

# GOAL ORIENTATION AND PERCEIVED MOTIVATIONAL CLIMATE IN HUNGARIAN ATHLETES WITH PHYSICAL AND VISUAL DISABILITIES AND IN ABLE-BODIED ATHLETES

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## Abstract:

Achievement orientation and perception of motivational climate were studied in 59 athletes with physical disabilities (46 men and 13 women) and 58 able-bodied university athletes (23 men and 35 women). The study was based on the Achievement Goal Theory (Nicholls, 1984). Participants completed two questionnaires on the basis of which four dependent measures were recorded: task orientation and ego orientation, and mastery-oriented and performance-oriented climates. Results showed that women, regardless of the group, perceived a more performance-oriented climate in their sports than men and that athletes with disabilities reported a more mastery-oriented climate than able-bodied athletes. These results show that athletes with disabilities in Hungary exhibit as adaptive, if not more adaptive, motivational orientations than able-bodied athletes.

**Key words:** *achievement, athletes with disabilities, goal orientation, motivation, achievement goal theory*

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## Introduction

As the inclusion of participants with disability is increasingly encouraged (UN, 2006), sport science is obliged to advance in knowledge about the factors related to the participation of athletes with disabilities. Unfortunately, scholastic literature provides little information on this population in spite of the fact that athletes with disabilities nowadays are present in school gymnasiums, leisure-oriented physical activities, as well as in important national and international competitions, like the Paralympics (Porretta & Moore, 1997). In many nations, including Hungary, scholastic understanding of the athletes with disabilities is lacking. On the *SPORT-Discus*<sup>®</sup> database only one peer reviewed research report, emerging from Hungary, could be located (at the time of writing), which has examined disabled elite athletes in a medical context (Szekely, Martos, Szabo, & Kator, 2000). Further, psychological study of athletes with disabilities is totally lacking in Hungary. Nevertheless, due to the participation restrictions athletes with disabilities may experience increased physical and mental challenges compared to athletes without disabili-

ties (Pensgaard, Roberts, & Ursin, 1999; Sherrill, 1998). The shortage of research in this area (Sherrill & Williams, 1996) and particularly in Hungary at a time of growth in sports for the disabled requires additional research in this field.

The Achievement Goal Theory provides a basis for researching goal orientation and motivational climate in athletes with disabilities. Further, it may be used as a ground of comparison in determining whether differences in achievement goals between disabled and able-bodied athletes exist. The practical implication of examining such plausible differences rests in the equal treatment at managerial and instructional (coaching) levels of the athletes with disabilities whose number is growing consistently in Hungary.

The Achievement Goal Theory is a theory that was developed by Nicholls (1984) in the context of educational achievement situations. A few years later the theory started to be used in the field of Sport Psychology (Duda, 1987) as well. The theory explains achievement-motivated behaviours on the bases of task and ego orientation that are presumed to be stable personality predispositions. The Achievement Goal Theory purports that people who

appraise success on the basis of self-improvement and mastery of the undertaken task(s) are exhibiting task orientation. For example, swimmers who focus on the improvement of their technical form and lap times are showing task orientation. In contrast, individuals who appraise success by comparing their own performance or results to those of others are showing ego orientation. For example, swimmers who primarily focus on winning and beating opponents regardless of time or technique are manifesting ego orientation (Nicholls, 1992).

A study by Fliess-Douer, Hutzler and Vanlandewijck (2003) examining a sample of Flemish male wheelchair basketball players practising the sport at competitive level, showed that athletes with disabilities did not differ in task and ego orientation from able-bodied athletes. The results matched those obtained earlier in an inquiry with Norwegian Olympic and Paralympic athletes (Pensgaard, Roberts, & Ursin, 1999). The study from Norway revealed that able-bodied and disabled elite athletes did not differ in task and ego orientation. Indeed, Pensgaard and co-workers found that Olympic and Paralympic athletes differed, at a statistically significant level, on only four out of 17 psychological measures obtained in their inquiry. The theoretical basis of Pensgaard, Roberts and Ursin's research was the Achievement Goal Theory (Ames, 1992; Nicholls, 1984, 1992) in light of which the authors measured athletes' task and ego orientations, and also their perception of performance and mastery climate. Pensgaard et al. (1999) found that able-bodied and athletes with disabilities only differed in the perception of mastery climate, with Paralympic athletes scoring higher than Olympic athletes. From a motivational perspective, a mastery climate along with task orientation is recommended for increasing adherence (Barić, Cecić Erpić, & Babić, 2002), performance or success (Valentini & Rudisill, 2004; White & Duda, 1993), and sportspersonship orientation (Miller, Roberts, & Ombudsmen, 2004).

