

SELF-THEORIES OF ABILITY AND PERFORMANCE IN PHYSICAL EDUCATION

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Abstract

The theories people hold about their own qualities such as abilities are a belief system, which is useful in understanding achievement behavior and motivation. Studying self-theories could help us to understand what ability beliefs role is in student performance in physical education. This research aim was to assess the role of students' self-theories of ability in their performance. For this, a casual was conducted. 50 Iranian male students were participated include 25 entity and 25 incremental theorists. All subjects have been wanted to participate in a three points throw race in basketball. Results of t-test shown that students who had incremental ability belief had better performance compared with students who had entity belief. The findings insist on ability beliefs important role in prediction of students' performance. Ability beliefs that are felxiable support students' motivation in difficult tasks relative to rigid and entity strategies. Physical education teachers need encourgae incremental belifes of abilty which promot resistance in difficult tasks in physical education.

Keywords: *Self-theorie, performance, physical education*

1. Introduction

Individuals develop beliefs that structure their world. These individual theories or beliefs or meaning systems impact how the person feels, thinks, and acts in each situation [1]. Dweck, Chiu, & Hong [2] propose that individuals' implicit theories about human attributes would structure the way they interpret and understand human behavior. Dweck [1] represented the implicit theories as a meaning system, which had important consequences for motivation and behavior, particularly in achievement motivation contexts. One aspect of the meaning system that must be examined in questioning these beliefs is the individual's concept of ability. This concept can be examined under two frameworks: fixed ability and incremental ability.

Fixed ability (or entity belief) is a concept whereby ability is understood as a fixed trait. Those holding this conceptual definition of ability believe that people have a certain amount of ability, and nothing can be done to change that amount [3, 4]. When students believe that ability is fixed, then they often devalue the importance of effort. They believe that ability is supreme. Someone who has ability does not need effort, and effort will not help someone who lacks it [5]. To clarify, believing that effort is futile is already enough to put these students at a disadvantage. Even worse than that, they may believe that effort is not just useless but actively harmful. In the eyes of these entity students, the more effort they put in, the more they demonstrate and confirm that they lack ability and no amount of effort can bridge the gap between smart and not smart. Thus, effort is not just futile but also dangerous—hard work is seen as a sign of low ability [6].

The second framework is the concept of malleable ability (or incremental belief). This is a belief that ability levels are cultivated through learning, and that these levels can be increased through effort [4]. People who hold this concept do not deny that there are differences in individuals' ability levels, but perceive that everyone can improve their personal level through guided effort [7]. When students believe that ability is changeable, then effort can be useful. It can help them improve, regardless of their current level of ability. These students with an incremental

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theory are more likely to endorse statements such as “The harder you work at something, the better you will be at it.” Believing in the power of effort helps children choose the path to greater success [8].

On the basis of Dweck & Master [8] students with both theories, as long as they are succeeding readily, their different beliefs about ability may not always have much impact. However, once students begin to encounter or worry about setbacks, their theories become increasingly important in determining how they will respond to those setbacks. In particular, the two theories lead students to explain their setbacks in different ways, and how entity and incremental students explain their failure, effect on how they choose to change.

For students with an incremental theory about ability, failure is an indication that that they did not try hard enough. By attributing failure to their own lack of effort, they were poised to take control of the situation and set themselves up to do better in the future. When choosing strategies for the future, the incremental students chose positive strategies based on effort. These students are motivated to work even harder so that they would do better next time. They show a mastery oriented behavior pattern [9]. Mastery oriented learners want to acquire new competencies and to be able to have command of new situations. The information processing of mastery oriented learners is therefore focused on the surveillance of learning process and the search for new strategies that are useful in attaining learning goal. When this learning process is confronted by an obstacle, this is seen as an indication that the wrong strategy had been applied [4, 10].

