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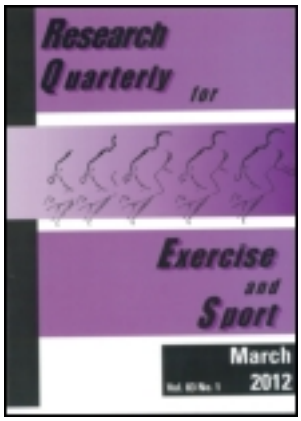

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Pamela Hodges Kulinna and Stephen Silverman

Key words: physical education, belief systems

The importance of regular physical activity and its relationship to preventing disease and premature death, as well as maintaining a high quality of life, is the underlying message in the 1996 Surgeon General's report on *Physical Activity and Health* (U.S. Department of Health and Human Services, 1996). The Surgeon General's report emphasized the central role of physical education in the physical activity participation and health of our nation's youth. School physical education programs are the only organizations capable of addressing the physical activity needs of the majority of our nations' children and youth (Sallis & McKenzie, 1991).

The important role school physical education programs play in providing physical activity opportunities for our nation's youth is also discussed in national reports (e.g., American College of Sports Medicine, 1988; U.S. Department of Health and Human Services, 1991) calling for health-related physical education programs that focus on lifetime activities and provide at least 50% of class time in physical activity. Children and youth may receive immediate and long-term health benefits from their participation in physical activity (U.S. Department of Health and Human Services, 1996). Recent studies have focused on the connections among childhood physical activity, adult physical activity, and, ultimately, adult health (Kuh & Cooper, 1992; Welk, 1998). Taylor, Blair, Cummings, Wun, and Malina (1999) for example, found that teen skill and participation in team sports during the preteen years were positively related to adult physical activity.

Physical activity participation leading to the development of physical fitness is one of the important outcomes of physical education programs. Program outcomes are influenced by many factors, including teachers' beliefs, attitudes, and values. Beliefs are assumptions held by individuals to represent the truth about themselves and the world based on personal experience or external authorities (Athos & Gabarro, 1978). Attitudes and values are subsets of beliefs. A group of beliefs clustered around a situation or object becomes an attitude that is prone to action. When beliefs function to evaluate (or compare or judge) and call for action, they have become values. Collectively, an individual's beliefs, attitudes, and values form their belief system (Pajares, 1992). Teachers' curricular and instructional decisions and, ultimately, student learning are affected by their belief systems (Pajares, 1992). The relative importance of various outcome goals for physical education are a part of teachers' belief systems.

Teachers' attitudes and values toward teaching comprise their educational value orientations. Value orientations describe the relative importance of several key factors in the teaching-learning process to teachers (Ennis, 1994). Curricular theorists (Jewett, Bain, & Ennis, 1995) have identified five value orientations among physical education teachers: (a) disciplinary mastery, (b) learning process, (c) self-actualization, (d) ecological integration, and (e) social responsibility. Ennis and her colleagues have developed a strong database of research demonstrating the influence of value orientations on teachers' curricular and instructional decisions in physical education (Ennis, 1996). One value orientation—disciplinary mastery (DM)—includes physical fitness. It

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assesses the importance of students' developing proficiency on a comprehensive range of objectives within skill, sport, and fitness content to teachers (Ennis, 1994). It is not, however, commonly specified as a high priority for teachers (Chen, Liu, & Ennis, 1997; Ennis, Chen, & Ross, 1992; Ennis & Zhu, 1991).

Even though a comprehensive database on teachers' value orientations in physical education has been developed, an independent assessment of the importance of physical activity leading to the development of fitness to teachers has not been available. There is a paucity of data on teachers' attitudes related to physical activity and fitness. In addition, the instrument used in many of the value orientation studies (i.e., the Value Orientation Inventory; Ennis & Hooper, 1988) is composed of a forced-choice format. The forced choice format can be very beneficial for measuring teachers' belief systems. It requires teachers to make choices among priorities for physical education programs, thus simulating the curricular decision making process. It does not, however, allow for the investigation of the relative importance of various outcome goals to teachers.

