner; sometimes I pretend to be ill so that I do not have to do PE? If a student answers 3 (disagree) then that person would be eliciting a positive response to this question and the 3 would be changed to a 1 (agree) so that this question could be compared to the rest of the positive questions like; I like doing PE because it is fun. This was done so that the overall mean could be computed accurately. A lower mean score equates to a more positive interest. Questions 4, 7, 9, 10, 12, 13, 14, 16, 17, 21, 22, 23, 25, 26, 28, 29, 30, and 31 on the Physical Education Interest Questionnaire (Appendix C) were recoded using the method previously mentioned. Students' responses to the questions were compared to each of these sub-areas: student's interest in physical education, student's perception of teacher influence, student's perceived competence, and student's interest in curriculum.



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Physical Education Survey

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Student Code: _____ (initials & birthdate)

Background Questions

1. What grade are you in? ○ 5th ○ 7th ○ 9th
2. Your Sex: ○ Male ○ Female
3. What would you consider your Race to be?

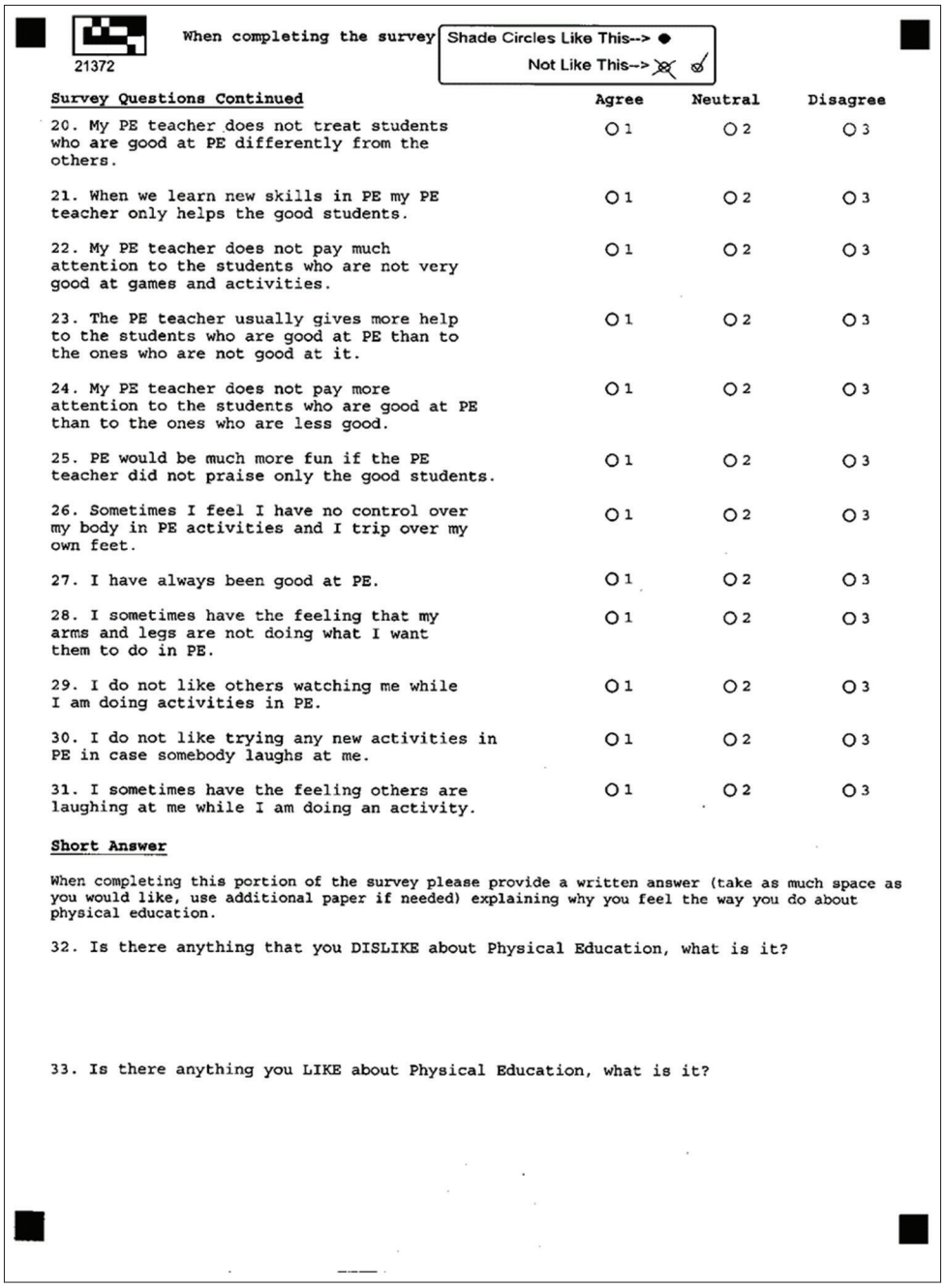
○ Caucasian (White) ○ African American ○ Hispanic ○ Asian ○ American Indian ○ Other

