Published in the Russian Federation
European Journal of Physical Education and Sport
Has been issued since 2013.
ISSN: 2310-0133
E-ISSN: 2310-3434
Vol. 10, Is. 4, pp. 212-219, 2015

DOI: 10.13187/ejpe.2015.10.212
www.ejournal7.com

Goal Orientation Profile Differences in Greek Physical Domain

[1] Ioannis Proios
[2] Athanasios Siropoulos
[3] Miltiadis Proios

[1,3] Department of Physical Education and Sport Sciences
Aristotle University of Thessaloniki, Greece
[2] Department of Physical Education and Sport Sciences
Democritus University of Thrace, Greece
E-mail: mproios@phed.auth.gr

Abstract

The purpose of this study was to determine the individual differences on goal perspectives in the sport domain. The participants in the study consisted of 360 athletes (football, handball, basketball, track and field, volleyball, rowing, gymnastics, etc), 147 referees, and 79 physical education and exercise (391 males and 185 females), ranging in age from 13 to 50 years (M = 22.54, SD = 7.70). Their experience varied from 1 to 32 years (M = 6.27, SD = 5.24). All subjects filled in two versions of Task and Ego Orientation in Sport Questionnaire (TEOSQ and TEOSQ-R). The results were found achievement goal profile differences for all variables except gender. Overall, the findings support achievement goal frameworks and suggest that further examination of dispositional achievement goals may afford a deeper understanding of social relationships and motivational processes in achievement domains.

Keywords: goal orientation, age, experiences, gender, form of participation, type of sport.

According to the achievement goal theory the individual is an intentional, goal-directed organism operating in a rational manner. In this theory, in achievement domains such as sport, two classes of goals predominate, namely task/mastery and ego/performance goals, respectively (Ames & Archer, 1988; Nicholls, 1989). Mastery goals are focused on the development of competence through task-mastery, whereas performance goals are focused on the demonstration of competence relative to others.

Apart from the above mentioned dichotomous achievement goal framework, Elliot and her colleagues (e.g., Elliot, 1999; Elliot & Church, 1997; Elliot & Harachiewicz, 1996) have proposed a trichotomous achievement goal perspective. According to the trichtomous goals and 2x2 perspectives, mastery and performance goals are divided into approach and avoidance components (Elliot, 1999). However, most studies on achievement goals and general affect have used the dichotomous model of goals and worked under the assumption that mastery goals are beneficial to, and performance goals detrimental for, athletes' affective experience (see reviews in Linnenbrink & Pintrich, 2002; Pekrun, Elliot, & Maier, 2006).

According to Nicholls (1989) a person can be more task or more ego orientated at a specific moment and this has to do with developmental differences. Nicholls (1978) supported that

"younger children are naturally task orientated until they acquire a mature understanding of ability, because they are incapable of employing a more differentiated conception of ability. In contrast, adolescents and adults can evoke a more or less task- or ego-orientated behavior" (p. 332). Nicholls (1992) also suggested that children's levels of reasoning about developmental concepts (e.g., effort, ability, luck and task difficulty) would be considered across achievement domains, such as sport and school (Fry & Duda, 1997, p. 332).

In the achievement domain has supported that exist individual differences in dispositional goal orientation (Nicholls, 1992). Research in the physical domain has provided support for these theoretical proposition (see Chameton & Duda, 1988; Duda, 1987, 1988, 1989a, 1989b; Treasure & Roberts, 1994; Tuffey, 2001; White & Duda, 1994; Williams & Gill, 1995). The findings have generally shown that males tend to be more ego orientated than females and that females tend to more task orientated than males. Children of approximately 9 to 11 years of age tend to emphasize task-involved goals in sport whereas young adolescents of 12 to 14 years of age were more likely to be ego involved. More experienced athletes demonstrated significantly higher ego goal orientation that less experienced athletes. Ego orientation in sport situations takes over more and more with the increase of competitiveness. Students who were currently involved in sports (recreational and/or interscholastic) placed a greater emphasis on task involved success than the students who had dropped or had never been involved in the athletic domain.

People participate in sport in various ways, as athletes in school activities or teams, as referees or as coaches. This provides each and every one of these people with a different perception of the concept of ability that will lead them to the achievement of a goal. White and Duda (1994) reported that athletes of a high competitive level were significantly ego orientated than their adult counterparts who participated in recreational activities or athletes at a lower level of sport involved. There is certainly a differentiation on how a goal is achieved when people participate in sports differently. Furthermore, on sport there are different types of sports (e.g., contact or no contact, team or individual).

