Athletic Insight
The Online Journal of Sport Psychology

February, 2000
Volume 2, Issue 1

Goal Orientations and Participation Motives in Physical Education and Sport: Their relationships in English schoolchildren

Panagiotis N. Zahariadis
Thessaloniki, Greece
&
Stuart J. H. Biddle
Loughborough University, UK

ABSTRACT

The importance of sport and physical education in school life and for health points to the need to better understand the motivation of young people in school towards physical activity. This study, therefore, investigated the interrelationship between participation motivation (reasons given for involvement) and achievement goal orientations (how success is construed) within the physical education environment. In a cross-sectional survey, English secondary school students (N=412) completed the Participation Motivation Questionnaire (PMQ) to assess motives for participation in sport and physical activity and the Task and Ego Orientation in Sport Questionnaire (TEOSQ) to assess achievement goal orientations. Canonical correlation analysis showed a clear relationship between task orientation and intrinsic motivational patterns (e.g. team spirit, skill development), whereas ego orientation was associated with more extrinsic forms of motivation (e.g. status/recognition). Results show that motivation is likely to be enhanced through the promotion of a task orientation.

Introduction

A great deal of young people's structured physical activity that might have health-enhancing effects will come through sport and physical education (PE). In addition, schools often support the involvement of pupils in sport as it is perceived as a 'good thing'. Both these issues point to the need to better understand the motivation of young

people in school towards physical activity.

Much research on sport participation with young people has been descriptive and conducted in a non-school environment where youth volunteer to take part, and much of this research has been atheoretical (Weiss & Chaumeton, 1992). Nevertheless, it has become a useful database for researchers to identify motives among several subgroups and, further, to develop theories for sport and physical activity-related motivation. More recently, a theoretical approach has gained ground (Brustad, 1993; Weiss & Chaumeton, 1992). Theoretical studies contribute to the understanding of the mechanisms of children's motivation, and may also take into account the environmental and social parameters that influence sport participation or withdrawal (Biddle, Sallis, & Cavill, 1998; Kremer, Trew, & Ogle, 1997; Weiss, 1993; Weiss & Petlichkloff, 1989). Combining descriptive and theoretical approaches might satisfy the dual demands of understanding deeper motives and mechanisms of motivation, yet providing practical suggestions.

Participation Motives

It has been argued that describing the reasons young people give for being physically active through sport and PE - 'participation motives' - is a useful starting point for understanding their motivation (Biddle, 1997). Research has found that a number of motives exist, including fun, social aspects, and skill development (Biddle, 1998). Indeed, Gill, Gross and Huddleston (1983) assessed the major participation motives through the Participation Motivation Questionnaire (PMQ). The PMQ is a 30-item questionnaire describing the possible reasons for sport participation. Factor analytic results of the PMQ have revealed factors of achievement/status, team atmosphere, fitness, energy release, skill development, friendship and fun as basic motives for involvement. Simple description of motives, however, will not necessarily provide information about how young people view the sport experience, hence further exploration of motivation is required using a theoretical approach.

Task and Ego Achievement Goal Orientations

Achievement motivation theorists (e.g. Nicholls, 1989) claim that individuals differ in the way they define success. Participants in sport, PE or similar achievement-related contexts will define success in task and/or ego-oriented terms (Duda, 1993; Nicholls, 1989). Those predominantly task-oriented define success in terms of mastering skills, self-improvement, and working hard. Those more ego-oriented define success in terms of surpassing or outperforming others, preferably with low effort. They are 'other-person referenced' whereas task oriented youth will be 'self-referenced'.

Participation Motivation and Goal Orientations

Achievement goal theory implies that dispositional achievement goal orientations influence sport motivation (Duda, 1993). Specifically, youth with a dispositional ego-orientation are also likely to report being motivated by recognition and status. Conversely, a dispositionally task-oriented sport participant who is more concerned with

learning and personally mastering a task is likely to adopt more intrinsic motivational patterns such as skill development and enjoyment (Papaioannou & Theodorakis, 1994). White and Duda (1994) found that ego-oriented individuals were more likely to report motives associated with competition and recognition/status, whereas task-oriented participants stressed skill development, fitness and, to a lesser extent, affiliation, team membership, and competition as reasons for their sport involvement. Although this may appear tautologous, it is argued that goal orientations theory (Nicholls, 1989) offers a comprehensive theoretical perspective over and above that offered by descriptive approaches, such a participation motives. In addition, further research linking the two sets of constructs will provide support for the validity of achievement goal orientations.

