

Student's Athletes Sport Performance and Intelligence Beliefs

Jamshidi Akbar and Lotfi Gholam Ali

Department General of Fars Province Education, Iran

Abstract: The aim of this study was detecting the relationship of intelligence beliefs and effort with student's sport performance regarding to Dweck's social and cognitive approach. Therefore 500 guidance school students (250 girls and 250 boys with a mean and standard deviation of 13.71 ± 0.85 years of age) of city of Shiraz who were healthy were selected with cluster random sampling and responded to Dupeyrat & Marinè (2005) standardized questionnaire of intelligence beliefs and effort. Student's final exam's scores in physical education were considered as their sport performance index. The result of regression analysis showed that entity beliefs about intelligence decrease sport performance but incremental beliefs about intelligence and effort increase sport performance.

Key words: Sport Performance • Incremental Intelligence Beliefs • Entity Intelligence Beliefs • Effort

INTRODUCTION

Student's performance in the field of sport and physical activity is an important issue for educational researchers. Improving of sport at schools not only can provide physical and psychic health, but also cause mirth in society and improve learner's educational performance in other domains. Motivational factors are one of the effective factors on student's performance and one of the important issues in motivation is individual differences, so that recently sport psychologists have considered achievement goal as a way for understanding differences in achievement and performance. Why someone participate spontaneously and actively in physical activity and have a good performance while someone else don't like to participate in such activities and don't achieve so success [1]. The concept of achievement goals emphasizes on students' reason for how to do the task and their performance. This theory has been proven in the sport field as well. Achievement goals include three subtitles of approach performance goals, avoidance performance goals and mastery goals produced by Dweck. Individuals who have mastery goals focus on mastering task while in approach performance goals they try to be the best in class relative to others, but an avoidance performance goal reflects the goal of trying not to be the worst or look stupid in comparison to other [2].

Psychologists and educators have long considered the role of motivation in student achievement and learning [3]. Much of the early research on student achievement and learning separated cognitive and motivational factors and pursued very distinct lines of research that did not integrate cognition and motivation. However, since at least the 1980s there has been a sustained research focus on how motivational and cognitive factors interact and jointly influence student learning and achievement. In more colloquial terms, there is recognition that students need both the cognitive skill and the motivational will to do well in school [4]. This miniseries continues in this tradition by highlighting the contribution of both motivational and cognitive factors for student academic success.

Achievement goal theory is one of the most prominent theories within motivational research today [4]. Goal theory proposes that there are two general goal orientations that concern the purposes individuals are pursuing when approaching and engaging in a task. Achievement goal theorists have used a variety of labels to refer to these two goals including learning and performance goals [5], task and ability goals [6], task-involved and ego-involved [7] and mastery and performance goals [7-11]. Although there are slight variations in the interpretation of these goals under these various labels, they will be referred to here as mastery and performance goals for simplicity. Mastery goals orient

learners to “developing new skills, trying to understand their work, improving their level of competence, or achieving a sense of mastery based on self-referenced standards”. In contrast, performance goals orient learners to focus on their ability and self-worth, to determine their ability by outperforming others in competitions, surpassing others in achievements or grades and receiving public recognition for their superior performance [8].

Dweck and Leggett [5] have described two major types of implicit theories of intelligence that individuals hold. The first is an incremental theory of ability that views learning and intelligence as malleable and a product of effort and effective strategy use. Subsequently, incremental theorists tend to adopt learning [12] or mastery goals [13] whereas the emphasis in the learning process is placed upon gaining competence through persistence. The second implicit theory is the entity theory of ability that views learning and intelligence as relatively fixed and unchanging and a product of stable factors such as inherited ability. Entity theorists tend to adopt performance goals where the emphasis in the learning process is in performing well relative to peers, seeking recognition and ensuring that others view them as "intelligent." Individuals who adopt mastery goals have been shown to elicit numerous positive behaviors related to academic engagement [14]. For instance, Schunk [15] found that 4th graders who worked towards a learning goal had higher motivation and achievement outcomes than their 4th grade counterparts who worked toward performance goals. Similar outcomes have been found with adults. Greene and Miller [16] found that a mastery goal orientation can lead to deeper cognitive engagement. Archer [17] found that college students who adopt a mastery orientation reported a higher frequency of using effective strategies. Although Dweck and Leggett [18] have pointed out that there are adaptive performance concerns, most current introductory educational psychology texts used in teacher preparation courses focus almost entirely on structuring classrooms around mastery goals.