For those with an entity theory of intelligence, failure is a sign of low ability. By attributing failure to factors outside their control, these students do not change their behavior and they set themselves up to fail again and again. When it came to choosing a strategy for the future, students with an entity theory chose negative strategies that avoided effort [5]. These students show a helpless behavior pattern [8]. Helpless learners did not attribute their successes to action taken, but rather explained them predominantly through uncontrollable causes such as luck or task difficulty. When helpless-pattern learners were encountered by failure, they reduced their aspiration, experienced negative emotions, demonstrated lower levels of persistence, and gave up the task easily [11, 12]. Because performance relative to others is such a meaningful measure of ability within an entity theory, students with an entity theory may take steps to make their performance less meaningful. Specifically, they may deliberately handicap their own performance, in order to blame their failure on something besides ability. Research has also demonstrated that self-handicapping is effective in protecting self-esteem and conceptions of ability in the face of failure. Specifically, the presence of a handicap allows individuals to shift attributions for a poor performance from ability to the handicap [13]. In addition, self-handicapping maintains self-evaluations of ability in a specific domain, as well as global self-esteem, despite failure [14, 13].

According to the self-worth theory of motivation, ability is closely tied to self-worth and so when there is doubt as to individuals' ability, there is doubt as to their self-worth [15, 16]. A priority of some students, therefore, is to protect their sense of ability and to try to influence others' evaluations of their ability. Self-handicapping is a way students are able to do this. Self-handicapping strategies are self-protective and geared towards protecting individuals' competence in the event of failure [17]. Then, it is expected incremental students have a better performance than entity students in difficult tasks, as they don't handicap their own performance. The current study tested the role of self-theories about ability in student performance in physical education classrooms. We expected that entity ability beliefs students show lower performance in race in versus to incremental ability beliefs students.

2. Method

2. 1. Participants

70 male physical education trainees who enrolled in a diploma in physical education course in Iran were invited to take part in this study. First, they completed sport ability beliefs questionnaire in a quiet classroom; this took about 15 minutes. Participants were informed that there was no right or wrong answers, assured of the confidentiality of their responses, and

encouraged to ask questions if necessary. Both students who did not complete the entire questionnaire and students whom their rating of sport ability beliefs scale was not show their ability beliefs (13 missing), were excluded from the analyses along with. Finally, data were analyzed and 50 students randomly selected from students with incremental and entity beliefs about ability ($n = 50$, age: $M = 15.6$, $SD = 1.31$).

2. 2. Measures

Performance. Physical education teachers were wanted to count points for each student.

Sport ability beliefs. The Persian version of 'Conceptions of the Nature of Athletic Ability Questionnaire, Version Two' [18] was employed to examine incremental and entity beliefs. Incremental beliefs were assessed through six items (e.g., 'to be successful in sport you need to learn techniques and skills, and practice them regularly'). Entity beliefs were measured using six items (e.g., 'it is difficult to change how good you are in sport'). Responses were made on 5-point scales. According to Khalkhali [19], these two dimensions of ability beliefs yielded satisfactory internal consistency, $\alpha = .81$ (incremental beliefs), $\alpha = .74$ (entity beliefs).

3. 3. Procedure

The three points throw race in basketball served as the experimental task. The experiment took place during the students' regular classes, which increased its ecological validity. Before of main race, all subject got 10 opportunities in three points throws. Following the practice trials, participants were told to get ready for main race to take place 1 day later. Then, subjects have participated in a basketball three points throw race. They have been told success criterion is getting 30 points from 20 three points throws. Each participant's points were recorded with teachers. After the experiment, participants were thanked and debriefed on the purpose of the research.

3. Results:

The data collected were analyzed in two parts. Initially, descriptive statistics were computed. In addition, the technique of T test was employed. Table 1 presents the means and standard deviations for dependent variable, performance, in subjects.

Table 1. The means and standard deviations of performance scores (N= 50)

	Performance	
	M	SD
Entity beliefs	27	12.78
Incremental beliefs	34	12.93

As Table 1 shows the lower performance was found in subjects with entity beliefs. A T test indicated that participants' performance in three points throws significantly differed across their ability beliefs (Table 2).

Table 2. A t test results for performance means

	M	S	t (observed)	t (critical)	df	α
Entity beliefs	27	12.78	6.93	3.55	48	0.001
Incremental beliefs	34	12.93				

T test (see table 2) indicated that incremental participants at physical education classroom shown better performance compared with participants with entity beliefs about their ability.

