





Achievement goal orientations profile in people with physical disability

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Abstract

Introduction: Achievement goals assumes that govern achievement beliefs guide subsequent decision making and behavior in achievement contexts. The purpose of the study was to analyze the goal perspectives (task and ego orientation) based on personal and disability-related characteristics. **Material and methods:** The participants in this study were 140 people with physical disabilities (n=107 men, and n=33 women. Their age ranged from 14 to 67 years (M=35.31, SD=10.67). The participants filled the Task and Ego Orientation in Sports Questionnaire (TEOSQ). In addition following factors were put into analysis: gender, age, family status, education, occupational status, disability [congenital versus acquired], type of disability [spinal cord injury, brain palsy, amputation, poliomyelitis, muscular dystrophy and other type], type of activity [sport activities – competitive versus recreational – and any activity], type of sport [team versus individual sports], type of experience [resistance, strength and skills], and type of games [Paralympic, European, National and Sectional]]. **Results:** Results showed that people with physical disabilities who mainly take part in physical activities manifest a high disposition of task orientation (M=3.96, SD=0.67) and moderate ego orientation (M=2.61, SD=0.82) in physical activities settings. In addition, the results revealed that personal characteristics, type of activity, and athletic experience play a small role in the existence of individual differences in goal perspectives. **Conclusions:** The people with physical disabilities, mainly athletes, show a predisposition towards task orientation on achievement settings in physical activities, and the personal characteristics as exercise form (competitive, recreation, no exercise), and athletic experiences effect in the existence of individual differences in goal perspectives.

Keywords: physical disability, task orientation, ego orientation, physical activity, individual differences

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INTRODUCTION

People, in their life span, often are involved in achievement settings because of various reasons such as success, development and demonstration of capacity showing with that way creates the motive of involvement. In the description context of the achievement motivation, various theories support that the achievement motivation interprets the direction of the behavior, if it will be an approach direction or an avoidance direction and for what cause [1]. One better approach to understanding the behavior in achievement settings is achieved via the assumptions of achievement goal theories which are strongly focused on cognitive motives, such as the aims or the purposes and the aspirations of the individual [2,3].

According to the achievement goal theory (AGT) [4,5,6] individuals' central motive for participating in achievement contexts is to develop or demonstrate competence. An achievement goal theory is a widespread theoretical perspective for studying motivation and was used quite intensively in the past three decades in physical activity settings [7,8,9].

In the context of AGT, Nicholls [6] has provided a useful theoretical structure for examining the orientation for achievement goal orientation in sport. According to Nicholls [6], achievement goal orientations shows basically people's views or theories on achieving in a specific area of achievement. This theory supports that in the context of achievement, people, depending on their orientation perceive their capacity differently. The perception of capacity demonstration differs among people and environment and happens according to a two-goal orientation (task and ego) [6]. *Task orientation* for achievement goal illustrates the trend of someone's perception of capacity and success using self-referenced criteria. The person, who is high in task orientation feels most successful when he or she has exerted high levels of effort and observed mastery of a skill. While, *ego orientation* illustrates the trend of perception of capacity and success compared to others [10]. The ego-oriented individual judges the feelings of competence and adequacy by employing normative or other-referenced criteria. Roberts [8] and White [10] argued that a dominant predisposition can be either task- and/or ego-oriented, however it may be possible to be high or low in both. Roberts [8] consider it ideal to be high in both because an individual who is high in both task and ego goal orientation has two sources of success and several reasons to continue his or her participation in the activity.

Achievement goal orientations in achievement settings as physical activities were studied, mainly, with participants from the people without physical disabilities. Nevertheless, the participation of people with physical disabilities in physical activities has been dramatically increased in the last decades. In contrast to this augmentation of participation in physical activities, limited work has been conducted to date on the achievement goal orientations among this population (for a review see [11]). Particularly, a study by White and Duda [12] examined the existence and nature of dispositional goal orientations and perceived reasons for sports success among adolescent athletes with disabilities. Other studies examined the relationship between achievement goals and perceived motivation climate [13,14]. Gutiérrez, Núria Caus and Ruiz [15] tested the relationship among athletes' perceptions of parents' goal orientation and their own goal orientation and compared athletes with and without disabilities with respect to the influence of parents on athletes' achievement orientation and motivation for sport. Skordilis and colleagues, also examined differences on gender and type of sport in goal perspectives in the wheelchair adult athletes [16], and differences on goal orientations among professional, amateur and wheelchair basketball athletes [17].