Survey Questions	Agree	Neutral	Disagree
4. Sometimes I pretend to be ill so that I do not have to do PE.	○ 1	○ 2	○ 3
5. I would take part in PE even if I did not have to.	○ 1	○ 2	○ 3
6. Even when I do not feel well, I do not want to miss PE.	○ 1	○ 2	○ 3
7. I wish they did not make us do PE, because it is not important.	○ 1	○ 2	○ 3
8. I like doing PE because it is fun.	○ 1	○ 2	○ 3
9. PE is not for me because I am not strong and big enough.	○ 1	○ 2	○ 3
10. I do not like PE because it is only about about winning and beating your opponent.	○ 1	○ 2	○ 3
11. I prefer physical exercises, like dance and gymnastics.	○ 1	○ 2	○ 3
12. I prefer those activities in PE, which do not make me tired and sweaty.	○ 1	○ 2	○ 3
13. I do not like playing games in PE class.	○ 1	○ 2	○ 3
14. I find the activities in PE boring because we always do the same things.	○ 1	○ 2	○ 3
15. I wish we could choose what we do in PE.	○ 1	○ 2	○ 3
16. I would prefer to play less games and have more fitness activities in PE.	○ 1	○ 2	○ 3
17. I do not like competing against others; I would rather compete against myself as in fitness tests.	○ 1	○ 2	○ 3
18. I do not like doing the same games every lesson.	○ 1	○ 2	○ 3
19. I think the sports played in PE and games are fine.	○ 1	○ 2	○ 3

RESULTS

Throughout these data a lower mean score equates to higher student interest in physical education. Students mean scores ranging from 5 to 9.99 equates to positive interest, 10 to 14.99 elicit neutral responses, and 15 and more relates to no interests in physical education. This information was calculated by adding the scores from the answers to the questionnaire. There were five questions on the survey that pertained to student interest. If a subject answered the questions eliciting positive responses, then the total number would be low (M = 5.00). This low mean would equate to high positive interest in physical education. Table 1 contains student interest means, standard deviations, and the number of students in each subgroup (descriptive statistics).

In order to understand which factors in Physical Education are the most important to students with relation to student interest (or attitudes towards PE) in Physical Education, stepwise regression analyses were utilized (Table 2). Interest (student's positive or negative attitudes towards PE) in PE (measured with the PE-specific interest subscale) was the dependent variable, and each of the subscale's teacher, curriculum, and competence were used as independent variables. Each of the independent variables were compared to the dependent variable, via stepwise multiple regression for each of the genders and ethnicities, to identify the amount of contribution of each of the sub-areas to the dependent variable, student interest. Pearson product moment correlations were used to differentiate between individual participant interest