There is little or no control in ego-motivated behaviours, because of the dominant role of the external factors like the opponent's performance in a given contest. In contrast, athletes usually experience personal control when they manifest task orientation. There is a consensus in the literature that the adoption of a task goal orientation is motivationally beneficial in sport (Harwood & Biddle, 2002). Nevertheless, ego and task orientations are often uncorrelated and they do not represent opposite ends of a spectrum. Consequently, it was suggested that they should be studied together and as long as the task orientation score is high (regardless of high or low ego orientation scores) the goal orientation is considered to be adaptive (Harwood & Biddle, 2002).

Goal orientation and motivational climate may influence one's achievement goal state that emerges from the interaction (trait predisposition and

environmental situation) of the two (Harwood & Biddle, 2002; Ntoumanis, 2001). Ames (1992) suggested that individuals' goal orientation (Duda, 1987) may be influenced by the situation's motivational climate in a given social context. Such climates are created by the leaders in charge like teachers, coaches, or managers and significant others like peers, friends, and relatives (i.e. parents) having a role in the achievement situation. Climates in which the focus is on learning, self-improvement, and fun trigger task-oriented behaviours. On the contrary, in climates in which the focus is on performing, ability, and winning, ego-oriented behaviours could be facilitated (Ames, 1992; Ntoumanis, 2001).

Goal orientation and motivational climate in context of the Achievement Goal Theory were studied in collegiate athletics (Gano-Overway & Ewing, 2004) and elite sports (Mallett & Hanrahan, 2004). However, the same constructs among athletes with physical disabilities appear to have been overlooked, although it was presumed that task and ego orientations may be important mediating factors in disability sports (Hutzler, 2004). At the time of writing, only a limited number of reports could be found on the *SPORTDiscus*<sup>®</sup> database. Only four of these studies have compared the motivational orientations of disabled and able-bodied athletes (Fliess-Douer, Hutzler, & Vanlandewijck, 2003; Pensgaard et al., 1999; Sørensen, 2003; Sørensen & Roberts, 2004). In accord with Campbell and Jones (1997) the general outcome from these studies is that there are far more similarities than differences between athletes with and without disabilities. Nevertheless, while no differences in task and ego orientations were disclosed between disabled and able-bodied athletes, some controversy appears to exist, because athletes with disabilities scored higher on performance-oriented climate in Sørensen's report (2003) while they scored higher on mastery-oriented climate in the study conducted by Pensgaard et al. (1999) in contrast to able-bodied athletes. These results have emerged from Scandinavian samples and, therefore, on the basis of previous reports (Isogai, Brewer, Cornelius, Etnier, & Tokunga, 2003; Morgan, Sproule, McNeill, Kingston, & Wang, 2006; Tsang, Szabo, Soós, & Bute, 2005), they may be culture-specific.

The importance of examining goal orientations and perceived motivational climate in a culture-specific context is justified by several studies in the educational literature. For example, a study by Tsang, Szabo, Soos, and Bute (2005) revealed cross-cultural differences in task and ego orientations in secondary school children from four nations: the United Kingdom, Hungary, Hong-Kong, and Romania. The European cultures, especially reports from Hungary and Romania, were closer to each other and distinct from the results gath-

ered in Hong-Kong. Similarly, an investigation by Morgan et al., (2006) also found that perceived performance-oriented climate was higher in physical education classes in Singapore in comparison to the United Kingdom. Further, Isogai et al. (2003) found that relative to American physical education college students, Japanese students score higher on ego orientation and lower on task orientation.

These results, reflecting distinctiveness in motivational aspects across several nations, emphasize the need for culture-specific inquiries. Indeed, the congruent results emerging from the research conducted in the western world may not be generalized. Several authors in the area seem to acknowledge the importance of examining motivation in culture-specific ways (Duda & Allison, 1990; Markus & Kitayama, 1991; Si, 2000).

The theoretical basis of the present study was the Achievement Goal Theory (Ames, 1992; Duda, 1987; Nicholls, 1992) in the context of which both goal orientations and perceived motivational climates were assessed in physically and visually disabled and able-bodied athletes. On the basis of past reports from Norway (Sørensen, 2003; Pensgaard et al., 1999), Belgium (Fliess-Douer et al., 2003) and Hutzler's (2004) work it was hypothesized that: 1) physically and visually disabled and able-bodied athletes will not differ in motivational characteristics, 2) the results obtained in Hungary will match those reported with Flemish and Norwegian athletes (Fliess-Douer et al., 2003; Pensgaard et al., 1999), and 3) the goal / motivational orientations of the athletes with physical disabilities in Hungary is primarily task- and mastery-focused and yields – in the context of theoretical work - an optimal achievement goal state (Harwood & Biddle, 2002).