People with physical disabilities owing to the participation restrictions in physical activities may experience increased physical and mental challenges compared to athletes without disabilities [18,19]. This reveals the importance of the examination of the achievement goal orientations because it helps to research the views that lead disabled individuals to decision making and the behavior that they present towards achievement [20]. However, the existence of individual differences in predisposition for the task and/or ego goal involved and the exhibition of the behaviors associated with the held orientation should be noted [8].

Individual differences in the disposition to be ego- or task-oriented may result from socialization through task- or ego-involving contexts at home, in the classroom, or during sports activities [4,21]. Research in the physical domain has provided support for this theoretical proposition [22,23,24]. The findings have generally shown that males tend to be more ego orientated than females

and that females tend to be more task orientated than males. Children of approximately 9 to 11 years old tend to emphasize task-involved goals in sport whereas young adolescents of 12 to 14 years old were more likely to be ego involved. More experienced athletes demonstrated significantly higher ego goal orientation than less experienced athletes.

The purpose of the present study is to determine the dispositional achievement goal orientation profile in people with physical disabilities. Also, our aim is to assess achievement goal profiles differences in relation to specific demographic characteristics of the sample of this study. We hypothesized based on literature that the achievement goal orientation profile will vary in the demographic characteristics.

MATERIALS AND METHODS

Participants

The participants in this study were 140 people with physical disabilities (n=107 men 76.4%, and n=33 women 23.6%). Their age ranging from 14 to 67 years (M=35.31, SD=10.67), and were split into four different age groups (14-22, 23-34, 35-44, and 45-67 years). Family status their participants were married (n=41), and unmarried (n=99). The education of participants was: primary school (n=3), junior high school (n=18), senior high school (n=66), university (n=50), and postgraduate (n=3). The participants stated also their occupational status: private employee (n=20), civil servant (n=17), rentier (n=6), freelancer (n=21), student (n=15), unemployed (n=26), and other (n=35). The disability of participants was congenital (n=37), and acquired (n=97), while 6 people did not state their disability. Their type disability was spinal cord injury (n = 48), cerebral palsy (n=21), amputation (n=15), poliomyelitis (n=6), muscular dystrophy (n=5), and other type (n=38). A number people (n=133) were involved in sport activities (117 competitive, and 16 recreational), and 6 people did not state involve in any activity. People with competitive activity were involved in the following sports: basketball (n=35, 31.8%), track and field (n=25, 22.7%), archery (n=5, 4.5%), weightlifting (n=13, 11.8%), fencing (n=3, 2.7%), cycling (n=1, 0.9%), swimming (n=15, 13.6%), shooting (n=4, 3.6%), boccia (n=1, 0.9%), football (n=1, 0.9%), skiing (n=2, 1.8%), table tennis (n=3, 2.7%), and volleyball (n=2, 1.8%). In this study the sports were classified into two types: (a) type of sport: team versus individual sports, and (b) type of exercise: resistance, strength and skill. The years of athletic experience ranged from 0 to 40 years (M=10.18, SD=9.22), and were grouped into four groups: 0yr; 1-13yr; 14-27yr; 28-40yr. Participants with competitive sport activity were involved at one of the following levels: Paraolympic (n=24), European (n=15), National (n=55) and Sectional (n=13).

Procedure

Prior to participation in the study, permission to participate in the study was requested and received from coaches of individuals that participated in competitive sports activities and parents of individuals that are under the age of 18 years. From rehabilitation centers managers for the individuals who were non-participants in sports activities. Finally, the researchers informed the participants of the content of the questions, as well as of the purpose of the present study, before the participants fill in the questionnaire.

Measurement

Achievement goals. A validated Greek version [25] of the Task and Ego Orientation in Sports Questionnaire (TEOSQ) [26] was used in order to assess dispositional goal orientations. The stem was "I feel most successful in my exercise 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 ($\alpha=0.79$) and ego ($\alpha=0.81$) subscales [27]. In the present study, the alpha coefficients were 0.90 and 0.87 for task and ego, respectively.