The purpose of this study was to investigate teachers' attitudes toward various outcome goals for physical education programs. Specifically, the following research questions were investigated: (a) Do teachers differentiate among the relative importance of the domains of physical activity and fitness, motor skill development, self-actualization, and social development as reflected by their responses to a survey about their attitudes? (b) How do teachers' attitudes about these four domains vary according to the grade level taught? and (c) Do experienced and novice teachers' attitudes differ within the physical activity and fitness domain? The physical activity and fitness domain was the primary focus for this study.

The instrument used in the current study includes a Likert-type scale allowing respondents to evaluate items without setting priorities or making comparisons. The four domain areas of the instrument (i.e., physical activity and fitness, motor skill development, self-actualization, and social development) can be evaluated independently of each other. The domains were selected due to their focus on distinct outcome goals that could be analyzed separately.

Method

Various methods were used to recruit physical education teachers to participate in this study. Teachers completed an attitude instrument designed to measure the relative importance of several physical education outcome goals and provided informed consent. Data from the instrument were analyzed to examine trends among teachers and differences among teacher subgroups.

Instrument

The attitude instrument used in this study contains 36 items, with 9 representing each of the following domains: (a) physical activity and fitness, (b) self-actualization, (c) motor skill development, and (d) social development. The instrument was created with the primary objective of measuring teachers' attitudes toward physical activity and fitness. The four domain areas focus on different outcome priorities for physical education programs. The physical activity and fitness domain focuses on the importance of providing a great deal of physical activity time and promoting physical activity participation leading to physical fitness and improved health. The self-actualization domain area focuses on developing individual students' self-esteem and self-confidence, mental abilities, and their enjoyment and self-efficacy in physical activity participation. The motor skill development domain relates to acquiring the prerequisite motor skills needed for successful participation in a variety of sports and activities. Finally, the social development domain emphasizes the development of social skills and acceptance among students. It also focuses on providing equal opportunities for all students and understanding and appreciating differences among individuals. The instrument uses a Likert-type scale for the response format. Participants select a number for each item that best represents their attitude toward the item from 1 to 5. The scale ranges from 1 = "very important" to 5 = "not important." The instrument has shown the psychometric properties of reliability and validity in the population in which it was used.

Recruitment

Three methods were used to recruit participants: (a) recruitment from schools in Illinois and Oregon, (b) solicitations to members of the U.S. Physical Education listserv group on the Internet (USPE-L), and (c) referrals from various teacher educators in six states. Teachers who agreed to participate in the study were given the following materials: (a) a letter explaining the study, (b) an informed consent form, (c) a demographic information sheet, (d) an attitude instrument and (e) a stamped return envelop. Teachers who participated in this study mailed their completed forms directly to the first author.

Participants

Over 530 instruments were distributed, and 253 currently employed physical education teachers were the participants (48%) for this study. Not all participants completed all the items on the instrument or all the demographic information requested on the form. The number of participants for various aspects of this study ranged from 217 to 253. Participants ranged in years of

teaching experience from 1 to 40 years (M = 15). Most of the teachers who served as participants for this study were Caucasian (n = 231), with a small number of participants from the following ethnic groups: African American (n = 9), Asian American (n = 3), Hispanic American (n = 6), Mexican American (n = 1), and English Portuguese (n = 1). Both genders were well represented in the sample (135 women and 117 men). Similarly, there was significant representation from all three teaching levels: elementary (n = 84), middle school/junior high (n = 63) and high school (n = 70) teachers. Participants for this study represented 18 states.

