

PEDAGOGY

Influence of Significant Others on High School Students' Expectancies of Success and Task Value in Physical Education

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Abstract

This study examined the perceived influence of significant others' beliefs on students' expectancies of success and task value in physical education (PE). PE students (N = 231) between Grades 9 and 12 participated. Multiple regressions examined the influence of perceived parents', teachers', and classmates' beliefs on students' ability expectancies and task value. Findings revealed that perceptions of parents', teachers', and classmates' beliefs concerning ability expectations and attainment value were positive predictors of students' own beliefs and attainment value for PE. Perceptions of parents' and classmates' utility value were significant in predicting students' utility value for PE. Higher ability expectancies, attainment value, and utility value were related to lower intrinsic motivation. Higher attainment value predicted lower extrinsic motivation, and higher utility value predicted lower social motivation. In conclusion, perceptions of parents', teachers', and classmates' ability expectancies, attainment value, and utility value positively predicted students' ability expectancies, attainment value, and utility value.

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Physical education (PE) students' motivation to participate in class may come from numerous sources, including their own personal beliefs, perceptions of others' beliefs (social influence), past history, opportunities in which they have succeeded or failed, and talent (Dempsey, Kimiecik, & Horn, 1993; Eccles et al., 1983; Kimiecik, Horn, & Shurin, 1996; Papaioannou & Theodorakis, 1996). Current research suggests that poor participation levels in PE are due to a lack of motivation (Ntoumanis, 2001, 2005; Standage, Duda, & Ntoumanis, 2003; Yli-Piipari, Watt, Jaakkola, Liukkonen, & Nurmi, 2009).

An understanding of PE students' motivational processes is critical for PE teachers to increase participation among students in PE. Through participation in PE, students are afforded opportunities to gain competency in skill and tactical understanding in a variety of activities, increase physical activity (PA) levels, learn responsible and social behavior, and learn to value and enjoy participating in PA (Society of Health and Physical Educators, 2013). In a typical PE class setting, many students approach these opportunities with excitement and willingness to participate, whereas others resist participation. Eccles et al. (1983) questioned why one child would approach an activity with excitement and enthusiasm and another child (same activity) would resist participating. It was believed that the existing achievement theories at the time did not adequately answer or explain why differences exist among participants (Eccles et al., 1983). In the attempt to answer this question, Eccles et al. (1983) created a model that examined two determinants of achievement behavior: (a) expectancy belief and (b) subjective task values. This model (now known as Eccles' expectancy-value model) suggests that achievement behavior (i.e., effort, energy, persistence) is a result of an individual's expectancies for success and task value. These perceptions are often influenced by significant others' perceptions, namely, parents', peers', and teachers' opinions and beliefs concerning the individual's competence and the importance of the activity.

Expectancies for success and subjective task value directly influence individuals' choices and behaviors (Eccles et al., 1983). Expectancy for success is an individual's perceived competence or beliefs about his or her ability in a particular domain (Eccles et al.,

1983; Weiss & Ferrer-Caja, 2002). This construct is an interesting and critical component to understanding the factors that influence achievement behaviors (Weiss & Ferrer-Caja, 2002).

Subjective task value is the importance of being successful in a certain domain or achievement area (Eccles et al., 1983; Weiss & Ferrer-Caja, 2002). There are four types of subjective task value: attainment, interest, utility, and costs (Eccles et al., 1983). In this study, attainment value and utility value were assessed. Attainment value has been defined as the importance of doing well in a particular domain and demonstrating competence (Eccles et al., 1983). Utility value is the perceived usefulness or importance of the task for short- or long-term goals (Eccles et al., 1983; Weiss & Ferrer-Caja, 2002).

According to Eccles' expectancy-value model, several socio-cultural and psychological constructs influence task value and expectancies for success (Eccles et al., 1983). The main determinants that effect success expectations and task value are a person's perceptions of task difficulty, goals, self-schemata, causes of past success and failures, and perceptions of socializers' beliefs and behaviors (Eccles et al., 1983; Weiss & Ferrer-Caja, 2002). In this study, attention was placed on perceptions of socializers' beliefs and behaviors, in particular perceptions of parents', peers', and teachers' beliefs. Significant adults such as parents and teachers shape students' attitude, self-concept, and general expectancies of success in three ways (Eccles et al., 1983). First, significant adults are providers of experience. Second, significant adults are interpreters of experience. Third, significant others are role models (Eccles et al., 1983). Peers also have a significant influence on each other in much the same way as parents and teachers. Peers can also be interpreters of experience and can give positive and negative criticism. Also, individuals are always developing new friendships and relationships and seeking peer acceptance.