Data analysis

Descriptive statistics were obtained, and preliminary data analyses were conducted to estimate the responses of people on volition qualities. Inferential statistics (ANOVA and MANOVA) were used to analyze the extent to which the perception of the people with physical disabilities in the volitional qualities varied with gender, age, family status, education, occupational status, disability, type of disability, form of exercise, type of sport, experience, and form of games.

RESULTS*Descriptive Statistics and internal consistency of scales*

Descriptive statistics for the whole sample ($n=140$) are displayed in Table 1. The internal consistency of all scales was subsequently examined using Cronbach's [28] alpha coefficient and the values are also displayed in Table 1. All scales displayed adequate internal consistency (i.e., > 0.07) [29]. The results initially revealed the profile in achievement goal orientations people with physical disabilities that were used in the present study. Specifically, means suggest that the people with physical disability reported high task orientation ($M=3.96$, $SD=0.67$), and moderate ego orientation ($M=2.61$, $SD=0.82$). In addition, descriptive statistics showed the existence of individual differences in the disposition for task or ego oriented in two demographic characteristics (see Table 2).

More specifically, according to means scores, as presented in Table 2, the men exhibit higher levels task and ego orientation ($M=3.97$, $SD=0.67$ and $M=2.61$, $SD=0.83$, respectively) than the women in the orientations task and ego ($M=3.90$, $SD=0.68$, and $M=2.54$, $SD=0.79$, respectively). Regarding the age groups, the results showed higher average in the task and ego orientation in ages 45-67 years ($M=4.14$, $SD=0.25$, and $M=2.78$, $SD=1.01$, respectively). Moreover, it turned out that the tendency of the scores in the task orientation is unclear, while in the ego orientation is an upward trend.

To family status, means scores showed a predominance of the mean scores of unmarried on the task orientation ($M=3.96$, $SD=0.62$), and of the married on the ego orientation ($M=2.75$, $SD=0.91$). In education, means scores revealed that the average of task and ego orientation were predominated on the primary school education ($M=4.29$, $SD=0.71$, and $M=3.33$, $SD=1.64$, respectively) against the other levels of education. Also, descriptive statistics did not show a clear trend for the scores of goal perspectives (task and ego orientations).

For occupational status means scores indicated a predominance in the mean scores of students on the task orientation ($M=4.17$, $SD=0.36$), and ego orientation in the freelancers ($M=2.69$, $SD=0.85$). By examining the mean scores of the variable disabilities, descriptive statistics revealed that the task orientation scored highest on acquired disability ($M=4.01$, $SD=0.56$), and ego orientation in the congenital disability ($M=2.73$, $SD=0.86$). Per type of disability, descriptive statistics revealed that mean scores for the task orientation were highest on the poliomyelitis ($M=4.19$, $SD=0.69$), and ego orientation on muscular dystrophy ($M=3.23$, $SD=1.07$).

The means scores regarding to form exercise revealed that the task orientation scored were highest on the form competitive ($M=4.00$, $SD=0.64$), and ego orientation on the recreational ($M=2.88$, $SD=0.76$). Regarding type of sport (team and individual) descriptive statistics showed a predominance in the scores of task and ego orientations on the individual sports ($M=4.05$, $SD=0.47$, and $M=2.59$, $SD=0.77$, respectively). While for the type of sport (resistance, strength, and skill) descriptive statistics indicated a predominance in the scores of task and ego orientation in the strength type ($M=4.13$, $SD=0.56$, and $M=2.67$, $SD=0.89$, respectively). Regarding experience groups the people with experience 28-40 years presented higher scores on the task orientation ($M=4.10$, $SD=0.40$), and ego orientation people with experience 14-27 years ($M=2.86$, $SD=0.94$). Finally, descriptive statistics regarding form of games revealed a predominance of the mean scores of task orientation on the Paralympic type ($M=5.44$, $SD=0.89$), and ego orientation on the sectional type ($M=6.19$, $SD=0.67$).