Data Analysis

Data were scored by creating measures for each of the four domains (i.e., physical activity and fitness, self-actualization, motor skill development, and social development). The relative importance of the four outcome goals (domains) to physical educators was determined using repeated measures analysis of variance (ANOVA). Tukey post hoc tests were used to test for significant differences between all combinations of domains. The variance accounted for effect sizes (Educational and Psychological Measurement, 1997) were also calculated between all pairwise comparisons of domain areas to investigate the strength of the differences between attitudes toward different outcome goals for physical education using Cone's d. The standard deviation (SD) of the low physical activity and fitness group was used due to the similarity to using a control group (i.e., less variance). A multivariate analysis of variance (MANOVA) was used to investigate differences in outcome priorities among teaching levels, genders, and interaction effects of gender and teaching level. Significant MANOVAs were followed by discriminant analysis, ANOVA, analysis of covariance (ANCOVA), and Student-Newman-Keuls tests (Bray & Maxwell, 1982; Stevens, 1996). The participant-to-variable ratio in this study adequately supports these follow-up procedures (Stevens, 1996). Teaching experience of the participants was classified into experienced (> 3 years) or novice (< 4 years) to explore possible differences in attitudes toward the outcome goal of physical activity and fitness between more and less experienced teachers. Differences between the experience groups (i.e., novice versus experienced) were analyzed using a t test for unequal variance terms due to a large difference in the sample sizes.

Results

The mean score for individual items ranged from 1.33 to 2.75, with lower scores reflecting a stronger attitude. Repeated measures ANOVA results indicated that significant differences were present among teachers' outcome goals, $F(3, 237) = 74.62$, $p < .01$. Results from the repeated measures ANOVA (scaled to correspond with the Likert-like 1–5 scale) showed that physical activity and fitness was the most important outcome goal for teachers in this study followed by self-actualization, motor skill development, and social development, respectively. The post hoc test indicated that significant differences were present between all combinations of domains except between motor skill development and social development. Effect size findings for pairwise comparisons of domain areas were as follows: (a) physical activity and fitness and self-actualization = .22; (b) physical activity and fitness and motor skill development = .73; (c) physical activity and fitness and social development = .76; (d) self-actualization and motor skill development = .60; and (e) self-actualization and social development = .66. Pairwise comparisons that exceed .50 indicate a greater than half a SD difference between the groups and suggest that teachers' attitudes differ toward the two outcome goals. Although significant, the difference between physical activity and fitness and self-actualization was small, and it should be interpreted with caution.

Significant differences in attitude variables were found among elementary school, middle school/junior high school, and high school teachers (Wilks' $\Lambda = .73$, $F(8, 416) = 8.80$, $p < .01$. There were no differences in teaching priorities by gender and no gender teaching level interaction. The first step of MANOVA follow-up, stepwise discriminant analysis, indicated that physical activity and fitness, $F(2, 214) = 8.85$, $p < .01$, was the dependent variable with the strongest influence on the difference, followed by motor skill development, $F(4, 426) = 14.07$, $p < .01$, and social development, $F(6, 424) = 11.18$, $p < .01$). Self-actualization did not enter the equation and was not responsible for the differences in levels.

A follow-up ANOVA test indicated that differences were present among teaching levels for the physical activity and fitness domain, $F(2, 218) = 8.95$, $p < .01$). Covariates were included in subsequent analyses to remove variation attributable to the variables accounted for in the earlier steps. A follow-up ANCOVA test for the motor skill development domain, with the physical activity and fitness domain as a covariate, also indicated significant differences were present, $F(2, 214) = 19.63$, $p < .01$, as well as the social development domain, with the motor skill development and physical activity and fitness domains as covariates, $F(2, 212) = 4.95$, $p < .01$. Student-Newman-Keuls post hoc tests indicated that middle school/junior high and high school teachers placed a significantly higher priority on physical activity and fitness than elementary school teachers. The post hoc tests also indicated that elementary school and middle school/junior high school teachers placed a significantly higher priority on motor skill development and social development than high school teachers. Table 1 provides

means and standard deviations for each domain area by teaching level and overall.

The t test performed to investigate differences between experienced (M = 15.27, SD = 4.89) and novice (M = 17.16, SD = 6.62) teachers' attitudes toward physical activity and fitness showed significant differences between the groups, $t(44.7) = 1.68$, $p < .05$). The physical activity and fitness domain area was significantly more important to teachers with more than 3 years of teaching experience than to novice teachers.