For example, Eccles Parsons, Adler, and Kaczala (1982) were interested in the influence of parents on children's achievement behaviors in mathematics for students in Grades 5 to 11. In particular, they investigated parents' influence as role models and as socializers. Results indicated that parent role modeling of mathematical skills did not influence their children's performance or expectancies. For expectancies for success, however, parents as socializers influ-

enced their children through their attitudes and beliefs about math abilities. Parents' beliefs were also directly related to the child's expectancies of success, which was even more influential than their child's past performances in math. Thus, it appears as if parents' beliefs are more important to children's performance than the role modeling behaviors by the parents.

Eccles' expectancy-value model has also been tested in the physical domain. Sheldon and Eccles (2005) were interested in the importance of self-perceptions of psychological abilities and perceived competence of tennis players. The study was designed to examine self-perceptions of psychological aptitudes as important predictors of perceived ability or expectancies of success. The research suggested that individuals' past experiences are significantly related to their ability and self-concepts as tennis players. The findings were in accordance with Eccles' expectancy-value model (Eccles et al., 1983) in that individuals' past experiences and self-perceptions influenced their self-concept. This study points out that instructors or coaches should focus on strategy, self-perceptions, confidence, and effort rather than just the specific skill development.

Considerable research has been conducted with the Eccles' expectancy-value model in academic and physical domains (e.g., Eccles et al., 1983; Eccles & Harold, 1991; Eccles Parsons et al., 1982; Fredricks & Eccles, 2002, 2005; Sheldon & Eccles, 2005). However, limited research has been conducted with the Eccles' expectancy-value model in a PE context (Xiang, McBride, & Bruene, 2003, 2006; Xiang, McBride, & Guan, 2004). Xiang et al. (2003, 2006) examined elementary PE students' motivation and parents' beliefs to participate in a running program as part of the PE curriculum. Results indicate that students' expectancy beliefs were a strong predictor of motivation for running. Additionally, parents' value beliefs were related to their child's persistence in running. These findings provide some evidence that students' expectancy beliefs and parents' value beliefs are important in student motivation in PE. Limited research has examined high school PE students' expectancies for success and task value in PE. Therefore, the purpose of this study was to examine the influence of significant others on high school students' expectancies for success and task value in PE class.

Method

Participants and Setting

Participants were PE students ($N = 231$) recruited from two high schools in the Midwestern United States ($n = 33$ and $n = 198$). Male ($n = 107$) and female ($n = 122$) students ranged in age from 14 to 18 years ($M = 16.47$, $SD = 1.13$). The students were currently in Grades 9 ($n = 47$), 10 ($n = 57$), 11 ($n = 64$), and 12 ($n = 61$). Two students elected not to indicate grade and gender. The sample consisted of predominantly Caucasian (91.8%) students, with the remaining students describing themselves as Asian American (.9%), Biracial (1.3%), African American (1.7%), Hispanic/Latino (.4%), and Other (2.6%). In addition to participating in PE, the majority of the students (66.2%) currently participated on a scholastic sport team. Permission to collect data was obtained from the university institutional review board, the school administration, and teachers, and parents and students provided written consent and assent.

Instrumentation

Demographics. Students responded to questions related to age, grade, gender, ethnicity, participation in competitive sport, and if PE is an elective or required course at their high school.

Expectancies for success. The expectancies for success scale from the Self- and Task Perception scale assessed students' perceptions of ability in PE (Eccles & Wigfield, 1995). This scale has demonstrated internal consistency among (Eccles & Harold, 1991; Eccles & Wigfield, 1995; Eccles Parsons et al., 1982; Wigfield et al., 1997) students in the first to 12th grades. Five items on the ability/expectancy scale were modified and made applicable to a PE context. Students responded to these items on a Likert scale ranging from 1 to 7 with appropriate words serving as anchors on the scale for each question. The investigators computed the score for each PE student by averaging the scores of the five modified items. Higher values indicated higher beliefs about an individual's competence in PE.

Subjective task value. A modified version of the subjective task value scale from Eccles and Wigfield (1995) and Cox and Whaley (2004) assessed student attainment value and utility value toward PE. The students answered these items on a Likert scale ranging from

1 to 7 with appropriate terms at each end of the scale. Eight questions assessed students' attainment value and utility value. The investigators computed scores for each of the components of task value by averaging the scores of the items in each subscale. Higher scores on each subscale (attainment value and utility value) indicated greater value associated with PE. Reliability for each of the two subscales of subjective task value has been reported greater than .70 (Cox & Whaley, 2004; Eccles & Wigfield, 1995).