Table 1. Descriptive Statistics and Coefficient α Cronbach'

Variables		M	SD	α
Goals	Task	3.96	0.67	0.90
	Ego	2.61	0.82	0.87

Note: M=mean, SD=standard deviation, α =Cronbach's alpha scores

Table 2. Descriptive Statistics per Demographic Characteristic and Differences Significance

Demographic characteristics		N	Task M(SD)	Ego M(SD)	Differences (Sig.)
Gender	Men	107	3.97 (.67)	2.61 (.83)	p>0.05
	Women	33	3.90(.68)	2.54(.79)	
Group Age	14-22	15	3.97(.35)	2.56(.56)	p>0.05
	23-34	52	3.95(.71)	2.57(.76)	
	35-44	44	3.89(.81)	2.59(.87)	
	45-67	23	4.12 (.45)	2.78 (1.01)	
Family Status	Married	41	3.95(.79)	2.75 (.91)	p>0.05
	Unmarried	99	3.96 (.62)	2.53(.82)	
Level Education	Primary school	3	4.29 (.71)	3.33 (1.64)	p>0.05
	Junior high school	18	4.09(.71)	2.55(.54)	
	Senior high school	66	3.89(.74)	2.62(.83)	
	University	50	3.96(.59)	2.54(.79)	
	Postgraduate	3	4.14(.25)	2.56(1.57)	
Occupational Status	Private employee	20	3.67(.77)	2.60(.92)	p>0.05
	Civil servant	17	4.09(.50)	2.59(.94)	
	Rentier	6	4.14(.68)	2.67(.86)	
	Freelancer	21	3.77(1.02)	2.69 (.85)	
	Student	15	4.17 (.36)	2.52(.73)	
	Unemployed	26	3.87(.61)	2.49(.77)	
	Other	35	4.11(.41)	2.63(.81)	
Disability	Congenital	37	3.99(.69)	2.73 (.86)	p>0.05
	Acquired	97	4.01 (.56)	2.56(.79)	
Type Disability	Spinal cord injury	48	4.07(.49)	2.53(.79)	p>0.05
	Brain palsy	21	3.90(.67)	2.71(.80)	
	Amputation	15	4.07(.46)	2.51(.71)	
	Poliomyelitis	6	4.19 (.69)	2.69(.53)	
	Muscular dystrophy	5	4.17(.50)	3.23 (1.07)	
	Other	38	3.95(.69)	2.57(.90)	
Type Exercise	Competitive	117	4.00 (.64)	2.58(.81)	p<0.05
	Recreational	16	3.96(.28)	2.88 (.76)	
	Non	6	3.12(.67)	2.33(.82)	
Type Sport (a)	Team	38	3.85(.91)	2.39(.82)	p>0.05
	Individual	72	4.05 (.47)	2.59 (.77)	
Type Sport (b)	Resistance	58	3.89(.76)	2.42(.72)	p>0.05
	Strength	38	4.13 (.56)	2.67 (.89)	
	Skill	13	3.99(.26)	2.59(.79)	
Group Experience	0 years	6	3.12(1.26)	2.33(1.18)	p<0.05
	1-13 years	73	3.93(.69)	2.46(.77)	
	14-27 years	25	4.25(.57)	2.86 (.94)	
	28-40 years	7	4.10 (.40)	2.43(1.00)	
Type Games	Paralympic	24	4.13 (.45)	2.89(.88)	p>0.05
	European	15	4.11(.49)	2.48(1.01)	
	National	55	3.88(.81)	2.45(.69)	
	Sectional	13	4.08(.67)	2.97 (.77)	