## Methods

### Participants

Participant selection, through a widespread call for volunteers, proceeded with the assistance of the Hungarian Paralympic Committee as well as the Faculty of Physical Education and Sports Science of Semmelweis University in Budapest. Fifty-nine athletes with disabilities volunteered for the study. Forty-six of them were men and 13 were women. Their mean age was 32.9 years ( $\pm 8.7$ ). Twenty-six with spinal cord injuries, amputations and visual disabilities participated in individual sports, comprising athletics (congenital disability 100%), fencing (congenital disability 50%, acquired disability 50%) and swimming (congenital disability 70%, acquired disability 30%), whereas 33 of them with spinal cord injuries and amputations trained in team sports (congenital disability 50%, acquired disability 50%) including wheelchair basketball, goalball, and volleyball. Athletes with disabilities in individual sports trained on a regular basis 4-5

times per week between 1.5 and 2 hours on every occasion and those in team sports trained 3 times per week for about 2 hours each time and also participated in national and Central-European competitions. Therefore, they could be considered "elite" athletes.

Able-bodied athletes were selected from among the regularly training and competing seniors in the Faculty of Physical Education and Sports Science at Semmelweis University. Fifty-eight athletes volunteered for the study. Twenty-three of them were men and 35 were women. Their mean age was 22.4 years ( $\pm 2.30$ ). Thirty-five of them performed individual sports including athletics and fencing, while 23 of them were members of basketball and volleyball teams. All participants trained on a regular basis, at least three times per week for at least two hours per training session. In contrast to the athletes with disabilities, able-bodied athletes competed at lower levels. Consent for participation was obtained from all the volunteers and the local and APA (American Psychological Association, 2003) ethical guidelines, along with the relevant laws regulating research with human participants, were strictly followed.

### Measures

Following Pensgaard et al. (1999), two questionnaires were used in this inquiry. The first was the Task and Ego Orientation in Sport Questionnaire (TEOSQ - Duda & Nicholls, 1992). This questionnaire contains 13 items with two subscales determining task (e.g. "I learn a new skill by trying hard") and ego (e.g. "I am the best") orientation. All the items were rated on a 5-point Likert scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The task and ego subscales of the TEOSQ have, in general, a good internal consistency with reported averages (means) of  $\alpha = .79$  and  $\alpha = .81$ , respectively (Duda & Whitehead, 1998). The reliability of the Hungarian scale was .67 for task-orientation and .87 for ego orientation (Soos, Szabo, & Tsang, 2004) that were similar to the reliability scores of the original scale, as reported by Ostrow (2002), task (.62 to .82), ego (.85 and .89).

The second questionnaire utilized in this study was the Perceived Motivational Climate in Sport Questionnaire (PMCSQ - Seifriz, Duda, & Chi, 1992; Walling, Duda, & Chi, 1993). It was used to assess the athletes' perception of the motivational climate in their sport, or the degree to which their training environment is mastery-oriented (task involvement) and performance-oriented (ego involvement). Sample items included: *Trying hard is rewarded*, or *Most of the players get to play in the game* (mastery orientation) and *Playing better than team-mates is important*, or *Doing better than others is important* (performance orientation). Participants were required to answer the items on a 5-point

Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Reliable psychometric properties for PMCQS have been reported with internal consistencies for the two subscales near or above  $\alpha = .80$  as well as good test-retest reliability (e.g. Rascle, Coulomb-Cabagno, & Delsarte, 2005). The PMCSQ was translated and validated in Hungarian in a pilot validation research. The internal reliability of the Hungarian version of the mastery orientation subscale was ( $\alpha =$ ) .72 and performance orientation subscale was ( $\alpha =$ ) .76. The 3-week test-retest reliability of the mastery orientation subscale was  $r = .84$  and that of performance orientation subscale was  $r = .80$ .

### Procedure

After consenting to participation, the athletes with physical disabilities completed the two questionnaires before a training session in their habitual sporting environment. The university seniors completed the questionnaires during a seminar class. Because there were only 34 items to be filled in (13 + 21) the time to complete the questionnaires lasted less than five minutes. The purpose of the research was explained to all participants and their questions (if any) were answered.