Perceptions of socializers' beliefs. A modified version of Eccles and Wigfield's (1995) scale assessed the perceptions of parents', teachers', and peers' expectancies for success, attainment value, and utility value for PE. Past research has shown adequate reliability for this scale (Kimiecik et al., 1996). Thirteen questions assessed students' perceptions of significant others' beliefs. Responses ranged in a Likert scale from 1 to 7 with appropriate word anchors.

Procedures

Once parental consent forms were collected, the primary investigator returned a few weeks later to administer the questionnaire during the participants' PE class. Prior to administering the questionnaire, the primary investigator gave the instructions and reminded the students that this was a voluntary project and responses would not be considered in their PE grade. Students completed the questionnaire away from their teacher and other nonparticipating peers. During and after the questionnaire, the primary investigator was available to answer questions.

Data Analysis

Statistical analysis was conducted using SPSS 20. Preliminary analyses included descriptives, frequencies, reliabilities, and correlations. A series of multiple regression analyses determined the influence of perceived significant others' beliefs on students' own beliefs. Significant others' beliefs were the independent variables, whereas the students' expectancies for success, attainment value, and utility value were the dependent variables.

Results

Alpha coefficients were computed and determined scale reliabilities for all constructs. All scales achieved adequate reliability, with

alphas ranging from .79 to .93 (see Table 1). Mean scores were calculated for each subscale. For the subscales, scores ranged from 1 to 7 on each item. Table 2 shows the means and standard deviations for each subscale (see Table 1).

Correlations were calculated among all constructs (see Table 1). The relationship between the students' ability expectancies, attainment value, and utility value was strong and positive. Thus, students with higher ability expectations for PE also tended to have higher attainment and utility value for PE.

The relationship between students' perceptions of ability expectancies, attainment value, and utility value and parents', teachers', and classmates' perceived ability expectancies, attainment value, and utility value was moderate to high and positively correlated. Thus, students who had higher ability expectancies, attainment value, and utility value tended to perceive their parents, teachers, and classmates as having higher ability expectancies, attainment value, and utility value for PE.

Social Influence on Ability Expectations

A multiple regression analysis determined the relationship between perceptions of significant others' beliefs about ability and students' ability expectations. The predictor variables included perceptions of parents', teachers', and classmates' ability expectancies. A significant relationship emerged, $F(3, 227) = 215.93, p < .0001$. For the social predictors, the strength of the relationship was $R = .86$, with the predictors explaining 74% of the variance in students' ability expectancies. Beta weights suggested that perceptions of parents' ($\beta = .45$), teachers' ($\beta = .20$), and classmates' ($\beta = .28$) ability expectancies were significant predictors of students' ability expectations. Thus, higher perceptions of parents', teachers', and classmates' ability expectations predicted higher ability expectancies for the students.

Social Influence on Attainment Value

A multiple regression analysis determined the relationship between perceptions of parents', teachers', and classmates' attainment value beliefs and students' attainment value for PE. A significant relationship emerged for all three social predictors, $F(3, 227) = 78.51, p < .0001$, with the strength of the relationship being $R = .71$ and the predictors explaining 51% of the variance in students' attain-

Table 1
Alpha Coefficients, Correlations, Means, and Standard Deviations for All Constructs

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Students' Ability Expectancy	0.88											
2. Students' Attainment Value	0.73	0.86										
3. Students' Utility Value	0.52	0.7	0.83									
4. Parents' Ability Expectancy	0.82	0.63	0.45	0.89								
5. Teachers' Expectancy Ability	0.78	0.69	0.49	0.79	0.86							
6. Classmates' Ability Expectancy	0.79	0.63	0.48	0.79	0.78	0.87						
7. Parents' Attainment Value	0.64	0.67	0.51	0.78	0.65	0.58	0.88					
8. Teachers' Attainment Value	0.42	0.47	0.32	0.50	0.65	0.43	0.51	0.80				
9. Classmates' Attainment Value	0.42	0.52	0.49	0.41	0.47	0.61	0.49	0.35	0.80			
10. Parents' Utility Value	0.54	0.63	0.75	0.59	0.55	0.54	0.74	0.39	0.51	0.90		
11. Teachers' Utility Value	0.44	0.46	0.42	0.51	0.57	0.43	0.52	0.63	0.28	0.57	0.87	
12. Classmates' Utility Value	0.38	0.52	0.61	0.37	0.42	0.51	0.44	0.27	0.77	0.68	0.37	0.86
<i>M</i>	5.42	5.10	4.20	5.62	5.47	4.99	5.43	6.13	4.12	4.44	5.65	3.60
<i>SD</i>	1.05	1.34	1.37	1.08	1.09	1.19	1.26	0.95	1.39	1.37	1.11	1.36