Differences between Personal and Disability-related Characteristics

Firstly, a one-way multivariate analysis of variance was performed with the use of three perspectives (task and ego orientation) as dependent variables and the Gender as independent variable. The multivariate tests did not reveal a significant main effect of gender (Wilks' lambda = 0.997, $F_{(2,137)} = 0.16$, $p > 0.05$). Similar results were found and in other groups of variables, age Wilks' lambda = 0.982, $F_{(2,129)} = 0.39$, $p > 0.05$, family status, Wilks' lambda = 0.983, $F_{(2,137)} = 1.17$, $p > 0.05$, education level Wilks' lambda = 0.963, $F_{(2,134)} = 0.64$, $p > 0.05$, occupational status, Wilks' lambda = 0.906, $F_{(2,132)} = 1.12$, $p > 0.05$, disability Wilks' lambda = 0.990, $F_{(2,131)} = 0.69$, $p > 0.05$, type of disability Wilks' lambda = 0.943, $F_{(2,126)} = 0.75$, $p > 0.05$, type of sport [team and individual] Wilks' lambda = 0.973, $F_{(2,107)} = 1.47$, $p > 0.05$, type of sport [resistance, strength, skill] Wilks' lambda = 0.962, $F_{(2,106)} = 1.04$, $p > 0.05$, and form of games Wilks' lambda = 0.910, $F_{(2,102)} = 0.89$, $p > 0.05$) where the same procedure was followed for checking the differences in the means in relation with the above variables.

Another one-way MANOVA was conducted with the same dependent variables and the Form of Exercise as the independent variable. The multivariate test revealed a significant main effect of form exercise (Wilks' lambda = 0.912, $F_{(2,132)} = 3.20$, $p < 0.05$, $\eta^2 = 0.045$. According to J. Cohen [30], guidelines for interpreting an eta-square value (η^2) is that .01 indicates a small effect, 0.09 indicates a moderate effect, and 0.25 indicates a large effect. Therefore, our finding $\eta^2 = 0.045$, indicates that 4.5% of the total variance in variables of goal orientations is accounted for by a form of exercise differences and as such it can be classified as a small effect. The univariate results showed a significantly different effect only in the task orientation ($F_{(1,138)} = 5.24$, $p < 0.01$, $\eta^2 = 0.071$), while in the ego orientation there is no significant effect ($F_{(1,138)} = 0.85$, $p > 0.05$).

Finally, one more one-way MANOVA was conducted with the same dependent variables and the Athletic Experience as the independent variable. The multivariate test revealed a significant main effect of athletic experience (Wilks' lambda = 0.866, $F_{(2,106)} = 2.63$, $p < 0.05$, $\eta^2 = 0.089$). The finding $\eta^2 = 0.089$, indicates that 8.9% of the total variance in variables of goal orientations is accounted for by athletic experiences differences and as such it can be classified as a small effect. The univariate results showed a significantly different effect only in the task orientation ($F_{(1,110)} = 4.52$, $p < 0.01$, $\eta^2 = 0.112$), while in the ego orientation, there is no significant effect ($F_{(1,110)} = 1.58$, $p > 0.05$).

DISCUSSION

The help of others to reap potential benefits from the participation in physical activities requires knowledge about what affects the motivation participation [31]. The present study aimed at investigating the profile of goal perspectives (task and ego) people with physical disabilities, as well as at establishing the personal characteristics differentiating of two-goal perspectives.

The findings of the present study showed that people with physical disability exhibited high predisposition of task orientation, in contrast with moderate in the ego orientation. The findings were similar to the findings of studies with a typical population [31,32,33]. The present finding is supported to those of other studies that have found that a very strong experience mastery is existing among the athletes with a disability [34], and more mastery motivational climate in relation to athletes without a disability. Pensgaard, Roberts and Ursin [18] argued that athletes with disabilities might have a stronger task orientation, because they do not have others to compare themselves due to the relatively smaller population. A stronger goal orientation is associated with less depression, greater acceptance of disability, and increased life satisfaction [35]. Goal orientation is also associated with less perceived social stigma and increased mobility among these persons [36]. All the above findings stress the importance of developing the factor of achievement goal orientation among the people with physical disabilities.

This study's finding of the task orientation prevalence shows that people with physical disability, probably, tend to attribute success to effort, cooperation, and intrinsic interest [37]. In addition, they are likely to show adaptive achievement behaviors, such as exerting consistent effort, persistence in the face of setbacks, and sustained and improved performance [4,21], and positive affective and behavioral patterns [8,38,39].

The present study hypothesized that the perception of people with physical disabilities towards their predisposition achievement goal orientation potential is affected by several moderators.