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Survey Questions Continued

	Agree	Neutral	Disagree
20. My PE teacher does not treat students who are good at PE differently from the others.	O 1	O 2	O 3
21. When we learn new skills in PE my PE teacher only helps the good students.	O 1	O 2	O 3
22. My PE teacher does not pay much attention to the students who are not very good at games and activities.	O 1	O 2	O 3
23. The PE teacher usually gives more help to the students who are good at PE than to the ones who are not good at it.	O 1	O 2	O 3
24. My PE teacher does not pay more attention to the students who are good at PE than to the ones who are less good.	O 1	O 2	O 3
25. PE would be much more fun if the PE teacher did not praise only the good students.	O 1	O 2	O 3
26. Sometimes I feel I have no control over my body in PE activities and I trip over my own feet.	O 1	O 2	O 3
27. I have always been good at PE.	O 1	O 2	O 3
28. I sometimes have the feeling that my arms and legs are not doing what I want them to do in PE.	O 1	O 2	O 3
29. I do not like others watching me while I am doing activities in PE.	O 1	O 2	O 3
30. I do not like trying any new activities in PE in case somebody laughs at me.	O 1	O 2	O 3
31. I sometimes have the feeling others are laughing at me while I am doing an activity.	O 1	O 2	O 3

Short Answer

When completing this portion of the survey please provide a written answer (take as much space as you would like, use additional paper if needed) explaining why you feel the way you do about physical education.

32. Is there anything that you DISLIKE about Physical Education, what is it?

33. Is there anything you LIKE about Physical Education, what is it?

in Physical Education and the other three sub-categories [curriculum, teacher effect (influence), and student perceived competence]. Test re-test reliability were conducted in a pilot study prior to this study where the questionnaire was found to be 0.87 reliable (the time between test was 48 hours).

Caucasian, Boys

Influence of the Physical Education teacher was the first step in the Caucasian fifth grade boy's stepwise regression followed by student's perceived competence and curriculum [Caucasian fifth boys, R2 adj. = .37 (teacher influence), R2 adj. = .38 (perceived competence) and R2 adj. = .35 (curriculum)]. There was a significant F change (p = .002) when teacher influence was added into the model but when students' perceived competence (p = .25) and curriculum (p = .84) were added into the model there was no greater contribution to the model. Adding perceived competence and curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .35 (35 %)] considering Caucasian fifth grade male subjects.

Caucasian, Girls

Students' perceived competence was the first step in the Caucasian fifth grade girl's stepwise regression followed by teacher influence and curriculum [Caucasian fifth girls,

Table 1. Dependent Variable: INTEREST

Gender	Ethnicity	Mean	Std. deviation	N
Male	Caucasian	5.71	1.189	21
	African American	5.82	.905	28
	Hispanic	6.00	1.414	2
	American Indian	5.50	.837	6
	Multicultural	5.20	.447	5
	Total	5.71	.982	62
Female	Caucasian	5.92	1.553	13
	African American	7.13	2.156	16
	Hispanic	6.33	2.309	3
	American Indian	6.00	1.732	5
	Total	6.49	1.924	37
Total	Caucasian	5.79	1.321	34
	African American	6.30	1.593	44
	Hispanic	6.20	1.789	5
	American Indian	5.73	1.272	11
	Multicultural	5.20	.447	5
	Total	6.00	1.450	99

The table above represents the Descriptive Statistics including student interest means, standard deviations, and the number of students in each subgroup (Gender and Ethnicity)

R2 adj. = .31 (perceived competence), R2 adj. = .26 (teacher influence) and R2 adj. = .18 (curriculum)]. There was a significant F change (p = .027) when students' perceived competence was added into the model but when teacher's influence (p = .69) and curriculum (p = .95) were added into the model there was no greater contribution to the model. Adding teacher influence and curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .18 (18 %)] considering Caucasian fifth grade female subjects.

African American, Boys

Student's interest in curriculum was the first step in the African American fifth grade boy's stepwise regression followed by teacher's influence and student's perceived competence [AA fifth boys, R2 adj. = .10 (curriculum), R2 adj. = .23 (teacher's influence) and R2 adj. = .22 (perceived competence)]. There was a significant F change (p = .026) when teacher influence was added into the model but when students' perceived competence (p = .40) and curriculum (p = .06) was added into the model there was no greater contribution to the model. Adding perceived competence and curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .22 (22 %)] considering African American fifth grade male subjects.