The purpose of this study was to determine if dispositional achievement goal orientation profiles that are reported in the literature would be observed in three Greek samples (athletes, referees, and physical education and exercise). We hypothesized that achievement goal orientation profiles that are consistent with those reported in the literature would emerge and that these profiles would reflect differing perceptions of the sport social environment.

Method

Participants

The participants in the study consisted of 360 athletes (football, handball, basketball, track and field, volleyball, rowing, gymnastics, etc), 147 referees, and 79 physical education and exercise (391 males and 185 females), ranging in age from 13 to 50 years (M = 22.54, SD = 7.70). Their experience varied from 1 to 32 years (M = 6.27, SD = 5.24).

The variables of age and experience were divided in levels. Age levels were drawn out according to the education levels of subjects and were as follows: First level 13-18 years, second level 19-23, third level 24-27, fourth level 28 to 35 and fifth 36 to 50. Experience levels were as follows: the first level contained subjects with no experience, the second level contained subjects with 1-10 years of experience, the third contained subjects with 11 to 20 years of experience and the fourth contained subjects with 21 to 30 years of experience.

Procedure

Data collection was completed following ethical approval by the researchers' institution. First for athletes, team coaches were asked for their consent. Following the coaches' consent their athletes filled out a questionnaire at the training site and prior to training. While for referees firstly permission was requested from the football, handball, and basketball referees' associations to administer. Next, they completed the questionnaire at the office of their association. Finally, for students relevant permits from the Ministry of National Education and Religious Affairs and the principles of the schools chosen were obtained.

Measure

Achievement goals. Athletes and students physical education filled out a validated Greek version (Papaioannou & McDonald, 1993) of the Task and Ego Orientation in Sports Questionnaire (TEOSQ; Duda & Nicholls, 1992) was used in order to assess dispositional goal orientations. The

stem was "I feel most successful in my sport when…" TEOSQ is a questionnaire consisting of 13-items. It includes two independent subscales measuring task (seven items; e.g., I learn new skills) and ego (six items; e.g., I come first) orientations as regards participation in sports. TEOSQ has demonstrated adequate internal consistency with satisfactory alpha coefficients for both the task (α = .79) and ego (α = .81) subscales (Duda & Whitehead, 1998). In the present study, the alpha coefficients were .91 and .75 for task and ego, respectively.

Referees filled out a modified form of TEOSQ (TEOSQ-R; Proios, Tsigilis, & Doganis, 2005). TEOSQ-R consists of two independent scales that evaluate individual differences and relate to Task or Ego participation in sport. It begins with the sentence: "I feel most successful in sport when…". The modified form of the test begins with the sentence: "I feel most successful as a referee when…", followed by 13 different sub statements. The respondent was asked to indicate the degree to which he agrees with each of the 13 statements (7 of which relate to task Orientation and 6 to Ego). Responses are given on a 5 point Likert scale ranging from *strongly agree* (5) to *strongly disagree* (1). In the present study, the alpha coefficients were .86 and .78 for task and ego, respectively.

Results

Regarding the way goal orientation is formed within achievement domain, the findings of the present study showed that task orientation holds a higher level than ego orientation among subjects (M = 3.59, SD = 10.35 to M = 2.79, SD = .83).

Gender differences

Multivariate analyses of variance indicated gender λ = .989, $F(4,1138) = 1.65$, p = .16, non differences on goal perspectives although females displaying higher levels than males on task orientation (M = 3.73 vs M = 3.52), and males higher levels than females on ego orientation (M = 2.82 vs M = 2.75) (see Table 1).

Age differences

Multivariate analyses of variance indicated age λ = .895, $F(8,1150) = 8.19$, $p < .001$, n^2= .054, differences on goal perspectives. According to Cohen (1988), guidelines for interpreting an eta square value (n^2) is that .01 indicates a small effect, .06 indicates a moderate effect, and .14 indicates a large effect. Therefore, our finding that the n^2= .054 indicates that 5.4% of the total variance in achievement goal orientations is accounted for by age. A univariate F test indicated that significant differences exist only on task orientation $F(4,581) = 14.91$, $p < .001$, n^2= .096. *Post hoc* Tukey tests showed that significant differences exist between ages 13-18 and all the rest ages on level $p < .001$. People between 13-18 years of age are more task-orientated that the rest of the ages mentioned above.