The results of this study confirmed, in part, the above assumption. Specifically, the findings revealed only a small level effect of variables type of activity, and experience on the goal perspectives (task and ego orientation). The presentation of individual differences in the disposition to be task or ego oriented may result from physical activity experiences of the individuals [8]. These experiences may, to an extent, predict different forms of athlete's action [6]. In the present study, the situation of the individuals that participated in physical activities to rate significantly higher the task orientation in relation to those with no participation in physical activities was found. This shows that the participation in physical activities, possibly, strengthens the task orientation of people with physical disabilities.

Regarding the other demographic characteristics and disabilities-related characteristics, any individual differences in goal perspectives were not found. Examining the finding concerning the gender differences in the typical population it seems to be consistent with the view that there is a lack of consensus goal orientation [15]. Developmental research has clearly identified changes that take place in children's differentiation of ability and effort as they age [40]. In sports activities, while many studies have shown that younger athletes without physical disabilities, tend to be more task-oriented than older athletes [41], other studies have failed to identify age differences in the task- and ego-orientation [42]. The above findings with people with disabilities strengthens the finding of the present study with people with physical disabilities. Regarding the type of sport in the typical population individual differences in achievement goal have been supported [24,43]. Similar support exists for participants of wheelchair athletes where differences have been found in the ego orientation of marathoners and basketball players [16]. Nevertheless, in the present study the existence of differences was not confirmed, with a possible cause to may be the range of sports of the present study in relation to the two sports used in the previous study. Despite, the provision of a wealth of information concerning achievement goal in people without a disability, the individual differences in goal perspectives are yet to be examined among athletes with a physical disability. This does not allow the further discussion of this study's findings.

Limitations

This study is not without limitations. First, it should be noted that the assessment of achievement goal orientations was based on self-reports. Also, the sample of this study cannot be considered as representative so as to allow for the generalization of the results. A systematic future research is necessary.

CONCLUSIONS

In conclusion, the present study is considered to offer new knowledge on the achievement goal orientation profile of people with physical disabilities. From the findings of the present study, it is initially concluded that the people with physical disabilities, mainly athletes, show a predisposition towards task orientation on achievement settings in physical activities. Another conclusion based on the findings of the present study is the effect of personal characteristics as form exercise (competitive, recreation, no exercise), and athletic experiences in the existence of individual differences in goal perspectives. As a fact, the absence of changes in goal orientation, except for two cases with small size effect, is leading to the conclusion to expect stability in achievement goal endorsement over time in the people with physical disabilities. This claim, however, as opposed to the view that an instability in the goal orientation is existing in the sport domain [44]. The possible root of goal stability can be the hierarchical nature of achievement motivation [45]. Furthermore, it is a fact that achievement goals represent concrete aims that emerge from personality characteristics such as achievement motives [46,47].