African American, Girls

Influence of the Physical Education teacher was the first step in the African American fifth grade girl's stepwise regression followed by student's perceived competence and curriculum [AA fifth girls, R2 adj. = .09 (teacher influence), R2 adj. = .02 (perceived competence) and R2 adj. = .19 (curriculum)]. The total amount of variance explained by adding all three independent variables was [adjusted R square = .19 (19 %)] considering African American fifth grade female subjects.

Hispanic, Girls

Students' perceived competence was the first step in the Hispanic fifth grade girl's stepwise regression followed by curriculum [Hispanic fifth girls, R2 adj. = .50 (perceived competence) and R2 adj. = 1.0 (curriculum)]. There was a significant F change (p = .000) when curriculum was added into the model but when perceived competence (p = .33) was added into the model there was no greater contribution to the model. Adding curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = 1.0 (100 %)] considering Hispanic fifth grade female subjects.

American Indian, Boys

Curriculum was the first step in the American Indian fifth grade boy's stepwise regression followed by student's perceived competence and teacher influence [AI fifth boys, R2 adj. = .19 (curriculum), R2 adj. = .19 (perceived competence) and R2 adj. = .76 (teacher influence)]. There was a significant F change (p = .047) when teacher influence was added into the model but when students' perceived competence (p = .22) and curriculum (p = .22) was added into the model there was no greater contribution to the model. Adding perceived competence and curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .76 (76 %)] considering American Indian fifth grade male subjects.

American Indian, Girls

Perceived competence was the first step in the American Indian fifth grade girl's stepwise regression followed by curriculum and teacher influence [AI fifth girls, R2 adj. = .97 (perceived competence), R2 adj. = .96 (curriculum) and R2 adj. = .99 (teacher influence)]. There was a significant F change (p = .002) when perceived competence was added into the model but when teacher influence (p = .14) and curriculum (p = .66) were added into the model there was no greater contribution to the model. Adding teacher influence and curriculum did not help to explain additional variance with respect to the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .99 (99 %)] considering American Indian fifth grade female subjects.

Table 2. Person product moment correlation analysis

Gender	Caucasian	AA	HIS	AI	Multi-cultural	Overall
Males	1.TE	1.CU	Notenough	1.CU	1.TE	1.TE
	R2=0.63	R2=0.36	Subjects	R2=0.59	R2=0.76	R2=0.38
	R2(adj)=0.37	R2(adj)=0.10	N=2	R2(adj)=0.19	R2(adj)=0.43	R2(adj)=0.13
	Fsign=0.002	Fsign=0.061		Fsign=0.216	Fsign=0.137	Fsign=0.002
	2.CO	2.TE		2.CO	2.CU	2.CO
	R2=0.667	R2=0.54		R2=0.59	R2=0.84	R2=0.44
	R2(adj)=0.38	R2(adj)=0.23		R2(adj)=0.19	R2(adj)=0.40	R2(adj)=0.16
	B1=0.47	B1=0.51		B1=0.59	B1=0.53	B1=0.26
	B2=0.27	B2=0.43		Fsign=0.216	B2=0.42	B2=0.25
	Fsign=0.245	Fsign=0.026		3.TE	Fsign=0.454	Fsign=0.072
	3.CU	3.CO		R2=.93	3.CO	3.CU
	R2=0.668	R2=0.56		R2(adj)=0.76	R2=0.94	R2=0.47
	R2(adj)=0.35	R2(adj)=0.22		B1=10.52	R2(adj)=0.55	R2(adj)=0.18
	B1=0.47	B1=0.50		B2=-10.17	B1=10.11	B1=0.26
	B2=0.26	B2=0.38		Fsign0.=0.047	B2=0.29	B2=0.24
	B3=0.04	B3=0.15			B3=-0.68	B3=0.18
	Fsign=0.835	Fsign=0.403			Fsign=0.424	Fsign=0.120
Females	1.CO	1.TE	1.CO	1.CO	NoSubjects	1.CO
	R2=0.61	R2=0.389	R2=0.87	R2=0.988		R2=0.31
	R2(adj)=0.31	R2(adj)=0.09	R2(adj)=0.50	R2(adj)=0.97		R2(adj)=0.07
	Fsign=0.027	Fsign.=.136	Fsign=0.333	Fsign=0.002		Fsign=0.062
	20.TE	2.CO	2.CU	20.CU		20.TE
	R2=0.62	R2=0.391	R2=1.0	R2=0.989		R2=0.32
	R2(adj)=0.26	R2(adj)=0.02	R2(adj)=1.0	R2(adj)=0.96		R2(adj)=0.05
	B1=0.63	B1=0.38	B1=.93	B1=10.0		B1=0.31
	B2=-0.10	B2=0.04	B2=.50	B2=-0.057		B2=0.08
	Fsign=0.690	Fsign 0.=0.891	Fsign=0	Fsign=0.656		Fsign=0.625
	3.CU	3. CU		3.TE		3.CU
	R2=0.62	R2=.59		R2=10.0		R2=0.32
	R2(adj)=0.18	R2(adj)=0.19		R2(adj)=0.99		R2(adj)=0.02
	B1=0.63	B1=0.62		B1=0.96		B1=0.31
	B2=-0.10	B2=0.11		B2=0.13		B2=0.09
	B3=-0.02	B3=-0.52		B3=-0.23		B3=-0.10
	Fsign=0.953	Fsign=0.08		Fsign=0.137		Fsign=0.92