The present study is justified for several reasons. First, there is a lack of research concerning the relationship between goal orientation and motives for participation in sport and physical activity within PE for English secondary school students. Second, given the current concern about the physical activity patterns of youth in England, and the associated health implications of sedentary behaviour (see Biddle et al., 1998), it is important to further understand the motivational dynamics of young people in physical activity. Third, physical education (including sport) has been an important aspect of the school curriculum for many years. Furthering knowledge of why and how young people might be motivated towards involvement seems an important objective.

It was hypothesised that given the 'other-person' referencing of ego-oriented youth, ego-orientation will be associated with extrinsic, socially derived, motivational patterns such as status/recognition. In contrast, task-orientation - a self-referenced framework - will be associated with intrinsically motivated incentives. To maximise the generalisability of the findings, the overall relationships between goals and motives was the focus of the study rather than sub-group differences.

METHOD

Participants

The participants who volunteered for this study were 412 males (N=192) and females (N=220) aged 11-16 years (mean=13.88, SD=1.45) from four secondary schools in the south west of England. A range of standard secondary comprehensive schools were sampled. However, SES and other demographic variables were not assessed.

Measurement Instruments

Participation motivation

The students completed the Participation Motivation Questionnaire (PMQ; Gill et al., 1983), a 30-item list of possible reasons children have to participate in sport. A 5-point Likert scale was used. Responders answered to the stem: "I participate in sport because ...", indicating their preferences from 1 ("not at all important") to 5 ("extremely important"). Given that all participants in the study took part in school physical education, they were all suitable for inclusion in a survey that made the assumption that all actually participated in sport. It could be questioned whether all items are wholly

relevant to all participants but it was decided to include all items and examine the psychometric properties through factor and internal consistency analyses.

Goal Orientation

The Task and Ego Orientation in Sport Questionnaire (TEOSQ; see Duda & Whitehead, 1998) assessed dispositions towards task and ego achievement goal orientations. The TEOSQ elicits scores on task (7-items) and ego (6-items) orientation through the stem "I feel most successful in PE when ...". Each item was answered on a 5-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree"). The TEOSQ has been validated and used extensively in diverse samples (see Duda & Whitehead, 1998), including English secondary school students (e.g. Fox, Goudas, Duda, Biddle, & Armstrong, 1994; Goudas, Biddle, & Fox, 1994; Spray & Biddle, 1997).

Procedure

The questionnaires were administered in quiet classroom conditions and were accompanied by an instruction leaflet for the class tutor - who was not a PE teacher - which guided him/her to emphasise the appropriate consent and ethical procedures. Responses were anonymous and confidentiality was assured.

RESULTS

Psychometric Properties of Scales

The factor structure of the PMQ has been variable in prior research studies and so a factor analysis with varimax rotation was performed on the data. Items and factors were selected by the criteria of factor loadings above .40 and eigenvalues above 1.0. A six-factor solution was revealed explaining 63.3% of the variance. The six-factor solution was also supported by the scree test (see Table 1).

Table 1. Factor structure of the PMQ *

Items [stem: 'I participate in sport because ...']	Skill/ Competition	Status/ Recognition	Energy Release	Team Atmosphere	Affiliation	Fitness
14. I want to go to a higher level	.78					
13. I want to learn new skills	.71					
4. I want to improve my skills	.66					
9. I like to compete	.64					
10. I like to do something I am good at	.62					

6. I like the challenge	.61					
16. I like the action	.61					
27. I want to be popular		.76				
19. I like to win		.72				
21. I like to feel important		.72				
23. I want to gain status of recognition		.63				
18. I like the rewards		.53				
29. My parents or close friends want me to participate		.51				
24. I like to use the equipment or facilities		.50				
30. I want to get rid of energy			.75			
28. I want to release energy			.73			
25. I like to get out of the house			.62			
26. I like to travel			.62			
5. I like the team spirit				.68		
12. I like the teamwork				.68		
8. I like being on a team				.59		
20. I like the coaches				.53		
1. I like to have fun					.69	
15. I like to meet new friends					.60	
22. I want to be with my friends					.53	
2. I want to stay in shape						.88
3. I want to be physically fit						.86