REFERENCES

1. Thrash TM, Elliot AJ. Delimiting and integrating achievement motive and goal constructs. In: Elfkildes A, Kuhl J, Sorrentino RM, editors. Trends and prospects in motivation research. Netherlands: Kluwer Academic Publishers; 2001: 3-22.
2. Ames C. Competitive, cooperative, and individualistic goal structures: A motivational analysis. In: Ames R, Ames C, editors. Research on motivation in education: Student motivation. New York: Academic Press; 1984: 177-207.
3. Nicholls JG. Achievement motivation: Conceptions of ability, subjective experience, task choice, and performance. *Psychological Review* 1984; 91: 328-346. <http://dx.doi.org/10.1037/0033-295X.91.3.328>
4. Ames C. Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology* 1992; 84: 261-271. <http://dx.doi.org/10.1037/0022-0663.84.3.261>
5. Dweck CS. Motivational processes affecting learning. *American Psychologist* 1986; 41: 1040-1048. doi:10.1037/0003-066X.41.10.1040
6. Nicholls JG. The competitive ethos and democratic education. Cambridge, MA: Harvard University Press; 1989
7. Bortoli L, Bertollo M, Robazza C. Dispositional goal orientations, motivational climate, and psychobiosocial states in youth sport. *Personality and Individual Differences* 2009; 47: 18-24. <http://dx.doi.org/10.1016/j.paid.2009.01.042>
8. Roberts GC. Understanding the dynamics of motivation in physical activity: The influence of achievement goals on motivational processes. In Roberts GC, editor. *Advances in motivation in sport and exercise*. Champaign, IL: Human Kinetics; 2001: 1-50.
9. Smith RE, Smoll FL, Cumming SP. Motivational climate and changes in young athletes' achievement goal orientations. *Motivation & Emotion* 2009; 33: 173-183. doi:10.1007/s11031-009-9126-4
10. White SA. Adolescent goal profiles, perceptions of the parent-initiated motivational climate, and competitive trait anxiety. *The Sport Psychologist* 1998; 12: 16 - 28.
11. Proios I, Proios M, Fotiadou E. Physical disabilities and psychological issues: A systematic review of the literature. *European Journal of Special Education Research* 2017; 2(3): 1-31. doi: 10.5281/zenodo.244433
12. White SA, Duda JL. Dimensions of goals and beliefs among adolescent athletes with physical disabilities. *Adapted Physical Activity Quarterly* 1993; 10: 125-136.
13. Dorogli L, Szabo A, Bogner J. Goal orientation and perceived motivational climate in Hungarian athletes with physical and visual disabilities and in able-bodied athletes. *Kinesiology* 2008; 40(2): 162-169.
14. Cervelló E, Hutzler Y, Reina R, Sanz D, Moreno JA. Goal orientations, contextual and situational motivational climate and competition goal involvement in Spanish athletes with cerebral palsy. *Psicothema* 2005; 17: 633-638.
15. Gutiérrez M, Caus N, Ruiz, LM. The influence of parents on achievement orientation and motivation for sport of adolescent athletes with and without disabilities. *Journal of Leisure Research* 2011; 43(3): 355-382.
16. Skordillis EK, Koutsouki D, Asonitou K, Evans E, Jensen B, Wall K. Sport orientations and goal perspectives of wheelchair athletes. *Adapted Physical Activity Quarterly* 2001; 18: 304-315. <https://doi.org/10.1123/apaq.18.3.304>
17. Skordilis EK, Gavrilidis A, Charitou S, Asonitou K. Comparison of sport achievement orientation of male professional, amateur, and wheelchair basketball athletes. *Perceptual and Motor Skills* 2003; 97: 483-490. doi:10.2466/pms.2003.97.2.483
18. Pensgaard AM, Roberts GC, Ursin H. Motivational factors and coping strategies of Norwegian Paralympic and Olympic winter sport athletes. *Adapted Physical Activity Quarterly* 1999; 16: 238-250. <https://doi.org/10.1123/apaq.16.3.238>
19. Sherrill C. *Adapted physical education and recreation*. 5th ed. Dubuque, IA: WCB/McGraw Hill; 1998
20. Roberts GC, Treasure DC, Conroy DE. Understanding the dynamics of motivation in sport and physical activity. In Tenenbaum G, Eklund RC, editors. *Handbook of sport psychology* (3rd ed). Hoboken, NJ: Wiley; 2007: 3-30.
21. Duda JL. Motivation in sport: The relevance of competence and achievement goals. In Elliot AJ, Dweck CS, editors. *Handbook of competence and motivation*. New York: Guilford Press; 2005: 318-335.
22. Duda JL. The relationship between task and ego orientation and the perceived purpose of sport among male and female high school athletes. *Journal of Sport and Exercise Psychology* 1989; 11: 318-335. <https://doi.org/10.1123/jsep.11.3.318>
23. Treasure DC, Roberts GC. Cognitive and affective concomitants of task and ego goal orientations during the middle school years. *Journal of Sport & Exercise Psychology* 1994; 16: 15-28.