In recent years, for responding to these issues and explaining individual differences on motivation, researchers and educational psychologists have emphasized on the interaction of motivational and cognitive factors. One of the important approaches for determining the relationship between motivational and cognitive factors and scholastic achievement and performance is Dweck's social and cognitive approach [18]. Intelligence beliefs and goal achievement are the key

concepts in this approach. Intelligence beliefs include incremental and entity beliefs about intelligence. Incremental intelligence beliefs indicate that intelligence is a flexible and incremental quality [5]. Students who have intelligence beliefs emphasize on improving their skills and make their maximum effort to conquer their frustrations and past defeats [20]. Entity intelligence beliefs indicate that intelligence is a constant quality [5]. Students with entity beliefs make their minimum effort to achieve goals and solve problems [20].

Behavioral and motivational involvement is very important in the field of sport and physical activities, so with respect to past literatures effort and task value are investigated sequentially as behavioral and motivational dimensions of involvement in sport task. Effort is considered as behavioral dimension and shows one's tendency to do task and to persist on it. Task value is considered as motivational dimension and shows student's beliefs about utility, importance and attractiveness rate of physical education lesson [21]. In recent years some studies have concentrated on relations between achievement goals and motivational and behavioral factors in educational and sport contexts. For example some studies showed positive and significant relation between mastery goals and effort [20,22,23] and task value [24] and negative and significant relation between approach performance goals and task value [24,25] also the relation between avoidance performance goals and task value was negative and significant [22,24]. Some studies showed positive and significant relation of effort [20,22, 23] and task value [22,26] with performance. Thus inquiring about the relation between incremental and entity intelligence beliefs and sport performance is important to detect which one of these beliefs has better relation with student's sport performance.

MATERIALS AND METHODS

Because of investigating relationships among variables descriptive method and correlation design was used for this study.

The target population of this research is estimated to be around 5700 guidance school students of city of Shiraz. A total of 500 students (250 girls and 250 boys) were selected as statistical sample for this study with using cluster sampling. There have been considered 4 educational regions as clusters and in each region based on population, healthy persons are selected randomly.

During a meeting with physical educators of guidance schools, subjects were explained completely and asked them to pay attention in scoring of sport lesson.

Standardized questionnaire of Dupeyrat & Mariné [20] was used for measuring intelligence beliefs and effort. Additionally student's final exam's scores were considered as their sport performance index. Cronbach's Alpha ($\alpha=0.89$) was used in order to detect reliability. Finally, regression analysis was used for investigating the relation of goal achievement and effort with sport performance with using SPSS software.

RESULTS

Mean and standard deviation of the research variables including Entity intelligence beliefs, Incremental intelligence beliefs, Effort and Sport performance are presented in Table 1. {500 subjects (250 females and 250 males)}

As can be seen in Table 2 and Table 3, amount of R square is 0.258 ($R=0.508$) for sport performance by the dimensions of intelligence beliefs and effort. This means that 25.8 percent of the changes in sport performance are explained by the dimensions of intelligence beliefs and effort. As well as, being a significant F is representing linear relationship between intelligence beliefs and effort and sport performance ($F=57.610$).

As can be seen in Table 4, considering the significant level, intelligence beliefs and effort components can be predict to changes in the sport performance ($P \leq 0.01$). Standardized regression coefficient ($\beta=0/302$) and ($\beta=0.414$) orderly in incremental intelligence beliefs and effort component show that with increase them, sport performance is increased, too. Standardized regression coefficient in entity intelligence beliefs ($\beta = -0/347$) show that with increase in the entity, the sport performance is reduced.

Table 1: Means and standard deviations

Variables	Mean & SD
Entity intelligence beliefs	11.25± 0.57
Incremental intelligence beliefs	11.96± 0.65
Effort	10.98± 0.62
Sport performance	18.18± 1.10

Table 2: Regression

Model	R	R Square	Adjusted R Square
1	.508a	.258	.254

^a Predictors (Constant), entity, effort, incremental

Table 3: ANOVA^b

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	157.905	3	52.635	57.610	0.000 _a
Residual	453.167	496	0.914		
Total	611.072	499			

^a Predictors (Constant), entity, effort, incremental

^b Dependent variable: performance

Table 4: Coefficients^a

Model	B	Beta	t	Sig.
(Constant)	11.390		9.088	0.000
Effort	0.704	0.414	9.027	0.000
Incremental	0.538	0.302	7.704	0.000
Entity	-0.335	-0.347	-7.508	0.000

^aDependent Variable: performance.