Note. All correlations were significant at the $p < .05$ level. All scales were scored on 7-point Likert scale. Alpha coefficients can be seen along the diagonal.

ment value. Beta weights suggested that perceptions of parents' ($\beta = .48$), teachers' ($\beta = .14$), and classmates' ($\beta = .24$) attainment value of PE were the significant predictors of students' attainment value. Perceptions of parents' attainment value emerged as the strongest predictor. Thus, higher perceptions of parents', teachers', and classmates' attainment value for PE predicted higher students' attainment value for PE.

Social Influence on Utility Value

A simultaneous multiple regression analysis determined the relationship between perceptions of parents', teachers', and classmates' utility value for PE and students' utility value for PE. A significant relationship emerged for two of the social predictors, $F(3, 227) = 105.3, p < .0001$. The strength of the relationship was $R = .76$, with the predictors explaining 58% of the variance in students' utility value for PE. Beta weights suggested that perceptions of parents ($\beta = .63$) and classmates ($\beta = .19$) were significant predictors of students' utility value. Thus, higher perceptions of parents' and classmates' utility value for PE predicted higher students' utility value for PE.

Table 2

Regression Analysis Summary for Social Influences Predicting Students' Ability Expectancy, Attainment Value, and Utility Value

Variables	Parents β	Teachers β	Classmates β
Students' Ability Expectancy	0.45	0.2	0.28
Students' Attainment Value	0.48	0.14	0.24
Students' Utility Value	0.63	NS	0.19

Note. NS = not significant.

Discussion

The purpose of this study was to examine the influence of significant others on high school students' expectancies for success and task value in PE class.

Student Predictors of Attainment and Utility Value

As hypothesized, students' perceptions of attainment value and utility value were positively related to students' ability expectancies. Overall, when students' perceptions of attainment value and utility value were high for PE, they tended to also have high expectancies for success for PE. In a similar study, Papaioannou and Theodorakis (1996) examined PE students in junior and senior high school between the ages of 14 and 17. The results revealed that higher attainment value or interest, along with higher utility value or usefulness for the lesson, leads to higher participation in the lesson. Although participation and behavior changes are different than ability expectancies, one could argue that if a student continues participating he or she might have higher ability expectancies.

The results of these studies suggest that perceptions of students' attainment value and utility value in the physical domain affect what students believe about their own ability expectancies. With regard to the current study, if students continue to learn that PE is important and useful in their lives, then they will believe they are competent to perform certain skills in PE.

Social Predictors of Ability Expectations

The second hypothesis was also supported in that students' perceptions of parents' and teachers' ability expectancies positively predicted the students' ability expectancies. Additionally, parents emerged as the most important predictor. Another finding that emerged, that was not hypothesized, was that perceptions of classmates' ability expectancies also positively predicted students' own ability expectancies. Overall, the greater the students' perceptions of parents', teachers', and classmates' ability expectancies or perceived competence in PE, the greater the child's perceived competence in PE.

Similar to the current study, Eccles Parsons et al. (1982) examined parental influence on their children's achievement self-concept and beliefs through parental role modeling and parents as socializers. Results indicated that parents' perceptions and expectations for their children were related to their children's perceptions and expectations of their parents' beliefs. They also found that parents' expectations of success were more influential than their children's

past performances. Thus, children were influenced more by their parents' attitudes toward their success than their own past performances. Similarly, in the current study, PE students who perceived that their parents held high ability expectations for them in PE also had high ability expectations for themselves. Also, Fredricks and Eccles (2005) determined that parents' competence beliefs were significantly more influential on their child's perceived competence, value, and participation than was role modeling. Thus, when parents' competence beliefs are high for their children, the children's own competence beliefs are high.

Babkes and Weiss (1999) also found similar results with youth soccer participants. Children who perceived that their parents had positive competency beliefs also had high positive competency beliefs for themselves. The children also had higher involvement and enjoyment for soccer participation. Additionally, Allen and Howe (1998) discovered that athletes who had high ability and received less corrective feedback for mistakes had higher competence abilities. This finding suggests that feedback from coaches influences individuals' self-perceptions of competence abilities. In relation to the current study, when teachers' competence beliefs are high for their students, this probably influences students' assessments of their own ability.