24. White SA, Duda JL. The relationship of gender, level of sport involvement, and participation motivation to task and ego orientation. *International Journal of Sport Psychology* 1994; 26: 4-18.
25. Papaioannou A, McDonald AI. Goals perspectives and purposes of physical education as perceived by Greek adolescents. *Physical Education Review* 1993; 16: 41-48.
26. Duda JL, Nicholls JG. Dimensions of achievement motivation in schoolwork and sport. *Journal of Educational Psychology* 1992; 84: 290-299. doi:10.1037/0022-0663.84.3.290
27. Duda JL, Whitehead J. Measurement of goal perspectives in the physical domain. In Duda JL, editors. *Advances in sport and exercise psychology measurement*. Morgantown, WV: Fitness Information Technology; 1998: 21-48.
28. Cronbach LJ. Coefficient alpha and the internal structure of tests. *Psychometrika* 1951; 16: 297-334.
29. Nunnally JC. *Psychometric theory*. New York: McGraw-Hill; 1978
30. Cohen J. *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum; 1988
31. Stuntz CP, Weiss MR. Achievement goal orientations and motivational outcomes in youth sport: The role of social orientations. *Psychology of Sport and Exercise* 2009; 10: 255-262. doi:10.1016/j.psychsport.2008.09.001
32. Cervelló E, Santos-Rosa FJ, García Calvo T, Jiménez R, Iglesias D. 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* 2007; 19: 304-321. doi:10.1080/10413200701329134
33. Hodge K, Allen, JB, Smellie L. Motivation in masters sport: Achievement and social goals. *Psychology of Sport and Exercise* 2008; 9: 157-176. doi:10.1016/j.psychsport.2007.03.002.
34. Zalmanowitz LM. *Motivation in goal orientation and motivational climate in elite wheelchair tennis players*. Thesis Dissertation, University of Western Ontario London, Ontario; 2012.
35. Elliott, T. R., Kurylo, M. and Rivera, P. (2002). Positive growth following acquired physical disability. In Snyder CR, Lopez SJ, editors. *Handbook of positive psychology*. New York: Oxford University Press; 2002: 687-699.
36. Elliott TR, Uswatte G, Lewis L, Palmatier A. Goal instability and adjustment to physical disability. *Journal of Counseling Psychology* 2000; 47: 251-265. doi:10.1037/0022-0167.47.2.251
37. Walling MD, Duda JL. Goals and their associations to beliefs about success in and perceptions of the purpose of physical education. *Journal of Teaching in Physical Education* 1995; 14: 140-156.
38. Castillo I, Balaguer I, Duda, JL. Las perspectivas de meta de los adolescentes en el contexto deportivo. *Psicothema* 2002; 14: 280-287.
39. Duda JL. Achievement goal research in sport: Pushing the boundaries and clarifying some misunderstandings. In Roberts GC, editor. *Advances in motivation in sport and exercise*. Champaign, IL: Human Kinetics; 2001: 129-182.
40. Dweck, C. S. (2002). The development of ability conceptions. In Wigfield A, Eccles J, editors. *Development of achievement motivation*. San Diego, CA: Academic Press; 2002: 57-88.
41. Weiss MR, Ferrer-Caja E. Motivational orientations and sport behavior, in T. S. Horn (ed), *Advances in sport psychology* (2nd edn). Champaign, IL: Human Kinetics; 2002: 101-183.
42. Chin NS, Khoo S, Low WY. Sex, age group and locality differences in adolescent athletes' beliefs, values and goal orientation in track and field. *Journal of Exercise Science and Fitness* 2009; 7(2): 112-121.
43. Hanrahan S, Biddle SJH. Measurement of achievement orientations: Psychometric measures, gender, and sport differences. *European Journal of Sport Science* 2002; 2: 1-12. doi:10.1080/17461390200072502
44. Hardy L. The Coleman Roberts Griýth Address: Three myths about applied consultancy work. *Journal of Applied Sport Psychology* 1997; 9: 277-294. <https://doi.org/10.1080/10413209708406487>
45. Elliot AJ, Church MA. A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology* 1997; 72: 218-232. <https://doi.org/10.1037/0022-3514.72.1.218>
46. Elliot AJ. Integrating "classic" and "contemporary" approaches to achievement motivation: A hierarchical model of approach and avoidance achievement motivation. In Pintrich P, Maehr M, editors. *Advances in motivation and achievement* (Vol. 10). Greenwich: JAI Press; 1997: 143-179.
47. Harackiewicz JM, Barron KE, Elliot AJ. Rethinking achievement goals: When are they adaptive for college students and why? *Educational Psychologist* 1998; 33: 1-21. doi:10.1207/s15326985ep3301_1