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Research article

Motivational cluster profiles of adolescent athletes: an examination of differences in physical-self perception

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Abstract
The primary purpose of the present study was to identify motivational profiles of adolescent athletes using cluster analysis in non-Western culture. A second purpose was to examine relationships between physical self-perception differences of adolescent athletes and motivational profiles. One hundred and thirty six male (M_{age} = 17.46, SD = 1.25 years) and 80 female adolescent athletes (M_{age} = 17.61, SD = 1.19 years) from a variety of team sports including basketball, soccer, volleyball, and handball volunteered to participate in this study. The Sport Motivation Scale (SMS) and Physical Self-Perception Profile (PSPP) were administered to all participants. Hierarchical cluster analysis revealed a four-cluster solution for this sample: amotivated, low motivated, moderate motivated, and highly motivated. A 4 x 5 (Cluster x PSPP Subscales) MANOVA revealed no significant main effect of motivational clusters on physical self-perception levels ($p > 0.05$). As a result, findings of the present study showed that motivational types of the adolescent athletes constituted four different motivational clusters. Highly and moderate motivated athletes consistently scored higher than amotivated athletes on the perceived sport competence, physical condition, and physical self-worth subscales of PSPP. This study identified motivational profiles of competitive youth-sport participants.

Key words: Motivational profile, cluster, adolescent athletes, physical self-perception.

Introduction

Over the last two decades there has been a substantial increase in interest in children's or youth's participation behaviour in sport context. Numerous researchers have examined the reasons for children or youth to participate in sport and physical activity (e.g., Gould et al., 1985; Petlichkoff, 1992). In general, youngsters are found to have a variety of motives such as fun, fitness, competence, and skill improvement (Gill et al., 1983; Gould et al., 1985; Klint and Weiss, 1987).

As understanding the motivation of athletes in this extrinsic context is an important area of research (Amorose and Horn, 2000; Vallerand et al., 1987), contemporary researchers have attempted to explore the underlying motives for participation in youth sport from a theoretical framework. The self-determination theory (Ryan and Deci, 2000a) has been useful motivational orientation frameworks in contemporary sport psychology for the study of human motivated behaviour. This theory attempts to describe how individuals who vary in motivational orientations differ in their motivational patterns in sport.

In Self-Determination Theory (SDT) Ryan and Deci, distinguish between different types of motivation based on the different reasons or goals that give rise to an action. Deci and Ryan proposed a self-determination continuum to describe motivational orientations with different degrees of self-determination. From higher to lower self-determination, these are: intrinsic motivation, extrinsic motivation and amotivation (as cited in Ryan and Deci, 2000a, 2000b). The most basic distinction is between intrinsic motivation, which refers to doing something because it is inherently interesting or enjoyable, and extrinsic motivation, which refers to doing something because it leads to a separable outcome. Amotivation is the state of lacking an intention to act and a person's behaviour lacks intentionality and a sense of personal causation. SDT suggests that motivation is based on a set of innate psychological needs, namely self-determination, competence, and interpersonal relatedness (see for details Ryan and Deci, 2000a, 2000b).

Although numerous studies have been conducted on different motivational constructs such as perceptions of competence (Weiss et al., 1997), motivational climate (Ntoumanis and Biddle, 1999), achievement goal orientations (Duda et al., 1992; Harwood and Swain, 1998), self-determination and intrinsic motivation (Brunel, 1999) in isolation, there are few attempts to understand the individual differences in patterns of key motivational indicators when looking across a comprehensive profile of scores (Wang and Biddle, 2001). Recently, cluster analysis has gained popularity and researchers in sport and exercise psychology have employed cluster analysis as an analytical procedure to examine varying motivated behavior and motivational profiles of participants in sport context. For example, the motivational profiles of 14-15 years old Singaporean elite school sports players (McNeill and Wang, 2005), British adolescent girls (Biddle and Wang, 2003), adult sport participants in England (Vlachopoulos et al., 2000), American early adolescents (Garn and Sun, 2009), Spanish members of sport centers (Camacho et al., 2009), New Zealand masters athletes (Hodge et al., 2008), British elite young athletes (Harwood et al., 2004), Spanish young athletes (Murcia et al., 2007), French junior tennis players and fencers (Gillet et al., 2009) and French tennis players (Gillet et al., 2009) were studied. In these studies different motivational profiles of athletes were reported. For example, McNeill and Wang (2005) reported three motivational cluster of amotivated, highly motivated and high task mastery for 14-15 years old elite