Discussion

Repeated measures ANOVA results indicated that all of the outcome goals (physical activity and fitness, self-actualization, motor skill development, and social development) measured in this study were important, to some degree, to the physical educators, as evidenced by the small range of responses among the four goals. Multiple perspectives regarding the goals for teaching and learning have also been shown in a study of teachers' value orientations using the Value Orientation Inventory (Ennis & Zhu, 1991). Similarly, Kliebard (1988) indicated that one current orientation may take prominence and then another, and that all orientations, to some degree, exist side by side in a teacher's profile.

This study also showed significant differences by teaching level in the outcome priorities of physical education teachers and may be related to curricular variations. The higher priority placed on physical activity and fitness by middle school/junior high school teachers and high school teachers compared to elementary school teachers in this study is consistent with other studies of high school teachers. For example, Siedentop, Doutis, Tsangaridou, Ward, and Rauschenbach (1994) reported that teachers espoused the primary goal for physical education programs as promoting an active leisure and fitness lifestyle for students over the long term.

Elementary and middle/junior high school teachers placed a higher priority on developing motor and social skills than high school teachers. Many high school students and teachers may assume that the students are adequately skilled in a variety of motor activities and that they need to allocate minimal time for motor skill development at the high school level. Another possible explanation is that a negotiation may have occurred between the teachers and their students regarding participation in physical activities related to motor skill and social development. O'Sullivan, Siedentop, and Tannehill (1994) reported this type of negotiation in a physical education program. The teacher and students reported being happier after the curriculum was modified to a recreational focus in exchange for student motivation and compliance. It is discouraging to note that the teachers' responsibilities at some high schools involve organizing and supervising physical activity rather than teaching (O'Sullivan et al., 1994). While there are innovative curricular programs being implemented (e.g., adventure education), high school physical education is often composed of multiactivities and oriented toward sports (Steinhardt, 1992).

Beyond curricular differences, instructional methods may also influence teachers' attitudes toward physical activity and fitness. Differences in instructional practices between experienced and novice teachers may have contributed to the differences in their attitudes related to physical activity and fitness. Teachers in their first few years of teaching (i.e., induction phase) may place a lower priority on the outcome goal of physical activity and fitness due to a focus on management concerns. O'Sullivan (1989) reported that first-year teachers were respected for managing their classes effectively rather than for their instructional capabilities, thus, leaving new teachers fighting for legitimacy.

Table 1. Domain area means and standard deviations by teaching level and overall

Level	n	Physical activity & fitness		Self-actualization		Motor skill development		Social development	
		M	SD	M	SD	M	SD	M	SD
Elementary	84	1.89	.68	1.85	.61	2.01[b]	.59	2.15[b]	.66
Middle/ junior high school	63	1.57[a]	.38	1.81	.40	2.12[b]	.52	2.03[b]	.54
High school	70	1.61[a]	.40	1.91	.44	2.37	.51	2.37	.56
Overall	217	1.73	.58	1.84	.50	2.14	.56	2.17	.61

Note. M = mean; SD = standard deviation.

[a]Middle/junior high and high school teachers placed a significantly higher priority on the physical activity and fitness domain than elementary school teachers.

[b]Elementary and middle/junior high school teachers placed a significantly higher priority on the motor skill development and social development domains than high school teachers.

The results of this study warrant further investigation into teachers' belief systems related to physical activity and fitness and how their belief systems are formed, including the role of teacher education programs. There is also a complex relationship between teachers' belief systems and their teaching behaviors. Extensive study of teachers' attitudes and the relationship between their attitudes and actions will be required to gain a thorough understanding of this dynamic relationship.

References

American College of Sports Medicine. (1988). Physical fitness in children and youth. *Medicine and Science in Sports and Exercise, 20,* 422–423.

Athos, A. G. , & Gabarro, J. J. (1978). The individual frame of reference. In A. G. Athos & J. J. Gabarro (Eds.), *Interpersonal behavior: Communications and understanding in relationships* (pp. 137–148). Englewood Cliffs, NJ: Prentice Hall.