The table above represents student ranking of influences leading to positive interest in physical education based from Stepwise Regression Analysis with Interest in PE as Dependent Variable compared to Student's Race (AA – African American, W – Caucasian, AI – American Indian, HIS – Hispanic, Overall), Gender, and each of the subscales (TE-teacher influence, CO-student perceived competence, CU-curricular influences) as Independent Variables: Multiple Correlation (R) square (R2 adj), Beta weight (B).

Multicultural, Boys

Influence of the Physical Education teacher was the first step in the Multicultural fifth grade boy's stepwise regression followed by student's curriculum and perceived competence [Multi fifth boys, R2 adj. = .43 (teacher influence), R2 adj. = .40 (curriculum) and R2 adj. = .55 (perceived competence)]. The total amount of variance explained by adding all three independent variables was [adjusted R square = .55 (55 %)] considering Multicultural fifth grade male subjects.

Overall Influences

Influence of the Physical Education teacher was the first step in the overall fifth grade boy's stepwise regression followed by students' perceived competence and curriculum [Fifth grade boys overall, R2 adj. = .13 (teacher influence), R2 adj. = .16 (perceived competence) and R2 adj. = .18 (curriculum)]. Whereas students' perceived competence was the first step in the overall fifth grade girl's stepwise regression followed by teacher influence and curriculum [Fifth grade girls overall, R2 adj. = .07 (perceived competence), R2 adj. = .05

(teacher influence) and R2 adj. = .02 (curriculum)]. Teacher's influence seems to contribute most often to the variance of interest of the boys regardless of ethnicity, while student's perceived competence contributes most to the variance of the girls regardless of ethnicity. Physical Education curriculum seemed to have the least influence on fifth grade boy and girl's interest among the three sub-areas.

Considering overall fifth grade males, there was a significant F change (p = .002) when teacher influence was added into the model but when students' perceived competence (p = .07) and curriculum (p = .12) were added into the model there was no greater contribution to the model. Adding perceived competence and curriculum did not help to explain much more variance toward the dependent variable. The total amount of variance explained by adding all three independent variables was [adjusted R square = .18 (18 %)] considering overall fifth grade male subjects. Considering overall fifth grade females, the total amount of variance explained by adding all three independent variables was [adjusted R square = .02 (2 %)] considering overall fifth grade female subjects.