DISCUSSION AND CONCLUSION

This study aimed at investigating the relationship between intelligence beliefs and student's sport performance with respect to mediating rule of achievement goals, effort and task value regarding to Dweck's social and cognitive approach. The results showed that incremental intelligence beliefs have positive and significant relation with sport performance. In fact students who believe intelligence is a flexible and progressive quality choose mastery goals and make their maximum effort to achieve goals and sport tasks are of great value to them; as a result they have a high performance. These findings are congruent with the results of Dweck's social and cognitive approach [5,18], Stipek, & Gralinski [23] and Rastgar [22].

Also results showed that there is a negative and significant relation between entity intelligence beliefs and sport performance meant that students who have entity intelligence beliefs often choose approach performance goals and avoidance performance goals and often do their tasks because of their fear of teacher and others punishment and blame. They don't valorise for their physical education tasks so they demonstrate a weak performance. These findings are congruent with the results of Dweck's social and cognitive approach [5,18], Stipek, & Gralinski [28] and Rastgar [22] Results showed that effort has the most direct and positive effect on performance among the variables of this study which is congruent with the results of Dupeyrat and Mariné [20] and Rastgar [22].

With respect to these findings structure of educational environment must help to produce incremental intelligence beliefs in students and also

physical educators and parents must be informed about effects of these beliefs on student's sport performance.

Considering the importance and role of mastery goals on students' sport performance, education authorities should identify and pay attention to factors resulting in accepting mastery goals by students. It seems that in our country if pay more attention to physical education in schools and especially in high schools that sport specialization occurs and if physical educators are more serious about physical education, its evaluation and its both theoretical and practical aspects, conditions would be provide for selecting the mastery goals by students.

Also according to effort importance in improvement of students sport performance it is suggested that families, educators and sport authorities create motivations for more activities and efforts for students and eliminate the factors that cause students recession from efforts.

Researchers who focus on children with learning disabilities or underachieving children find similar patterns of adaptive and maladaptive attributions; however, they further suggest that effort attributions be associated with strategy use [24,25]. That is, rather than attributing success to effort, success should be attributed to effortful strategy use. This may be especially important for children with learning disabilities in that effort may not always lead to success. Furthermore, rather than attributing failure to lack of effort alone, attributing failure to the lack of strategy use or use of inappropriate strategies helps dispel the inappropriate belief that effort always leads to success, but still helps to convey the idea that success is possible.

In terms of instructional implications, self-efficacy is best facilitated by providing opportunities for students to succeed on tasks within their range of competence and through these experiences actually develop new capabilities and skills. Self-efficacy is not fostered by providing inaccurate or effusive praise to students in the absence of specific task accomplishments. This type of praise is meaningless and invalid and may foster inaccurate beliefs in students who think they are capable of some task.

For teachers and school psychologists, these results suggest that academic achievement, study skills and engagement can be increased by tapping into students' interests. This can be done by building upon personal interest or creating situational interest. That is, allowing students to work on topics they find personally interesting may help them to engage in such a way that

they use better strategies for learning and ultimately achieve at higher levels. One way to capitalize on personal interest is to allow students to pick topics for class programs or reports. Admittedly, it is difficult to design classroom activities that capitalize on the personal interest of all students in the classroom; therefore, educators should also consider ways to enhance situational interest.

CONCLUSION

Therefore, teachers and school psychologists are urged to focus on changes that can be made to the school or classroom environments to help all students, rather than citing lack of motivation for a particular student as a reason for lower than expected academic performance. In the other hand according to direct influence of task values and effort on students sport performance, it is suggested that selected physical task and activities be related to students' interests, aptitudes and their cognitive, emotional and psychomotor development stage that can increase their performance.