7. I like to get exercise						.66
Eigenvalues	11.1	2.23	1.85	1.65	1.13	1.00
Variance	37.0	7.5	6.2	5.5	3.8	3.3
Cronbach alphas	.89	.85	.77	.82	.63	.83

*loadings <.40 omitted for clarity; items 11 and 17 were dropped due to cross-loadings

The factor solution which emerged was similar to previous research results (Gill et al,. 1983; White & Duda, 1994). Two items, 11 ('I like the excitement') and 17 ('I like to have something to do') cross-loaded and were dropped from subsequent analyses.

Factor 1 reflected both skill development and competition motives. Factor 2 was labelled status/recognition and concerned items related to social norms and approval by others in the external social environment. Energy release was Factor 3, while Factor 4 comprised items reflecting team atmosphere motives. Factor 5 was related to friendship and having fun through social interaction and, finally, Factor 6 concerned motives for fitness. Internal consistency coefficients, using Cronbach alphas, were satisfactory (see Table 1).

In order to verify the factor structure of the TEOSQ, a confirmatory factor analysis (CFA) using EQS (Bentler, 1995) was performed. The CFA was carried out using a maximum likelihood robust estimation of the task and ego orientation factors. The fit of the data to the model was satisfactory [Comparative Fit Index (CFI) = .91; LISREL Goodness of Fit (GFI) = .91; Root Mean Square Residual (RMSR) = .09]. Cronbach alpha coefficients were calculated for the task and ego subscales and were satisfactory (task a=.83; ego a=.86). The TEOSQ items are shown in the Appendix.

Zero-Order Relationships between Motives and Goals

Pearson's correlation coefficients provided information about the variables interrelationships (see Table 2). All subscale scores were means of the appropriate items. The two achievement goal orientations were slightly but significantly correlated with each other ($r = .18$, $p < .01$); however this result is consistent with Nicholls' (1989) notions about the orthogonality of task and ego orientations as the strength of relationship is very small. Task orientation was most strongly related to skill development and team motives, whereas ego orientation was related most clearly to status motives. While the orthogonality of goals could lead one to analyse groups differing in their goal profile (e.g. hose high in task and ego orientation; see Fox et al., 1994), the purpose of this study was to test the multivariate relationship between goals and motives. This does not, of course, preclude other ways of analysing the data, including through goal profiles.

Table 2. Pearson's correlation coefficients for the PMQ and the TEOSQ variables.

	Ego	**Skill**	**Team**	**Status**	**Affiliation**	**Energy**	**Fitness**

Task	.180*	.502*	.501*	.294*	.354*	.366*	.255*
Ego		.148*	.100	.320*	.159*	.156*	.048
Skill			.659*	.629*	.530	.602*	.419*
Team				.552*	.522*	.532*	.407*
Status					.587*	.443*	.313*
Affiliat						.494*	.255*
Energy							.299*

*. Correlation significant at the .01 level

Multivariate relationships between participation motivation and goal orientations

To examine the multivariate relationship between ego and task orientation and participation motives, canonical correlation analysis was performed. Items with loadings above .30 were considered significant. Two significant functions emerged (Wilks' λ=0.59 $p<.001$; see Table 3). Function 1 showed that task orientation was positively related to skill development and team atmosphere motives and negatively related to status/recognition motives. Function 2 showed that ego orientation was positively and highly correlated with status/recognition motives, and negatively associated with team atmosphere motives. 20.4% of the variance in participation motivation was explained by the two functions of achievement goal orientation. The canonical redundancy analysis showed Functions 1 and 2 accounted for 14.6% and 5.8% of the variance respectively.

Table 3. Canonical loadings for participation motivation and ego orientation.