4. Discussion

Dweck [20] proposed two distinct implicit theories (or mindsets) about the role of ability in achievement: entity theory (fixed mindset) and incremental theory (growth mindset). Students who hold an entity theory, or fixed mindset, view their abilities as representing fixed traits over which

they have little control; whereas those who hold an incremental theory, or growth mindset, believe that abilities are skills that they can improve through learning [1, 4, 21]. These perspectives influence motivation and ultimately learning and achievement. The purpose of the current study was to examine the role of sport ability beliefs in students' performance. Specifically, it examined the implicit theory [1] in combination with self-worth theory [15, 16].

The results supported the hypotheses and demonstrated that students who believed that their abilities were global and enduring had a worse performance compared to students with incremental beliefs about their abilities. These findings are consistent with Khalkhali [19], Dweck & Molden [21], Kray and Haselhuhn [22], and Good, Rattan, and Dweck [23]. On the basis of Dweck [1], Students with a fixed mindset are apt to be discouraged if they encounter difficulty because they think they can do little to alter their status. Such discouragement results in self-handicapping strategies which can affect performance adversely. Intentional reduction of effort is a self-handicapping strategy which may set students up for a sense of contingent self-worth [24, 12, 25]. Conversely, students with a growth mindset are less apt to give up when they encounter difficulty and instead are likely to alter their strategy, seek assistance, consult additional sources of information, or engage in other self-regulatory strategies [20, 26].

It seems that ability beliefs can tell us about students' performance. Such a finding is important to those concerned with self-handicapping behaviors in competitions. Based on IPT [8], ability theories become increasingly important when students begin to encounter or worry about setbacks. Ability theories are important in determining how they will respond to those setbacks. For students with entity beliefs the need for high effort is a sign of low ability and incompetence; therefore, they may fail intentionally in order to attribute failure to factors outside their ability.

In the current study, the race in which the subjects participated, getting 30 points from 20 three points throws in basketball, was a high-level difficult task and could trigger ability beliefs to play their roles. For entity theorists having to try hard is a sign of low ability and confirms that they must not be very smart. Therefore, they are looking for a way to protect their self-worth despite their poor performance, and self-handicapping is one option. As was observed in this race, students with entity ability beliefs showed lower achievement in comparison with incremental theorists. Specifically, they may deliberately handicap their own performance, in order to blame their failure on something besides ability. Self-handicapping is more likely to occur when individuals are feeling uncertain about an important performance. Although it increases the chances of failure, poor performance can then be blamed on the obstacles, rather than on innate ability. According to the self-worth, theory [17] withdrawing effort is a self-handicapping strategy that students may use to protect their sense of ability and worth in the event of a failure.

5. Conclusions

Present study findings suggest that students' ability beliefs could affect their performance. When students are faced with a difficult task or test, their self-theories about ability rise up and become increasingly important in determining how they interpret it. In the eyes of these entity students, the ability and effort relation is reversed; therefore, they may set up self-handicapping strategies for a sense of self-worth. In contrast, when students believe that ability is changeable, then effort can be useful. It can help them improve, regardless of their current level of ability. Believing in the power of effort helps children choose the path to greater success. Achievement situations have deeper meaning about the self and that one cannot understand the dynamics of achievement motivation without considering this.

From a practical point of view, since entity students do not change their behavior, they set themselves up to fail repeatedly. When it comes to choosing a strategy for the future, they choose negative strategies, such as self-handicapping, and exhibit a maladaptive motivational pattern, negative cognitions, negative affect, reducing effort and aspiration, demonstrating lower levels of persistence and giving up the task easily [11, 12], choosing downward comparison [27]. Therefore, to promote more adaptive patterns, characterized by positive thoughts, positive affect, and effective problem-solving strategies, incremental beliefs about ability should be encouraged. Physical

education teachers can influence students' beliefs by providing the students with opportunities to experience self-esteem, providing increased opportunities for student input, guidance in the form of clear expectations and useful feedback; helping them to work to their full potential and show their competence; identifying a link between their behavior and desired outcomes; emphasizing and acknowledging the students' concerns about failure and about close and challenging competitions so that the students feel they are understood and accepted. The current study is not without its limitations. First, female students were not included in the study. Second, the cross-sectional nature of the research design only allowed for a slice-in-time study. Third, we did not control teachers' beliefs about ability; they may have an effect on dependent variables. Hence, future research might examine whether the present findings among male adolescents could be generalized across female students. Moreover, they can examine teachers' beliefs about ability on pupils' motivation.

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