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athletes in Singapore. In Biddle and Wang (2003)'s study on adolescent girls (aged 11-16 yr), five motivational clusters –moderate motivation and physical self, very low motivation and low physical self, amotivated, high motivation and physical self, and moderate motivation and high physical self- were reported. The motivational profiles in physical education settings were also investigated by using cluster analysis (Boiché et al., 2008; Camacho et al., 2008; Ntoumanis, 2002; Shen et al., 2009; Spray and Wang, 2001; Ullrich-French and Cox, 2009; Wang et al., 2007; Wang et al., 2002). The differences in the motivational clusters among these previous studies could be attributed to the differences in sample and motivational variables used for identifying clusters.

Beside, there is increasing attempt to study the construct of motivation in sport setting cross culturally (Kim et al., 2003; Wang and Wiese-Bjornstal, 1996). For example, Isogai et al. (2003) demonstrated cultural differences on the goal perspective theories of achievement motivation in the American and Japanese samples. They reported that although task orientation and ego orientation were not correlated with each other for American participants, these two factors were positively correlated among Japanese participants. They indicated that whereas members of Eastern cultures tend to be evaluate success in sport in terms of a general factor that incorporates both personal improvement and comparison with others, members of American culture tend to judge their success in sport with respect to personal improvement and comparison with others as separate considerations. In another study, Yan and McCullagh (2004) compared young people from three cultural backgrounds (Chinese, Chinese American, and non-Chinese American) regarding their motivation to participate in physical activity. Results indicated that Chinese American and non-Chinese American children participated in sport or physical activities for the competition and skills improvement whereas Chinese children were motivated by wellness and socialization. The authors suggested that children and adolescents in different cultures might be subject to the socio-cultural influences, resulting in culture-associated differences in the motivation to participate in physical activities or sports.

In line with the cultural differences in sport motivation, researchers also examined the motivational profiles of sport participants in different cultures. The motivational profiles of athletes and exercise participants in Western cultures were frequently examined in the literature. For instance, the motivational profiles of athletes and exercise participants in British, Spanish, French, American, and New Zealand cultures were investigated. However, there are few attempts (e.g. Chian and Wang, 2008) to study the motivational profile of athletes and exercise participants in non-Western cultures. That's why this study aimed to examine the motivational profile of athletes in one of non-Western cultures of Turkey. Turkey is one of the example cultural contexts where both collectivistic and individualistic trends are dominant (Göregenli, 1995). Hofstede (1983) describes a continuum from individualism, where persons are considered as distinct units clearly separable from their social context, to collectivism, where people think of themselves not so much as separate entities but rather members of the groups to which they belong. In individualistic cultures, most people focus on personal goals that overlap slightly with collective goals -immediate family, work, etc. When the personal and collective goals come into conflict, members of individualistic cultures typically choose to pursue personal goals at the expense of collective goals. On the other hand, members of collectivistic cultures consider it socially desirable to put group goals ahead of individual goals. In sum, members of collectivistic cultures draw on the "we" identity, while members of individualistic cultures draw on the "I" identity (Oetzel, 1998). Recently, researchers and theorists examined the complex interaction of individualism-collectivism and acknowledge that both orientations can exist in a single culture (Kapoor et al., 2003). Nowadays, the Turkish culture can not be characterised as merely collectivistic, individualistic values are increasing among university students who were directed to a more individualistic, competitive future orientation and the modern Turkish culture does not lend itself to be strongly categorized as either collectivist or individualist as a whole (Göregenli, 1995). This structure of Turkish culture differentiates itself from other Eastern cultures. Markus and Kitayama (1991) demonstrate empirical support, across different cultures, of the impact of culture on cognition, emotion, and motivation. Therefore, the major purpose of this study was to examine the motivational profiles of the adolescent athletes in non-Western culture in the example of Turkey by using the cluster analysis procedures. As reported before, numerous studies have been conducted on the motivational profiles; most of the participants were from Western cultures. However, it is not known whether the different motivational profiles apply to non-Western cultures such as Turkish adolescents.