Sport Experiences Differences

Multivariate analyses of variance indicated age λ = .973, $F(6,1140) = 2.59$, $p < .05$, n^2= .013$p < .05$, n^2= .013, differences on goal perspectives. The eta square indicates that 1.3% of the total variance in achievement goal orientations is accounted for by sport experiences. Univariate F tests have not shown significant effects on the $p < .05$ level when it comes to goal perspectives.

Form Participation Differences

Multivariate analyses of variance revealed significant main effects for form participation λ = .945, $F(8,1160) = 7.64$, $p < .001$, n^2= .026. The eta square indicates that 2.6% of the total variance in achievement goal orientations is accounted for by form participation. A univariate F test indicated that significant differences exist on task and ego orientation $F(2,584) = 12.07$, $p < .001$, n^2= .040 and $F(2,584) = 3.05$, $p < .05$, n^2= .010, respectively. *Post hoc* Tukey tests showed that significant differences exist between subjects physical education and referees, athletes and referees only on task orientation (M = 3.84 vs M = 3.25 and M = 3.68 vs M = 3.25) on level $p < .001$ (Table 1).

Type of Sport Differences

Multivariate analyses of variance revealed significant main effects for type of sport λ = .866, $F(8,1154) = 10.72$, $p < .001$, n^2= .069. The eta square indicates that 6.9% of the total variance in achievement goal orientations is accounted for by type of sport. A univariate F test indicated that significant differences exist on task and ego orientation $F(4,583) = 17.87$, $p < .001$, n^2= .110 and $F(4,583) = 8.91$, $p < .001$, n^2= .058, respectively. *Post hoc* Tukey tests showed that significant differences exist on task orientation between physical education and football, other sport (M = 3.81 vs M = 3.39 and M = 3.07), handball and football, other sports (M = 3.94 vs M = 3.39 and M = 3.07), basketball and football, other sports (M = 3.87 vs M = 3.39 and M = 3.07) on level $p < .001$

(Table 1). On ego orientation between physical education and basketball (M = 2.89 vs M = 2.51), football and handball, basketball (M = 2.97 vs M = 2.63 and M = 2.51), others sports and handball, basketball (M = 3.00 vs M = 2.63 and M = 2.51), on level $p < .001$ (Table 1).

Discussion

The primary purpose of this investigation was to determine whether dispositional achievement goal orientation profiles that are reported in the literature are observed in three Greek samples (athletes, referees and physical education and exercise). Based on previous studies, gender, age, athletic experience, form of participation and type of sport were included as independent variables.

Results presented a predominance of task-oriented (M = 3.59) over ego-oriented (M = 2.79). The achievement goal findings were similar to those found by researchers (e.g., Cervello, Rosa, Calvo, Jimenez, & Iglesias, 2007; Hodge, Allen, & Smellie, 2008; Stuntz & Weiss, 2009).

Up to date the developmental course of goal orientation had been examined through the children's understanding of cognitive elements such are: effort and ability in the academic domain (Nicholls, 1978) and in the physical domain (Fry & Duda, 1997). Both studies' samples included children ages 5-13. Their results revealed a significant relation among age and level of understanding of effort and ability in both academic and physical domains. The results of the present study are in agreement with those of previous studies, revealing that developmental changes in goal orientation continue to exist after the age of 13 and at least up to 18 presenting an upward trend (e.g., Dweck, 2002). The variability of the way children understand effort and ability in different ages, Fry and Duda (1997) claimed that this may be due to the different cognitive level and not on the different age. This is more understood through the examination of cognitive-developmental model that considers that the developmental stages even though they follow the same course they do not necessarily appear in the same time for everyone (Salkind, 1985).

The developmental part of Nicholls' theory was confirmed for the athletic domain in the present study, since it revealed significant individual differences in task orientation. In the present study, contrary to physical education, task orientation presented a descending trend. More specifically, results showed that athletes 13-18 years old present significantly higher task orientation compared to those of 19-50 years old. This is possibly due to the fact that athletes of a young age are not able to accurately determine their ability and for this reason they focus on effort- a characteristic of individuals that are task oriented (Roberts, 1984). According to Nicholls (1984), children show a mature understanding of this ability until they are in their teens. It would be interesting at this point to mention that the results of the present study presented that only 50% of children in the 11th grade show a mature understanding of effort and ability (Xiang & Lee, 2002). Another cause for this difference is the fact that development leads to a gradual predominance of the characteristics of ego-participation (White & Duda, 1994). The prevalence of ego-participation may be due to the increase of competitiveness from high school to college (Chaumeton & Duda, 1988). This though was not confirmed in the present study. It could be hypothesized that the increase of competitiveness led to the reduction of ego-participation in goal achievement, without though affecting ego-participation.