	Function 1	**Function 2**
Goals		
Task orientation	1.005	-0.126
Ego orientation	-.034	1.012
Participation Motivation		
Skill development	.591	-.166
Status/recognition	-.422	1.287

Energy release	.228	-.350
Team atmosphere	.536	-471
Affiliation	.143	-.297
Fitness	-.008	-0.69

DISCUSSION

Further validity for the constructs of task and ego goal orientations has been demonstrated. The canonical correlation analysis showed skill development/competition and team atmosphere incentives to be highly related to task-orientation, supporting previous research (Papaioannou & McDonald, 1993; Seifriz, Duda, & Chi, 1992; White & Duda, 1994). These motives appear to be intrinsic motives. In addition, task orientation was negatively associated with the motive of status/recognition. However, the combined factor of skill and competition makes the picture slightly less clear. Initially one might expect ego, not task, orientation to correlate with competition. However, the task oriented individuals can be 'competitive' (Duda, 1993), but will be judging their competence in self-referenced terms and 'doing their best' in the competitive context. Nevertheless, the combining of skill and competition motives require further psychometric investigation.

Ego orientation was associated clearly with status/recognition incentives. This supports the view that externally-referenced (ego-oriented) individuals are motivated by more extrinsic factors (Nicholls, 1989; Papaioannou & McDonald, 1993; White & Duda, 1994).

Results support the view that a task orientation is motivationally positive as it associated with more intrinsic reasons for involvement. Numerous motivational theorists (e.g. Deci & Ryan, 1985) have shown the benefits of adopting intrinsically oriented styles of motivation and, according to this data, this supports the promotion of a task orientation. Developments in 'self-determination theory' (SDT; Deci & Ryan, 1985) support the regulation of behaviour through autonomy-supportive motives and environments rather than those that are controlling. Motives associated with skill development, in particular, allow for personal effort and improvement, qualities related to self-determination. This also supports Dweck and Leggett's (1988) position that motivation will be enhanced for those adopting an 'incremental' (changeable) rather than an 'entity' (fixed) view of ability.

In contrast, the motive of status/recognition, so clearly associated with ego orientation, allows less self-determination. Status is relative and partly dependent on how good opponents are. The control one has over recognition will not be great. In short, development of a task orientation might also develop self-determined motives and, one could suggest, continuing motivation in the important area of youth sport and physical education.

It is clear from these analyses when compared with other studies (see Brodkin & Weiss, 1990) that the PMQ is not factorially stable across samples - a point recognised by Gill et al. (1983) (see also Ostrow, 1996). However, the factor structure in the present

study was clear and interpretable. It is recommended, though, that further psychometric work is undertaken when using this scale.

Recommendations for Practice

Results suggest that teachers, coaches, and others involved in the promotion of physical activity with children, need to promote intrinsic, self-determined forms of motivation, such as a task orientation. This might involve interventions at group as well as individual levels. First, at the group level, teachers and coaches need to create a predominantly mastery climate. This can be done by emphasising personal improvement, choice, and learning. A recent meta-analysis has shown the effectiveness of a mastery climate for positive psychological outcomes (Ntoumanis & Biddle, 1999). Second, at the individual level, interactions with young people in sport and physical education need to allow for personal choice, and the coach or teacher is encouraged to show empathy with children, particularly those having difficulties in the physical activity domain. These strategies should increase self-determination in young people and hence create the feeling that 'I want to' participate rather than 'I ought to' participate.

REFERENCES

Bentler, P. M. (1995). EQS: Structural equations program manual. Encino, CA: Multivariate Software, Inc.

Biddle, S.J.H. (1997). Cognitive theories of motivation and the self. In K.R. Fox (Ed.), The physical self: From motivation to well-being (pp. 59-82). Champaign, IL: Human Kinetics.

Biddle, S. (1998). Sport and exercise motivation: A brief review of antecedent factors and psychological outcomes of participation. In K. Green & K. Hardman (Eds.), Physical education: A reader (pp. 154-183). Aachen, Germany: Meyer & Meyer.

Biddle, S., Sallis, J., & Cavill, N. (Eds.), (1998). Young and active? Young people and health-enhancing physical activity: Evidence and implications. London: Health Education Authority.

Brodkin, P., & Weiss, M.R. (1990). Developmental differences in motivation for participation in competitive swimming. Journal of Sport and Exercise Psychology, 12, 248-263.