Beside cultural perspective, this study also intended to test physical self-perception differences of adolescent athletes with regard to motivational profiles which is not frequently studied in exercise and sport psychology literature. In competitive conditions, perceived competence/ability plays a greater role and it is highly related with the motivational, evaluative and affective variables (Ames and Archer, 1988). Many studies (Li, 1999; McAuley and Tammen, 1989; Pelletier et al., 1995; Vallerand and Losier, 1999; Vallerand and Reid, 1984) have reported the importance of perceived competence for intrinsic motivation in sport and exercise settings. For example, Ryckman and Hamel (1993) found that adolescent athletes with high perceived physical ability rated intrinsic factors (e.g., skill development and having fun) as more important reasons for participating in sports than athletes with low perceived physical ability. In the study of Pelletier et al. (2001), motivation and persistence in sport was examined. It was found that amotivation and intrinsic motivation had respectively the most negative and positive impact on persistence. The Cognitive Evaluation Theory (CET) centers primarily on perceptions of self-determination and competence. This theory was presented by Deci and Ryan as a subtheory within SDT that had the aim of specifying factors that explain variability in intrinsic motivation (Ryan and Deci, 2000a, 2000b). CET holds that intrinsic motivation is a consequence of a

need to feel both competent and self-determining and predicts a close relationship between perceived competence and intrinsic motivation in that the more competent individuals feel about performing an activity the higher their intrinsic motivation levels (Weiss and Ferrer-Caja, 2002). CET suggests that when the perceived competence process is in operation, intrinsic motivation varies in line with perceptions and feelings of competence (Vallerand and Reid, 1984). Vallerand et al. (1987) proposed that increases in perceptions of competence produce an increase in intrinsic motivation, while decreases in experienced competence lead to diminished intrinsic motivation.

As can be seen in the literature, perceived competence plays major role in motivation in the sport context. Positive self-perceptions, especially perceived sport competence, can increase participation in sport of young people. Thus, secondary purpose of this study was to examine physical self-perception differences of the adolescent athletes with regard to motivational profiles. Addressing these questions may provide information about differences between competitive adolescent athletes regarding the strength and quality of their motivation for sport and knowledge about which profile associated with desirable or high perceived ability.

The understanding of motivated behaviour and motivational profiles of adolescent sport participants is important to encourage youth's persistence in sport and physical activity participation, which is advantageous to the development of their physical and psychological well being (Biddle et al., 2000). In this way, knowing motivational profiles of adolescnt athletes can provide to predict their future behaviour and allow their coaches to evaluate and re-examine their methods and to prepare appropriate motivational strategies. Identifying subgroups of adolescent athletes who represent different combinations of motivational constructs might prove instructive and different motivational strategies could be developed to increase the effectiveness of interventions to promote physical activity in young people (Wang and Biddle, 2001).

Methods

Participants

Participants were 136 male (M_{age} = 17.46, SD = 1.25 years) and 80 female adolescent athletes (M_{age} = 17.61, SD = 1.19 years) from a variety of team sports including basketball, soccer, volleyball, and handball with approximately seven years of sport experiences (M = 6.40, SD = 2.37 years). All participants compete at the national youth leagues; 49.8 % of them also compete at the international level. It was assumed that team sports and individual sports have different social factors which influence the motivational climate in a different way. That's why only team sports athletes were recruited in the study.

Instruments

The Sport Motivation Scale (SMS; Pelletiér et al., 1995) was used to measure the motivation from multidimensional perspectives based on the self-determination theory. SMS consists of seven subscales that measure three types of Intrinsic Motivation (IM; IM to Know, IM to Accomplish Things, and IM to Experience Stimulation), three forms of regulation for Extrinsic Motivation (Identified, Introjected, and External), and Amotivation. There were four items in each subscale with a total of 28 items. The stem question for all items was "Why do you practice your sport". The participants responded on a 7-point subscale ranging from 1 (*does not correspond at all*) to 7 (*corresponds exactly*). Example items include "…Because it allows me to be well regarded by people that I know (Extrinsic Motivation), "…..For the pleasure I feel while improving some of my weak points (Intrinsic Motivation)", and "It is not clear to me anymore; I don't really think my place is in sport (Amotivation)". The reliability and validity evidences of the SMS for Turkish sample were obtained in a study carried out by Kazak (2004). IM to Know and IM to Accomplishment subscales combined in one factor in the Turkish version of the scale. The alpha coefficients for the present sample ranged from 0.55 (IM to Experience Stimulation) to 0.84 (To Know/Accomplishment).