REFERENCES

1. Jamshidi, A., 2006. The relationship between sport orientation and competitive anxiety in men and women athletes in team and individual sports. Dissertation for Master of Science, Iran, Tehran University.
2. Ryan, A.M. and P.R. Pintrich, 1997. Should I ask for help? The role of motivation and attitudes in adolescent's help seeking in math class. *Journal of Educational Psychology*. 2: 326-341.
3. Graham, S. and B. Weiner, 1996. Theories and principles of motivation. In D.C. Berliner and R. Calfee (Eds.), *Handbook of educational psychology* pp: 63-84. New York: Macmillan
4. Pintrich, P.R. and D. Schunk, 2002. *Motivation in education: Theory, research and applications* (2nd Ed.). Upper Saddle, NJ: Prentice-Hall, Inc.
5. Dweck, C.S. and E.L. Leggett, 1988. A social-cognitive approach to motivation personality. *Psychological Review*, 95: 256-273.
6. Maehr, M.L. and C. Midgley, 1996. *Transforming school cultures*. Boulder, CO: Westview Press.
7. Nicholls, J., 1984. Achievement motivation: Conceptions of ability, subjective experience, task choice and performance. *Psychological Review*, 91: 328-346.

8. Ames, C., 1992. Classrooms: Goals, structures and student motivation. *Journal of Educational Psychology*, 84: 261-271.
9. Elliot, A., 1997. Integrating the "classic" and "contemporary" approaches to achievement motivation: A hierarchical model of approach and avoidance achievement motivation. In M. L. Maher and P. R. Pintrich (Eds.), *Advances in motivation and achievement*. 10: 143-179. Greenwich, CT: JAI Press
10. Elliot, A.J. and M.A. Church, 1997. A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, 72: 218- 232.
11. Elliot, A.J. and J.M. Harackiewicz, 1996. Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and Social Psychology*, 70: 461-475.
12. Ames, C. and J. Archer, 1988. Achievement goals in the classroom: Student learning strategies and motivation processes. *Journal of Educational Psychology*, 80: 260-267.
13. Elliott, E.S. and C.S. Dweck, 1988. Goals: An approach to motivation and achievement. *Journal of Personality and Social Psychology*, 54: 5-12.
14. Bruning, R.H., G.J. Schraw and R.R. Ronning, 1999. *Cognitive Psychology and Instruction*. Upper Saddle River, NJ: Prentice Hall.
15. Schunk, D.H., 1996. Goal and self-evaluative influences during children's cognitive skill learning. *American Educational Research Journal*, 33: 359-382
16. Greene, B.A. and R.B. Miller, 1996. Influences on achievement: Goals, perceived ability and cognitive engagement. *Contemporary Educational Psychology*, 21: 181-192.
17. Archer, J., 1994. Achievement goals as a measure of motivation in university students. *Contemporary Educational Psychology*, 19: 430-446.
18. Dweck, C.S. and E.S. Leggett, 1988. A social-cognitive approach to motivation and personality. *Psychological Review*, 95: 256-273.
19. Eggen, P. and D. Kauchak, 2001. *Educational psychology: Windows on classrooms (5TH Ed.)*. Upper Saddle River, NJ: Prentice Hall.
20. Dupeyrat, C. and C. Marian, 2005. Implicit theories of intelligence, goal orientation, cognitive engagement and achievement: A test of Dweck's model with returning to school adults. *Contemporary Educational Psychology*. 30: 43-59.
21. Wolters, C.A. and H. Rosental, 2000. The relation between students' motivational beliefs and their use of motivational regulation strategies. *International Journal of Educational Research*, 33: 801-820
22. Rastegar, A., 2006. The relationship between intelligence beliefs and academic achievement. Dissertation for Master of Science, Iran, Tehran University.
23. Elliot, A., H.A. McGregor and S. Gable, 1999. Achievement goals, study strategies. And exam performance: A mediational analysis. *Journal of Educational Psychology*. 91(3): 549-563.
24. Shim, S. and A. Ryan, 2005. Changes in self-efficacy, challenge avoidance and intrinsic value in response to grads: the role of achievement goal. *The Journal of Experimental Education*. 73(2): 333-349.
25. Bong, M., 2001. Between and within domain relations of academic motivation among middle and high school student: self-efficacy, task value and achievement goals. *Journal of Educational Psychology*. 93: 23-34.
26. Martin, C.P., P.G. Sarrazin and C. Peterson, 2005. The moderating effects of explanatory style in physical education performance: A prospective study. *Personality and Individual Differences*. 38: 1645-1656.
27. Stipek, D. and G.H. Gralinski, 1996. Children's belief about intelligence and school performance. *Journal of Educational Psychology*. 88: 397-407.
28. Carr, M., J.G. Borkowski and S.E. Maxwell, 1991. Motivational components of underachievement. *Developmental Psychology*, 27: 108-118.
29. Licht, B.G., 1983. Cognitive-motivational factors that contribute to the achievement of learning-disabled children. *Journal of Learning Disabilities*, 16: 483-490