Bray, J. H., & Maxwell, S. E. (1982). Analyzing and interpreting significant MANOVAs. *Review of Educational Research, 52,* 340–367.

Chen, A., Liu, Z., & Ennis, C. D. (1997). Universality and uniqueness of teacher educational value orientations: A cross-cultural comparison between USA and China. *Journal of Research and Development in Education, 30,* 135–143.

Educational and Psychological Measurement. (1997). *Computing effect sizes, on the world wide web.* URL: http://ACS.TAMU.EDU/~bbt6147/effect.html.

Ennis, C. D. (1994). Knowledge and beliefs underlying curricular expertise. *Quest, 46,* 164–175.

Ennis, C. D. (1996). A model describing the influence of values and context on student learning. In S. J. Silverman & C. D. Ennis (Eds.), *Student learning in physical education: Applying research to enhance instruction* (pp. 127–147). Champaign, IL: Human Kinetics.

Ennis, C. D., Chen, A., & Ross, J. (1992). Educational value orientations as a theoretical framework for experienced urban teachers' curricular decision making. *Journal of Research and Development in Education, 25,* 156–164.

Ennis, C. D., & Hooper, L. M. (1988). Development of an instrument for assessing educational value orientations. *Journal of Curriculum Studies, 20,* 277–280.

Ennis, C. D., & Zhu, W. (1991). Value orientations: A description of teachers' goals for student learning. *Research Quarterly for Exercise and Sport, 62,* 33–40.

Jewett, A. E., Bain, L. L., & Ennis, C. D. (1995). *The curriculum process in physical education.* Madison, WI: Brown and Benchmark.

Kliebard, H. M. (1988). The effort to reconstruct the modern American curriculum. In L. E. Beyer & M. W. Apple (Eds.), *The curriculum: Problems, politics, and possibilities* (pp. 19–31). Albany, NY: State University of New York Press.

Kuh, D., & Cooper, C. (1992). Physical activity at 36 years: Patterns and childhood predictors in a longitudinal study. *Journal of Epidemiology and Community Health, 46,* 114–119.

Kulinna, P. H., & Silverman, S. (1999). The development and validation of scores on a measure of teachers' attitudes toward teaching physical activity and fitness. *Educational and Psychological Measurement, 59,* 507–517.

O'Sullivan, M. (1989). Failing gym is like failing lunch or recess: Two beginning teachers' struggle for legitimacy. *Journal of Teaching in Physical Education, 8,* 227–242.

O'Sullivan, M., Siedentop, D., & Tannehill, D. (1994). Breaking out: Codependency of high school physical education. *Journal of Teaching in Physical Education, 13,* 420–441.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62,* 307–332.

Sallis, J., & McKenzie, T. (1991). Physical education's role in public health. *Research Quarterly for Exercise and Sport, 62,* 124–137.

Siedentop, D., Doutis, P., Tsangaridou, N., Ward, P., & Rauschenbach, J. (1994). Don't sweat gym! An analysis of curriculum and instruction. *Journal of Teaching in Physical Education, 13,* 375–394.

Steinhardt, M. A. (1992). Physical education. In P. W. Jackson (Ed.), *Handbook of research on curriculum* (pp. 964–1001). New York: Macmillan.

Stevens, J. P. (1996). *Applied multivariate statistics for the social sciences* (3rd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Taylor, W. C., Blair, S. N., Cummings, S. S., Wun, C. C., & Malina, R. M. (1999). Childhood and adolescent physical activity patterns and adult physical activity. *Medicine & Science in Sports & Exercise, 31,* 118–123.

U.S. Department of Health and Human Services. (1991). *Healthy People 2000: National health promotion and disease prevention objectives* (DHHS Publication No. PHS 91-50212). Washington, DC: Author.

U.S. Department of Health and Human Services. (1996). *Physical activity and health: A report of the Surgeon General.* Atlanta, GA: Centers for Disease Control and Prevention.

Welk, G. (1998, February). *Youth fitness promotion across the lifespan.* Paper presented at the Administrative Issues in Youth Fitness Promotion Conference, Dallas, TX.

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