The Physical Self-Perception Profile (PSPP; Fox and Corbin, 1989) assesses self-perceptions in the physical domain. The inventory contains 30 items with four subdomain scales; perceived sport competence, physical condition, attractive body, and physical strength, and a global scale of physical self-worth. Each subscale consists of 6 items and for each item participants are presented with two contrasting descriptions of people (e.g., people with unattractive bodies versus people with attractive bodies) and are asked which description is most like themselves and then decide whether the description they select is "sort of true" or "really true" for them. Item scores range from 1 to 4 and scales scores can range from 6 to 24 (Fox and Corbin, 1989). The reliability and validity evidences of the Turkish version of PSPP were obtained in a study by Aşçı et al. (1999). The alpha coefficients for the present sample ranged from 0.53 (Global physical self-worth) to 0.70 (Physical strength).

Procedure

The PSPP and SMS were administered to participants in a place similar to classroom setting. Researchers provided verbal and visual information on how to respond to items from each questionnaire. Participation in the study was voluntary and self-report questionnaire responses were anonymous. The participants spent about 15-20 minutes to fill in the questionnaires. The permission was received from only coaches of adolescent athletes.

Data analysis

Motivational profile groups were constituted using a cluster analysis procedure similar to that used by Biddle and Wang (2003). Hair et al. suggested that cluster analysis is designed to generate subgroups from a sample of respondents that represent genuine within-cluster homogeneity while maximizing between-cluster differences (cited in Harwood et al., 2004). An advantage of using a cluster analysis over more traditional methods such as mean or median splits is that it provides researchers the opportunity to examine different solutions, and then select the solution that best fits the data (Harwood et al., 2004).

Table 1. Descriptive statistics for overall sample and correlation coefficients among variables.

Variables	M	SD	2	3	4	5	6	7	8	9	10	11
1. To Know/Accomplishment	4.99	1.21	.62**	.32**	.48**	.53**	-.12	.14*	.19**	.13	.06	.14*
2. To Experience stimulation	5.12	1.14	-	.28**	.42**	.48**	-.09	.13*	.19**	.18**	-.01	.09
3. External regulation	4.12	1.29	-	-	.57**	.46**	.16*	.04	.05	-.02	-.06	-.01
4. Identification	4.47	1.26	-	-	-	.55**	.09	.03	.04	-.02	-.06	-.01
5. Introjection	4.83	1.41	-	-	-	-	-.004	.16*	.20**	.15*	-.03	.12
6. Amotivation	2.45	1.26	-	-	-	-	-	-.35**	-.24**	-.20**	-.22**	-.30**
7. Sport competence	18.97	2.94	-	-	-	-	-	-	.53**	.35**	.29**	.41**
8. Physical condition	17.80	3.40	-	-	-	-	-	-	-	.45**	.48**	.54**
9. Body attractiveness	15.99	3.27	-	-	-	-	-	-	-	-	.37**	.57**
10. Physical strength	17.31	3.13	-	-	-	-	-	-	-	-	-	.42**
11. Physical self worth	16.88	2.86	-	-	-	-	-	-	-	-	-	-

** p <. 01, * p <. 05

First of all 25 cases with missing data were excluded since these subjects uncompleted the questionnaires. After the correlation analysis among all variables, SMS variables were input to form the clusters. The hierarchical cluster analysis with Ward's method was used to identify subgroups of adolescent athletes based on their scores on variables of SMS. The dendrogram was used to identify the number of clusters. K-means cluster analysis was then conducted to examine the stability of obtained cluster solutions.

Multivariate Analysis of Variance (MANOVA) was used to test for differences in physical self-perception among obtained clusters.

Results

Table 1 shows the descriptive statistics for the overall sample and correlation coefficients among variables.

The result of hierarchical cluster analysis provided four-cluster solution as best fit. A k-means clustering method was used to confirm the clusters. Results of this second cluster analysis indicated that over 80 % of the sample was correctly re-classified confirming the stability of the four-cluster solution. The cluster means, standard deviations, and cluster characteristics for the four cluster solution are shown in Table 2. The residuals obtained from Chi-Square analysis to check whether these profiles have motivational orientation differences are also given in Table 2.

Figure 1 shows the graphical cluster profiles of the adolescent athletes. The obtained clusters were labelled based on conceptual issues and mean values of their motivational types. Cluster 1, labelled "amotivated", had the highest amotivation and relatively moderate intrinsic and extrinsic motivation scores. In Cluster 2, labelled "low motivated", they had the lowest scores in all variables. Cluster 3, labelled "moderately motivated", had very low amotivation and moderate intrinsic and extrinsic motivation scores. In Cluster 4, labelled "highly motivated", they had the highest scores in all variables and very low amotivation score. It was found that most of the adolescent athletes (64 %) were in the highly and moderate motivated clusters. Beside this, rest of them (36 %) took part in amotivated (20 %) and low motivated (16.20 %) clusters.