The results of these studies suggest that parents', teachers', and classmates' ability expectancies for success in the physical domain affect what students believe about their own abilities. With regard to the current study, it seems that if parents, teachers, and classmates are encouraging and positive with PE students that this could increase students' competence beliefs in PE. Therefore, it is important that PE teachers provide positive feedback to their students along with a positive learning environment. For example, teachers need to promote good sportsmanship among all students during a PE lesson and individual feedback to all students. Teachers can also involve parents with PE through monthly newsletters that inform parents of what is happening in PE class and provide fitness tips for parents. Additionally, a monthly progress report could be given to the parents.

Social Predictors of Attainment Value

The third hypothesis proposed that perceptions of parents' and peers' attainment value would positively predict students' level

of attainment value for PE. Again, this hypothesis was supported. Additionally, parents emerged as the most important predictor. Another finding that emerged, that was not hypothesized, was that perceptions of teachers' attainment value also positively predicted students' attainment value for PE. Overall, the greater the students' perceptions of parents', teachers', and classmates' attainment value in PE, the more likely students were to feel that it was important to do well in PE.

Babkes and Weiss (1999) concluded that what children perceive about themselves is how they perceive their parents feel about them. Thus, it appears as if what parents think, rather than what parents claim to think, is more important to children. In the current study, students who felt that doing well in PE was important to their parents also felt doing well was important. Similarly, in Eccles et al. (1983), math students' perceptions of the importance and value of math were predicted by their parents' beliefs. This was also true in the current study in relation to PE.

Overall, when parents, teachers, and peers place a positive emphasis on enjoyment, competence, and doing well in a particular domain, the student or athlete also feels the importance to do well. Therefore, it is critical that parents feel that PE is important. Past experiences parents have had in PE could influence their opinions. The best way a teacher can persuade parents that PE is important is by involving them and expanding their knowledge of the importance of PE. For example, the teacher could send home flyers with fitness tips and the importance of being physically active. Teachers could offer once or twice a month an open gym that has a guest lecturer to speak on important aspects of PE or fitness, with an opportunity to work out and use the high schools facilities after the lecture. For peers, teachers need to make sure to teach in each lesson the importance of applying the skill or lesson objective to students' daily lives. Also, the teacher must get every student involved and enthused about the subject being taught. This can be obtained through careful and thoughtful lesson planning.

Social Predictors of Utility Value

The fourth hypothesis proposed that perceptions of parents' and teachers' utility value would positively predict students' level of utility value in PE. This hypothesis was partially supported. Results

revealed students' perceptions of parents' and classmates' utility value positively predicted students' utility value for PE. Surprisingly, results also revealed that perceptions of teachers' beliefs had no influence on the students' utility value of PE.

The results of parents' and classmates' utility value positively predicting students' utility value could have occurred for several reasons. First, the age of the students could have played a role. Adolescents are highly influenced by their peers. Students want to be accepted by their peers and are willing to accept their peer beliefs to become part of a peer group or to make friends. Again, not surprisingly parents were the strongest predictor of utility value. The students have lived with their parents their entire life and the majority of them have acquired the same beliefs. What was surprising was that the teacher had no influence on students' utility value for PE. Assuming that a teacher places the greatest emphasis on the usefulness of PE in the students' lives, this could have occurred because the teacher might teach in a way that the students do not see how to apply the skills taught in class to everyday life and how skills learned in PE will be useful in the future. Perhaps teachers are just teaching skills and activities. Another possible reason could be that students see the teacher as just rolling out the ball or playing basic games such as basketball, softball, and football, rather than teaching a quality curriculum that involves the cognitive and affective domains. Another reason could be that all PE teachers probably feel that PE is useful, thus teachers' responses to perceived utility value had little range or variance.

These results suggest that students are influenced by what they perceive parents and classmates feel is important. Teachers should focus on involving the parents in PE. Additionally, teachers could involve parents by providing opportunities for the parent and child to work out together such as an open gym time during the week or to get involved in community recreation events.

Conclusions

In conclusion, the findings of this study suggest two key points. First, students' ability expectancies and attainment value could be predicted based on perceptions of parents', teachers', and classmates' ability expectancies. Second, students' utility value could be predicted based on perceptions of parents' and classmates' utility value.

Based on the findings of this study, some recommendations have been made for future studies and PE professionals. First, further studies should examine motivation and social influences in the PE setting in other locations throughout the nation. Second, PE teachers should find methods to enhance the PE students' perceptions of the usefulness and importance of PE. Third, PE teachers should find ways to involve parents in the PE program as much as possible. Fourth, this study was conducted in two small middle-class, Caucasian, rural high schools. Therefore, further studies into the effect of demographic differences (e.g., race, socioeconomic status, gender, and age) on PE influences may be beneficial.

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