### Results

Data obtained from the rated questionnaires were analysed with a gender (men and women) by group (athletes with disabilities and able-bodied athletes) multivariate analysis of variance (MANOVA). The four dependent measures were: task orientation, ego orientation, mastery-oriented climate, and performance-oriented climate. The MANOVA yielded a multivariate main effect for gender Wilks'  $\Lambda = .885$ ,  $F(4, 110) = 3.58$ ,  $p < .01$ , and a multivariate main effect for group Wilks'  $\Lambda = .898$ ,  $F(4, 110) = 3.11$ ,  $p < .02$ , but no statistically significant interaction between the two. Because the multivariate results called for eight univariate follow-up

tests, the alpha was set to .006 ( $.05 / 8 = .006$ ; Bonferroni method) to declare the results of the univariate tests statistically significant. From among the four follow-up univariate tests, one for each dependent measure, only one yielded a statistically significant difference between men and women in performance-oriented climate, with women scoring higher than men,  $F(1, 113) = 14.43$ ,  $p < .001$ , effect size  $d = .66$ . The other three tests were statistically not significant. Further, the other four follow-up univariate tests showed that athletes with disabilities scored statistically significantly higher on mastery-oriented climate than able-bodied athletes  $F(1, 113) = 9.23$ ,  $p < .003$ , effect size  $d = .63$ , but no statistically significant differences emerged on the three other dependent measures. These results are summarized in Table 1.

### Discussion

The results of the current study with a Hungarian sample replicate and strengthen those obtained by Pensgaard et al. (1999) with Paralympic and Olympic athletes in Norway. In both studies the only difference between the athletes with disabilities and able-bodied athletes has emerged in mastery-oriented climate. These findings support the first hypothesis of this inquiry and Campbell and Jones' (1997) conclusion that there are far more similarities than differences between athletes with and without disabilities. Furthermore, the results of the current study add weight to this contention, by showing that similar findings emerge in different social-cultural sites and, hence, support the second hypothesis of the current study.

However, the outcome of the current research, as well as that of Pensgaard et al., is in contrast with the results reported by Sørensen (2003). One possible explanation stems from Sørensen's analysis of the differences between disability groups, which revealed that athletes with hearing impairment scored significantly higher than athletes in all other dis-

Table 1. Means and standard deviations in brackets (SD) of four dependent measures illustrated separately for group and gender in concordance with the statistical main effects

	Task Orientation	Ego Orientation	Mastery-Oriented Climate	Performance-Oriented Climate
	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)	Mean ( $\pm$ SD)
<b>Athletes with disabilities</b>	3.31 (.76)	3.48 (.70)	4.15 (.50) <sup>#</sup>	3.07 (.76)
<b>Able-bodied Athletes</b>	3.30 (.70)	3.50 (.63)	3.83 (.52) <sup>#</sup>	3.09 (.59)
<b>Men</b>	3.28 (.75)	3.46 (.69)	4.06 (.51)	2.91 (.69) <sup>*</sup>
<b>Women</b>	3.33 (.64)	3.53 (.63)	3.90 (.55)	3.33 (.58) <sup>*</sup>

NOTE: Statistically significant differences between athletes with disabilities and able-bodied athletes on mastery-oriented climate (<sup>#</sup> $p < .003$ ), and between men and women (<sup>\*</sup> $p < .00$ ).

ability groups on performance-oriented climate. While other explanations may also exist, it should be noted that neither the current work, nor the research of Pensgaard et al. (1999) examined athletes with hearing impairment. Consequently, a possibly unique response of athletes with hearing impairment in performance-oriented climate may account for the noted differences between Sørensen's findings in contrast to Pensgaard et al.'s work and the current inquiry's work.

The lack of differences in task and ego orientations between athletes with physical and visual disabilities and able-bodied athletes are consistent with the results emerging from past research (Fliess-Douer et al., 2003; Pensgaard et al., 1999; Sørensen, 2003; Sørensen & Roberts, 2004). However, it should be noted that in the current study the groups compared were matched in terms of training volume, but not in terms of competition level. Indeed, the university athletes serving as a comparison group to the athletes with disabilities could not be considered elite athletes. These differences may have influenced the findings even if those are consistent with previous research results. In spite of a cautious interpretation, these findings confirm that athletes with disabilities are similar to able-bodied athletes in goal orientations and support Hanrahan's (1998) contention that not the disability but rather the athlete should be in focus in Sport Psychology research. Although theoretical speculation or anecdotal reports may connect athletes with disabilities with ego-driven sport participation as a possible form of compensation for either social disadvantage or (the) disability, research results fail to support such contention. Indeed, with regard to goal orientation athletes with disabilities are similar to able-bodied athletes, whereas with regards to perception of motivational climate athletes with disabilities report a stronger mastery- than performance-oriented climate. Consequently, the results also support the third hypothesis of the current work. The perceptions of mastery-oriented climate are beneficial in sport

behaviour, especially in the context of personal cognition and affect (Harwood & Biddle, 2002). In light of Harwood and Biddle's proposal, athletes with physical disabilities in Hungary demonstrate a "healthier" motivational profile than able-bodied athletes.