It has been repeatedly stressed that experiences consist an important element in the formation of goal orientation (Nicholls, 1989). He supported that individual differences in predisposition on goal orientation is a consequence of social experiences acquired in achievement domain. The findings of this study enhanced the claim of Nicholls. Similar findings were found in other studies as well (Hodge & Petlikchoff, 2000; Tuffey, 2001). Experience increases ego orientation in various athletic situations. This effect becomes stronger when competitiveness increases (e.g., from junior high school to high school). The increase in competitiveness leads to an increase in competitiveness between players and a greater will to win.

Theory and study on goal achievement in both physical and academic domains report that individuals express different perceptions on the ways used to achieve success (Nicholls, 1989). This is also confirmed by the findings of the present study that showed an affection of the form of participation on predisposition on goal orientation. Additionally, beliefs reveal the strategies adopted for goal achievement in both competition and action (Roberts, 2001). In the present study the referees presented significantly lower task orientation from athletes and physical educators

despite the fact that referees were task oriented. This is possibly due to the different perception of benefits from participating in sports (Roberts, 2001).

Another finding of the present study was the non differentiation of the predisposition on goal orientation between genders. The present finding comes in agreement with the finding of a study that examined differences in gender in children of 10-13 years of age that participated in various organized sports (White, Duda, & Keller, 1998). No significant differences in gender were reported by Fry and Duda (1997) for both physical and academic domain. Contrary to findings of previous studies, a study examining members of the Swimming Olympic Team revealed important differences in gender (Tuffey, 2001). Other studies presented similar findings (e.g., Hodge & Petlichokoff, 2000; Li, Hamer, & Acock, 1996). In each situation, regardless of the revealing or not of important differences in gender, girls presented a much more intense task-involved, ego-participation in goal achievement. This may be due to the greater focus of men on winning (White & Duda, 1994) and that they are more competitive than women. The values of "winning" and "competition" are related to ego orientation. Additionally the differences among men and women may be explained by the fact that women focus on caring for others and are interested in human relationships Gilligan (1982).

Finally, the hypothesis this study that exist type of sport-differences on goal orientation was confirmed. Literature refers to a connection of goal orientation and experienced enjoyment, satisfaction, and interest during participation in physical activities (Roberts, 2001). This reveals that differences found in the present study are possibly due to the different feelings of individuals within the frame of achievement goal orientation depending on the type of sport. Duda, Chi, Newton, Walling, & Catley (1995), and Duda and Nicholls (1992), using high school students, and Jackson and Roberts (1992) college athletes reported a positive relationship between task orientation and flow, an intrinsically enjoyable experience.

Table 1

Descriptive Statistics

Variables	Levels	Task		Ego	
		M	SD	M	SD
Age	13-18	3.95	.61	2.76	.75
	19-23	3.23	1.18	2.86	.81
	24-27	3.71	.97	2.75	.64
	28-35	3.45	1.17	2.76	.98
	36-50	3.37	1.26	2.85	1.03
Experiences	0	3.79	.78	2.92	.70
	1-10	3.56	1.06	2.74	.84
	11-20	3.50	1.15	2.89	.86
	21-30	3.45	1.28	2.72	1.23
Gender	Males	3.52	1.08	2.82	.87
	Females	3.73	.94	2.75	.72
Form of Participation	Physical education	3.84	.64	2.91	.71
	Athletes	3.68	.99	2.73	.76
	Referees	3.25	1.23	2.89	1.01
Type of Sport	Football	3.39	1.19	2.97	.99
	Handball	3.94	.79	2.63	.75
	Basketball	3.87	.78	2.51	.79
	Other sports	3.07	1.22	3.00	.72
	Physical Education	3.80	.65	2.89	.72

Conclusion

The findings of the present study offer a range of conclusions. First of all, it is found that individual differences in goal orientation are observed in each form of participation in physical activities, among participants in various sports. Second, participants in physical activities present differences in goal orientation in each phase of their age. Third, athletic experiences significantly affect the predisposition to achievement goal orientation. Finally, it is concluded that gender does not consist an important element for achievement goal orientation in sports.