MANOVA Results: 4 x 5 (Cluster x PSPP Subscales) MANOVA revealed no significant main effect of motivational clusters in physical self-perception (Hotelling T^2 = 0.11; $F(3, 187) = 1.43$; $p > .05$; $eta^2 = 0.04$; Table 3, Figure 2).

Discussion

This study intended to determine motivational profiles of the adolescent athletes using cluster analysis in non-Western culture and also aimed to examine differences in the physical self-perception among adolescent athletes who had different motivational profiles. Findings of the present study showed that motivational types of the adolescent athletes constituted four different clusters or motivational profiles, some less positive than others: amotivated, low motivated, moderate motivated, and highly motivated.

The amotivated cluster was characterized by the highest amotivation scores of athletes. Amotivated

Table 2. Descriptive statistics for the four-cluster solution.

Clustering variables	Cluster 1 *Amotivated*		Cluster 2 *Low motivated*		Cluster 3 *Moderate motivated*		Cluster 4 *Highly motivated*	
	M	SD	M	SD	M	SD	M	SD
To Know/Accomplishment	4.47	.89	3.65	1.26	4.96	.84	6.19	.63
To Experience stimulation	4.52	.80	4.00	1.01	5.21	.95	6.19	.55
External regulation	4.48	1.11	2.77	1.11	3.87	1.01	5.13	.98
Identification	4.53	.90	2.62	.84	4.48	.86	5.60	.82
Introjection	4.44	1.10	2.91	1.03	4.81	.89	6.26	.72
Amotivation	4.25	.85	1.89	.95	1.88	.71	2.17	1.03
Cluster *n*	43		35		82		56	
Residuals	-11		-19		28		2	

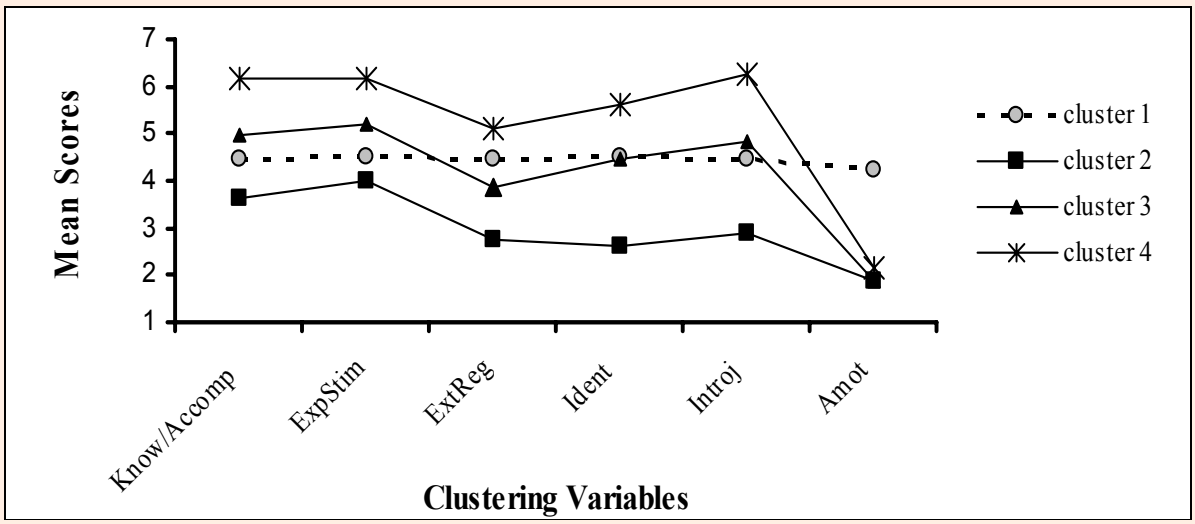

Figure 1. Cluster profiles of adolescent athletes for the four-cluster solution. Know/Accomp: To know/accomplishment, ExpStim: To experience stimulation, ExtReg: External regulation, Ident: Identification, Introj: Introjection, Amot: Amotivation.

persons did not perceive contingencies between their actions and the outcomes of their actions and no longer identify good reasons to continue doing the activity (Vallerand and Fortier, 1998). The low motivated cluster characterized by the lowest scores in all variables while moderate motivated cluster had very low amotivation and moderate intrinsic and extrinsic motivation. The last motivational profile, highly motivated cluster was a clear example of self-determination. Athletes in this cluster had the highest level of intrinsic motivation, which are considered to be self-determined types of motivation (Vallerand and Fortier, 1998). Athletes in this group also reported very low level of amotivation. This finding was in line with the finding of McNeill and Wang's (2005) study.