Brustad, R.J. (1993). Youth in sport: Psychological considerations. In R. N. Singer, M. Murphey & L. K. Tennant (Eds), Handbook of research on sport psychology (pp. 695-717). New York: Macmillan.

Deci, E.L. & Ryan, R.M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum.

Duda, J. L (1993). Goals: A social-cognitive approach to the study of achievement motivation in sport. In R. N. Singer, M. Murphey & L. K. Tennant (Eds), Handbook of research on sport psychology (pp. 421-435). New York: Macmillan.

Duda, J.L., & Whitehead, J. (1998). Measurement of goal perspectives in the physical domain. In J.L. Duda (Ed.), Advances in sport and exercise psychology measurement (pp. 21-48). Morgantown, WV: Fitness Information Technology.

Dweck, C.S. & Leggett, E.L. (1988). A social-cognitive approach to motivation and personality. Psychological Review, 95, 256-273.

Fox, K., Goudas M., Biddle, S., Duda, J., & Armstrong, N. (1994). Children's task and ego goal profiles in sport. British Journal of Educational Psychology, 64, 253-261.

Gill, D. L., Gross, J. B. & Huddleston, S. (1983). Participation motivation in youth sports. International Journal of Sport Psychology, 14, 1-14.

Goudas, M., Biddle, S., & Fox, K. (1994). Perceived locus of causality, goal orientations, and perceived competence in school physical education classes. British Journal of Educational Psychology, 64, 453-463.

Kremer, J., Trew, K., & Ogle, S. (Eds.) (1997). Young people's involvement in sport. London: Routledge.

Nicholls, J. G. (1989). The competitive ethos and democratic education. Cambridge, MA: Harvard University Press.

Ntoumanis, N., & Biddle, S.J.H. (1999). A review of motivational climate in physical activity. Journal of Sports Sciences, 17, 643-665.

Ostrow, A. (1996). Directory of psychological tests in the sport and exercise sciences (2nd edition). Morgantown, WV: Fitness Information Technology.

Papaioannou, A. & McDonald, A. (1993). Goal perspectives and purpose of physical education as perceived by Greek adolescents. Physical Education Review, 16, 41-48.

Papaioannou, A. & Theodorakis, Y. (1994). Attitudes values and goals: A test of three models for the prediction of intention for participation in physical education.

Siefriz, J. J., Duda, J. L. & Chi L., (1992). The relationship of perceived motivational climate to intrinsic motivation and beliefs about success in basketball. Journal of Sport and Exercise Psychology, 14, 375-391.

Spray, C.M., & Biddle, S.J.H. (1997). Achievement goal orientations and participation in physical education among male and female sixth-form students. European Physical Education Review, 3, 83-90.

Weiss, M. R. & Chaumeton, N. (1992). Motivational orientations in sport. In T. Horn (Eds.), Advances in sport psychology.(pp. 61-101). Champaign, IL: Human Kinetics.

Weiss, M. R. & Petlichkoff, L. M. (1989).Children's motivation for particiaption in and withdrawal from sport: Identifying the missing links. Pediatric Exercise Science, 1, 195-211.

Weiss, M. R. (1993). Psychological effects of intensive sport participation on children and youth: Self-esteem and motivation. In B. Cahill & Pearl, A. J. (Ed.), Intensive training and participation in youth sports.(pp. 39-70). Champaign, IL: Human Kinetics.

White, S. A. & Duda, J. L. (1994). The relationship of gender, level of sport involvement, and participation motivation to task and ego orientation. International Journal of Sport Psychology, 25, 4-18.

Appendix.

Items from the Task and Ego Orientation in Sport Questionnaire (TEOSQ).

Stem: 'I feel most successful in PE when ...'

1. I'm the only one who can do the play or skill
2. I learn a new skill and it makes me want to practice more
3. I can do better than my friends
4. The others can't do as well as me
5. I learn something that is fun to do
6. Others mess up and I don't
7. I learn a new skill by trying hard
8. I work really hard
9. I score the most points/goals/hits etc
10. Something I learn makes me want to go to practice more
11. I'm the best
12. A skill I learn really feels right
13. I do my very best

Task items: 2, 5, 7, 8, 10, 12, 13.

Ego items: 1, 3, 4, 6, 9, 11.