References:

1. Ames, C., & Archer, J. (1988). Achievement goals in the classroom: students learning strategies and motivation processes. *Journal of Educational Psychology, 80*, 260-267. Retrieved from http://www.apa.org/pubs/journals/edu/index.aspx.
2. Cervelló, E., Santos-Rosa F. J., García Calvo, T., Jiménez, R., & Iglesias D. (2007). Young tennis players' competitive task involvement and performance: the role of goal orientations, contextual motivational climate, and coach-initiated motivational climate. *Journal of Applied Sport Psychology, 19,* 304-321. doi: 10.1080/10413200701329134
3. Chaumeton, N., & Duda, J. L. (1988). It is how you play the game or whether you win or lose?: The effect of competitive level and situation on coaching behaviors. *Journal of Sport Behavior, 11*, 157-174.
4. Clayton-Jones, L., Rodwell, K., Skehan, J., Chan, L., & Moore, P. (1992). *Approaches to learning attributions, goal orientations and achievement: A developmental perspective.* Paper presented at the AARE/NZARE Joint Conference, Geelong, Victoria.
5. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
6. Duda, J. L. (1987). Toward a developmental theory of children's action tendency scale. *Journal of Sport Psychology, 9*, 130-145.
7. Duda, J. L. (1988). The relationship between goal perspectives and persistence and intensity among recreational sport participants. *Leisure Sciences, 10*, 95-101. doi:10.1080/01490408809512180
8. Duda, J. L. (1989a). Goal perspectives, participation and persistence in sport. *International Journal of Sport Psychology, 20*, 42-56.
9. Duda, J. L. (1989b). Relationship between task and ego orientation and the perceived purpose of sport among high school athletes. *Journal of Sport & Exercise Psychology, 11*, 318-335. Retrieved from. http://journals.humankinetics.com/jsep
10. Duda, J. L., & Hom, H. L. (1993). Interdependencies between the perceived and self-reported goal orientations of young athletes and their parents. *Pediatric Exercise Science, 5*, 234-241.
11. Duda, L. J., & Nicholls, J.G. (1992). Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology, 84*, 290-299. Retrieved from http://dx.doi.org/10.1037/0022-0663.84.3.290
12. 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.
13. Duda, J. L., Chi, L., Newton, M., Walling, M. D., & Catley, D. (1995). Task and ego orientation and intrinsic motivation in sport. *International Journal of Sport Psychology, 26,* 40-63.
14. Dweck, C. S. (2002). The development of ability conceptions. In A. Wigfield & J. Eccles (Eds.), *Development of achievement motivation* (pp. 57–88). San Diego, CA: Academic Press.
15. Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals. *Educational Psychologist*, *34*, 169-189. doi:10.1207/s15326985ep3403_3
16. Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *72*, 218-232. Retrieved from http://dx.doi.org/10.1037/0022-3514.72.1.218
17. Elliot, A. J., & Harachiewicz, J. M. (1996). Approach and avoidance achievement goals and intrinsic motivation: A mediational analysis. *Journal of Personality and social Psychology*, *70*, 461-475. Retrieved from http://dx.doi.org/10.1037/0022-3514.70.3.461

18. Ewing, M., Roberts, G., & Pemberton, C. (1983). *A Developmental Look at Children's Goals for Participating in Sport*. Paper presented at the Annual Meeting of the North American Society for the Psychology of Sport and Physical Activity, East Lansing, MI.

19. Fry, M. D. (2000a). A developmental analysis of children's and adolescents' understanding of luck and ability in the physical domain. *Journal of Sport & Exercise Psychology, 22*, 145–166. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/1128.pdf

20. Fry, M. D. (2000b). A developmental examination of children's understanding of task difficulty in the physical domain. *Journal of Applied Sport Psychology, 12*, 180–202. doi:10.1080/10413200008404223

21. Fry, M. D., & Duda, J. L. (1997). A developmental examination of children's understanding of effort and ability in the physical and academic domains. *Research Quarterly for Exercise and Sport, 68*(4), 331-344. doi:10.1080/02701367.1997.10608014

22. Gilligan, G. (1982). *In a different voice: Psychological theory and woman's development*. Cambridge MA: Harvard University Press.

23. Hodge, K., & Petlichkoff, L. (2000). Goals profiles in sport motivation: A cluster analysis. *Journal of Sport & Exercise Psychology, 22*, 256-272. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/1124.pdf

24. Jackson, S. A., & Roberts, G. C. (1992). Positive performance states of athletes: Toward a conceptual understanding of peak performance. *The Sport Psychologist, 6,* 156–171.