Results showed that the motivation of adolescent athletes towards competitive sports is complex. Findings of the present study indicate different motivational profiles among adolescent athletes. It was found that most of the adolescent athletes were the highly and moderate motivated clusters. These clusters also might be identified with a very high level of external motivation. Fortunately, 64 % of total sample belonged to these clusters, reflecting that adolescent athletes had positive motivational characteristics. On the other hand, relatively high numbers of adolescent athletes (36 %) were in low motivated and amotivated clusters. These athletes may not perceive any purpose for continuing to participate in sport and also have a potential to give up doing sport. This is not a desirable situation for athletes, their coaches and their successes in sport. Attention would be required to help these athletes by using some practical interventions. Especially, coach behaviour plays an important role in the level of intrinsic motivation experienced by athletes. Studies (Amorose and Horn, 2000, 2001; Black and Weis, 1992; Vallerand and Reid, 1984) examining the role of coach behaviour on athletes' intrinsic motivation reported that coaching feedback patterns and coaches' general leadership styles associated with higher levels of intrinsic motivation.

Although no statistically significant differences were obtained in physical self-perception among motivational clusters, descriptive results (Table 3) revealed that highly motivated athletes consistently scored higher than amotivated athletes on the perceived sport competence, physical condition, and physical self-worth (PSW) subscales of PSPP. In other words, the members of the cluster characterized by high on intrinsic and extrinsic motivation reported high perceived sport ability and feel more competent in psychomotor domains (physical and motor abilities) compared to the group characterized by high amotivation. Ryan and Deci (2000a) stated that increases in perceived competence must be accompanied by a sense of autonomy in order for the enhanced feelings of competence to result in increased intrinsic motivation.

Athletes in the amotivated cluster may not have good reasons to continue doing the sport. Amotivation results from not valuing an activity, not feeling competent to do an activity, or not believing an activity will yield a desired outcome (Ryan and Deci, 2000a). It is possible that the athletes in this group felt amotivated to try hard because they have low perceived competence. This

Table 3. Means and standard deviations of physical self-perception variables by motivational clusters.

Clustering variables	Cluster 1 *Amotivated*		Cluster 2 *Low motivated*		Cluster 3 *Moderate motivated*		Cluster 4 *Highly motivated*	
	M	SD	M	SD	M	SD	M	SD
Sport competence	17.59	2.68	18.60	3.09	19.19	3.06	19.57	2.63
Physical condition	16.18	2.60	17.73	2.89	17.98	2.81	18.44	3.25
Body attractiveness	15.18	2.77	16.10	2.92	15.87	3.42	16.76	3.38
Physical strength	16.31	2.36	17.90	3.04	17.54	3.20	17.34	3.45
Physical self worth	15.68	2.42	17.06	2.82	16.93	2.93	17.51	2.77