DISCUSSION

Data collected from this study regarding elementary student's interest in physical education addressed four research questions. The first research question asked if elementary school students expressed positive or negative interest in their physical education classes. Results indicated that elementary school students, included in this study, expressed positive interest toward physical education. These findings were in concert with Rice's (1988) findings, which suggested that upwards of 85% of the students responded favorably to their physical education classes. Additionally, student's answers to the opened ended questions (dislikes & likes in PE), at the conclusion of the questionnaire, supported the findings previously mentioned.

The second research question asked if there would be a difference in student's interest in relation to gender toward physical education class. It appeared that all students, regardless of gender, possessed a positive interest in physical education. Although male subjects seemed to maintain significantly greater interest in physical education, than their counterparts, irrespective of ethnicity.

The third research question asked if there was a difference in student interest in relation to ethnicity toward physical education class. All students, regardless of ethnicity, maintained interest in physical education. In support, Tannehill and Zakrajsek (1993) found in their study of multicultural subjects that physical education was an important aspect of their overall high school education. Caucasians maintained the highest interest among fifth graders.

The fourth and final research question asked which affects student interest in physical education more, teacher influence, curriculum, or a student's perceived competence considering gender and ethnicity. Among fifth grade students, results indicated that students' perceived competence ranked first by way of stepwise regression as having the most effect on student's overall interest in physical education followed by teacher influence and curriculum respectively. These data represented only 10% of the variance of why the students were interested in physical education. The reasons why these students expressed the strongest interest in physical education are beyond the scope of this study. This researcher can offer some interesting educated speculations as to the reasons why these elementary students maintained strong positive interest in physical education yet had a low overall adjusted R square (overall variance).

Elementary students throughout the state of Florida are typically denied recess and are limited to, at most, three physical education classes per week. Standardized testing has taken over the curriculum and physical education is not on the test so limited time is devoted to this subject. This equates to less physical education and less activity at a time when these student's metabolisms are at their highest and students are begging to be active. So, when students get the opportunity to participate in physical activity, they tend to enjoy it immensely. Sixty-two percent of the students responded to the open-ended questions (n = 62). Student responses were positive and like answers like these; "Everything", "Nothing, I like everything about PE", and "No, because everything about PE is fun". None of the students who answered the open-ended questions answered negatively. All students were encouraged to complete the open-ended questions.

Limitations to this study include but are not limited to; participant sample size, limited to one region of one state, various ethnicities were not equally represented, the quality of teaching was not measured, the ethnicity and experiential level of the instructors were not measured as well. All of the afore mentioned limitations may have affected the results of this particular study. It is a strong recommendation that future researchers replicate this research with these limitations in consideration.

CONCLUSION

At the conclusion of the study and after careful analysis and review of the students' responses to the questionnaire, including the open-ended questions at the end of the survey, some interesting practical implications have emerged. Student interest does not seem to be a problem regarding physical education. Although this study produced positive interest in physical education regardless of the subjects' gender and ethnicity, it is imperative that future instructors consider teaching non-mainstream individual fitness activities to students regardless of their age. Several studies have established that generally, students maintain positive attitudes toward physical education (Coe, 1984; Fairclough, 2003; Park, 1995 & Rice, 1988). Moreover, student gender has been identified as a precursor for significantly more positive attitudes for male students than their female counterparts (Chung & Phillips, 2002; Luke & Sinclair, 1991; & Shropshire, Carroll & Yim, 1997).

The future of physical education as a profession in the public-school system depends on change. Inclusion of all students in physical education activities by developing

levels of success, as far as motor development, is of the utmost importance. Doing so will produce higher perceived competence within each individual student, thus developing more enjoyment in physical education. Unlu (2012) suggested that student interest in physical education is multifactorial in nature. Whereas, facilities, tools, materials, physical opportunities and the physical education teacher themselves have a dramatic effect on student interest in physical education. The goal of physical educators is to introduce the importance of proper physical activity to future adults. These future adults need to be encouraged to continue to be physically active throughout life not only while they are young, thus reducing the obesity epidemic plaguing our society.

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