25. Hodge, K., Allen, J. B., & Smellie, L. (2008). Motivation in masters sport: achievement and social goals. *Psychology of Sport and Exercise, 9*, 157-176. doi:10.1016/j.psychsport.2007.03.002.

26. Li, F., Harmer, P., & Acock, A. (1996). The task and ego orientation in sport questionnaire: Construct equivalence and mean differences across gender. *Research Quarterly for Exercise and Sport, 68*(2), 228-238. doi: 10.1080/02701367.1996.10607949

27. Linnenbrink, E. A., & Pintrich, P. R. (2002). Achievement goal theory and affect: An asymmetrical bidirectional model. *Educational Psychologist, 37*, 69-78. doi:10.1207/S15326985EP3702_2

28. Newton, M. L., & Duda, J. L. (1993). Elite adolescent athletes' achievement goals and beliefs concerning success in tennis. *Journal of Sport & Exercise Psychology, 15*, 437-448. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/9113.pdf

29. Nicholls, J. (1978). The development of the concepts of effort and ability, perception of own attainment, and the understanding that difficult tasks require more ability. *Child Development, 49*, 800-814. doi:10.2307/1128250

30. Nicholls, J. G. (1984). Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review, 91,* 328-346.

31. Nicholls, J. G. (1989). *The Competitive Ethos and Democratic Education*. Cambridge, MA: Harvard University Press.

32. Nicholls, J. G. (1992). The general and the specific in the development and expression of achievement motivation. In G. C. Roberts (Ed.) *Motivation in Sport and Exercise* (pp. 31-56). Champaign, IL: Human Kinetics.

33. Papaioannou, A., & McDonald, A. I. (1993). Goals perspectives and purposes of physical education as perceived by Greek adolescents. *Physical Education Review, 16*, 41-48.

34. Pekrun, R., Elliot, A. J., & Maier, M. A. (2006). Achievement goals and discrete achievement emotions: A theoretical model and prospective test. *Journal of Educational Psychology, 98*(3), 583-597. doi: 10.1037/0022-0663.98.3.583

35. Proios, M., Tsigilis, N., & Doganis, G. (2005). Examining referees' task and ego orientation in sport: A preliminary examination of the construct validity of a questionnaire. *International Journal of Sport & Exercise Psychology, 3*, 223-233. doi:10.1080/1612197X.2005.9671768

36. Roberts, G. C. (1984). Achievement motivation in children's Sport. In J. G. Nicholls, J. G. (Ed.). *Advances in Motivation and Achievement*. (Vol. 3; pp. 251-281). Greenwich, CT: JAI Press.

37. Roberts, G. C. (2001). Advances in motivation in sport and exercise. In G.C. Roberts (Ed.). *Understanding the dynamics of motivation in physical activity: The influence of achievement goals on motivational processes* (pp. 1-50). Champaign, IL: Human Kinetics.

38. Salkind, N. J. (1985). *Theories of Human Development*. New York: John Wiley & Sons.

39. Stuntz, C. P., & Weiss, M. R. (2009). Achievement goal orientations and motivational outcomes in youth sport: The role of social orientations. *Psychology of Sport and Exercise, 10*, 255-262. doi:10.1016/j.psychsport.2008.09.001

40. Treasure, D. C., & Roberts, G. C. (1994). Cognitive and affective concomitants of task and ego goal orientations during the middle school years. *Journal of Sport & Exercise Psychology, 16*, 15-28. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/ Documents/DocumentItem/9024.pdf

41. Tuffey, S. (2001). *Olympic Trials Project – Sport Psychology*. Retrieved from webb 5/11/2001 http:// usswim.org/programs/template.pl?opt=news&pubid=943.

42. 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.

43. White, S. A., &Duda, J. L., & Keller, M. R. (1998). The relationship between goal orientation and perceived purpose of sport among youth sport participants. *Journal of Sport Behavior, 21*(4), 474-483.

44. Williams, L., & Gill, D. L. (1995). The role of perceived competence in the motivation of physical activity. *Journal of Sport & Exercise Psychology, 17*, 363-378. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/9008.pdf

45. Xiang, P., & Lee, A. (2002). Achievement goals, perceived motivational climate, and students' self-reported mastery behaviors. *Research Quarterly for Exercise and Sport, 73*(1), 58-65.