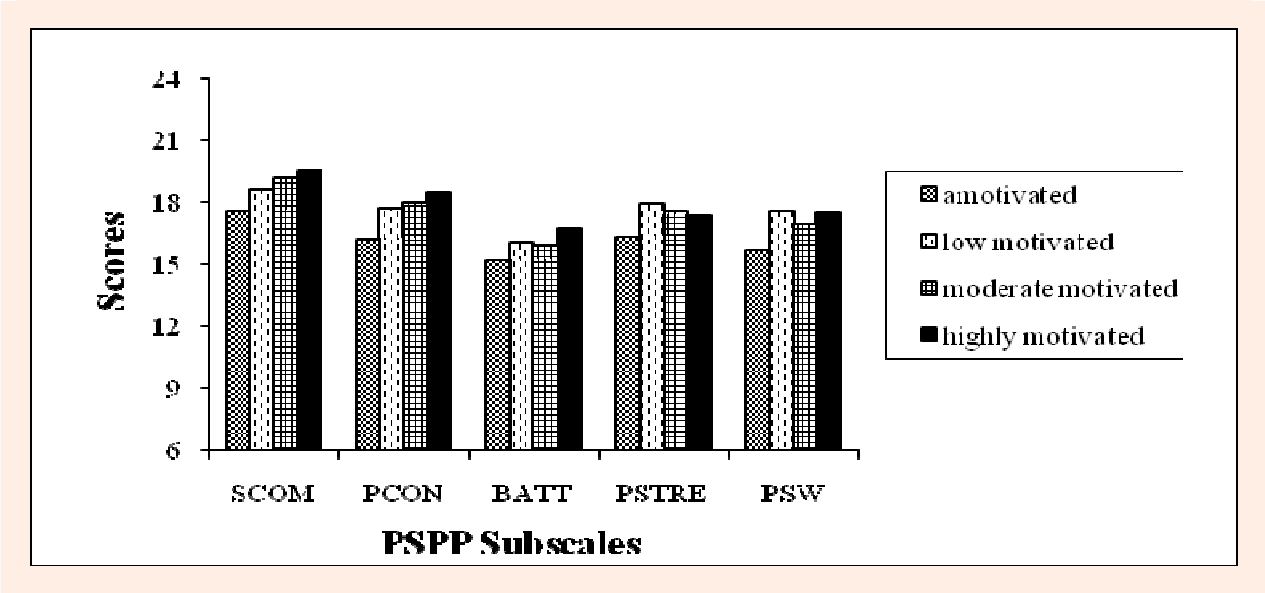

Figure 2. Physical self-perceptions of adolescent athletes in four motivational clusters. SCOM: Sport competence, PCON: Physical condition, BATT: Body Attractiveness, PSTRE: Physical strength, PSW: Physical self worth.

finding was in line with the finding of Wang and Biddle's (2001) study which reported that highly motivated group had high perceived competence and the amotivated group showed low perceived competence and low physical self-worth. In addition, this result was partially consistent with Pelletier et al. (1995)'s study. Pelletier et al. (1995) concluded a negative relationship between amotivation and perceived competence and effort. In their review, Vallerand and Losier (1999) stated that perceived competence is conducive to higher levels of intrinsic motivation, effort, and skill acquisition in sport. Therefore, the present finding of the study was consistent with proposals from Cognitive Evaluation Theory (CET) which proposed that the more competent individuals feel about performing an activity, the higher their intrinsic motivation levels.

This study has some limitations. First, this study was the cross sectional nature of data. As a result, it is not fully possible to understand how the physical self-perceptions influence the motivational profiles of athletes. Second, this study investigated only motivational profiles from self-determination perspective and other motivational constructs such as situational goal perspectives, attribution style were disregarded. In addition, only physical self-perception differences among profiles were considered and other possible constructs that may be related to motivational profiles such as enjoyment and persistence were not considered. The examination of motivational profiles of athletes from only team sports was another possible limitation of the present study. Besides these limitations, strength of this study is that it provides representative information from Turkey as a non-Western country.

Conclusion

The major contribution of this study is to demonstrate various patterns of motives that are potentially relevant to youth sports and youth competitive sport participants from different cultural background. It is suggested that motivational profiles of youth competitive sport participants should be considered to understand their perceived competence. This information could be then used for developing strategies and interventions designed to improve the strength and quality of sport participants' motivation. In addition the present study provides a preliminary support to CET for the adolescent athletes. This extends past research of CET that conducted on Western countries to Eastern countries and provides cross-cultural generalizability of theory and research on self-determination perspective.

It is possible to provide some suggestion for future research. Further studies could examine the motivational profiles of participants across different level of sport involvement (physical education, fitness, recreational), gender, individual sports. In addition, in further studies different consequences of motivational profiles such as enjoyment, persistence, satisfaction, and absenteeism should be examined. The different motivational variables such as motivational climate, attributions, flow state should also be included in the design of studies for determining the motivational profiles. Furthermore, in future, the cross-cultural studies could be conducted to observe the changes in motivation across different cultures. Additionally, the motivational profile of athletes should be examined in qualitative way to understand them in depth.

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Key points

- Highly motivated athletes have a tendency to perceive themselves competent in psychomotor domains as compared to the amotivated athletes
- As the athletes feel more competent in psychomotor domain, they are more intrinsically motivated.
- The information about motivational profiles of adolescent athletes could be used for developing strategies and interventions designed to improve the strength and quality of sport participants' motivation.

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