Students' Self-competence and Values in Middle School Physical Education

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Student' beliefs about self-competence and perceived values within a specific domain have been of great interest to education researchers. These beliefs and values are assumed to directly influence achievement choices, performance, effort, and persistence in learning in the domain (Wigfield & Eccles, 2000). Wigfield, Eccles, and colleagues proposed an expectancy-value model to articulate learners’ competence-expectancy beliefs and perceived task values in relation to their motivation in various learning settings (Wigfield & Eccles, 2002). The expectancy-value theory consists of two integral parts: self-competence or expectancy beliefs and subjective task values. Expectancy beliefs are defined as children’s beliefs about how well they will do on an upcoming task that may happen either in the immediate or longer term future (Eccles et al., 1983). The task values include four distinct components: attainment value or importance, intrinsic value or interest, utility value, and cost (Eccles et al. 1983). Attainment value refers to the personal importance of doing well on a task as well as how central the task is perceived to be related to the learner’s personal identity (Wigfield & Eccles, 1992). Intrinsic value refers to the inherent enjoyment or pleasure the learner perceives receiving from engaging in the task (Wigfield & Eccles, 2002). Utility value is defined as the learner’s perception of usefulness of the task (Wigfield & Eccles, 2002). Cost is conceptualized as a negative aspect in the expectancy-value model, such as discomfort derived from participating in a specific task. (Eccles et al. 1983).

Research (e.g., Wigfield & Eccles, 2002) has revealed that task values are predictive of choice decisions and future engagement, whereas expectancy beliefs predict the achievement after individuals actually engage in a given activity. In physical education, research findings revealed that expectancy beliefs predict effort, persistence (Xiang, McBride, & Bruene, 2006), and achievement performance of running (Xiang, McBride, & Bruene, 2004). The task values, interest value in particular, are strong predictors of students’ intention of future participation in running activities (Xiang et al., 2004).

The theoretical articulation of the expectancy-value theory and related research findings indicate that it is crucial for educators and researchers to understand how the expectancy-value constructs change over time as learners develop. Extensive research has been conducted in such domains as math, reading, and sports with cross-sectional and longitudinal data. Researchers have reported that both students’ expectancy beliefs and task values decline over time in elementary and middle school (e.g., Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002). This study was designed to advance our understanding of changes in expectancy beliefs and task values in the domain of physical education. Specifically, we would address the questions of the extent to which middle school physical education students' expectancy beliefs and task values differed across three middle school grades: 6th, 7th, and 8th.

Method

Participants were 6th, 7th, and 8th grade students from 15 middle schools randomly selected with stratifications on students’ socio-economic background and school size from 36 middle schools in a large school district on the East Coast of the United States. The district serves a diverse student population and is uniquely positioned to provide generalizable research results to urban and suburban school districts.

The sample included 344 6th grade, 352 7th grade, and 336 8th grade students who were imbedded in the intact classes randomly selected to provide data for the study. Parental consent was received prior to data collection. Students’ responses to a two-section questionnaire were collected. The first section contained questions for demographic information such as gender, grade, and ethnicity. The second section of the questionnaire was the modified Expectancy-Value Questionnaire (Eccles & Wigfield, 1995). Students’ competence beliefs and subjective task values (attainment value, intrinsic or interest value, and utility value) for general physical education were measured in the second section. Previous research reported that the measures had demonstrated acceptable internal consistency reliability (Cronbach’s a = .60 for expectancy-related beliefs, and a = .74 for subjective task values, Xiang, McBride, Guan, & Solmon, 2003).

All data were collected during regular physical education classes. The physical education teachers administered the survey with the assistance from data collectors, both were trained to collect various data in the project. The collected data were reduced and aggregated as required by the instrument used. A multivariate analysis of variance (MANOVA) was performed to detect whether grade difference existed with respect to students’ expectancy-beliefs and subjective task values in physical education.

Results and Discussion

The measures of expectancy beliefs and task values in physical education were tested for internal consistency. Cronbach’s a coefficients for the subscales were .84 and .83, respectively. In addition, given the fact that this modified questionnaire has been validated in the previous study (Xiang, McBride, Guan, & Solmon, 2003), we believe that the data we used in this analysis meet the required validity and reliability.
MANOVA results suggested that there are no statistical differences among 6th, 7th, and 8th grade students in terms of their expectancy-related beliefs (F=2.316, p>.05). This result is surprising in that it is not consistent with the previous studies in education, sports, or elementary physical education. For example, Jacobs and colleagues (2002) revealed that the decline of students’ competence beliefs in sport was highly significant and dominant from elementary to middle school. Most importantly, they emphasized that the rate of such decline in competency beliefs for sport accelerated over middle school years. Regarding the surprising result in this study, we could speculate that the inconsistency to the distinction between sport (Jacobs et al., 2002) and middle school physical education. Although sport is a major part of the traditional multi-activity middle school physical education curriculum, learning sport in physical education is a different endeavor from engaging in competitive sports. Secondly, we believe that the conventional multi-activity physical education curriculum, in which the study was conducted, may not be able to provide students with learning experiences that can be perceived as challenging as those experienced in competitive sports or other educational domains such as language arts, science, and/or math. In addition, students in this study reported relatively high scores in expectancy beliefs, 20.32 for 6th grade, 20.47 for 7th grade, and 19.91 for 8th grade out of a possible score of 25, indicating that the learners demonstrated a high level of expectancy for success in physical education.

Additional results revealed a clear decline in learners’ task values from 6th grade to the 8th. Specifically, MANOVA analysis suggested that there are significant differences among three grades with regard to students’ attainment value (F=17.55, p<.01), intrinsic or interest value (F=22.81, p<.01), and utility value (F=18.57, p<.01). The Post Hoc analysis further showed that 8th grade students thought their physical education less important (p<.01), less interesting (p<.01), and less useful (p<.01) than did 7th grade students, whereas 7th grade students, comparing with 6th grade students, considered their physical education as less important (p<.01), less interesting (p<.01), and less useful (p<.01). Clearly, it is worthwhile to further examine the decline trend in task values if we are to determine effective motivation strategies for intervention. Eccles and her colleagues (1983) assumed that task values are determined by the nature of interaction between the task and the individual's goals, needs, motivational orientations, and affection associated with similar tasks in the past. These results may explain students' disengagement in urban and suburban middle school physical education (Ennis, 2000) because task values have been found predictive of choice decisions and engagement in a specific domain. To engage students in learning in physical education, curriculum developers and educators need to take these motivational constructs into consideration to design and plan physical education lessons that students can experience challenge and perceive meaningfulness.

References