The gender differences in the perception of motivational climate, observed in the current study, regardless of group membership, cannot be connected to past results from the literature because no clear-cut gender differences were reported in the perception of performance-oriented climate. A plausible explanation is that the here observed gender differences in the perception of motivational climate are culture-specific to Hungary. Indeed, a more vivid perception of performance-oriented climate in women, in contrast to men, may not be exclusively related to athletic status; instead it could represent a general or universal phenomenon. This contention is viable in light of the cross-cultural differences disclosed by Tsang et al. (2005) in several motivational measures. However, until these results are directly tested in future research, this explanation should be considered speculative.

Overall, the take home message of this work is that the Achievement Goal Theory is a useful framework for studying athletes with physical and visual disabilities as much as the general able-bodied athletic population. This inquiry is the first research in Sports Psychology with athletes with disabilities in Hungary. The promising results should encourage further researches that add to the general knowledge base of understanding athletes with disabilities.

The lack of culture specificity in motivational orientations observed in the current study should be encouraging and stimulate researchers to understand better the psychology of athletes with disabilities not only in Hungary, but all over the European Union. The findings also strengthen Hanrahan's (1998) call that athletes with disabilities should be treated with primary focus on their athletic skills and roles rather than their disabilities.

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# CILJNA ORIJENTACIJA I SAMOPROCIJENJENA MOTIVACIJSKA KLIMA KOD MAĐARSKIH SPORTAŠA S FIZIČKOM INVALIDNOŠĆU I OŠTEĆENJIMA VIDA I ZDRAVIH SPORTAŠA

## Sažetak

### Uvod

Znanstvena istraživanja na populaciji sportaša s invalidnošću gotovo se i ne provode u većini država uključujući i Mađarsku. Istraživanja provedena u prošlosti pokazala su da je teorija postignuća iznimno korisna u proučavanju usmjerenosti prema zadatku i ego-orijentacije kao i motivacijske klime kod sportaša s invalidnošću. Navedene vrijednosti utvrđene su u ovom istraživanju na populaciji osoba s fizičkom invalidnošću i oštećenjima vida, kao i na populaciji zdravih sportaša. Uvidom u dosadašnja istraživanja postavljene su sljedeće hipoteze istraživanja: 1) sportaši s fizičkom i vidnom invalidnošću ne razlikuju se u motivaciji od zdravih sportaša, 2) rezultati dobiveni istraživanjem u Mađarskoj neće se razlikovati od onih dobivenih u sličnim istraživanjima u ostalim zemljama i 3) ciljna orijentacija mađarskih sportaša s invalidnošću je primarno fokusirana na zadatak i vještinu, što zajednički doprinosi optimalnom stanju za postignuće cilja.

### Metode

Vrhunski sportaši s invalidnošću selekcionirani su za ovo istraživanje uz pomoć Mađarskog paralimpijskog odbora (ukupno 59 ispitanika, 13 žena i 46 muškaraca, prosječne dobi obi od 32,9 godina, SD = 8,7). Sportaši s invalidnošću iz individualnih sportova trenirali su 4 do 5 puta tjedno u trajanju od 1,5 do 2 sata, dok su oni iz ekipnih sportova trenirali 3 puta tjedno u trajanju od 2 sata i svi su sudjelovali u domaćim i međunarodnim natjecanjima organiziranim u centralnoj Europi. Zdravi sportaši selektirani su iz populacije studenata koji su redovito trenirali i natjecali se. Od ukupno 58 ispitanika, 35 su bile žene, 23 muškarci, prosječne dobi od 22,4 godine (SD = 2,3) i svi su redovito trenirali najmanje tri puta tjedno u trajanju od najmanje 2 sata.

Za prikupljanje podataka korištena su 2 upitnika: 1) upitnik o usmjerenosti prema zadatku i ego orijentaciji u sportu (TEOSQ – 13 čestica; ocjenjivanje na ljestvici Likertova tipa) i 2) upitnik o samoopaženoj motivacijskoj klimi u sportu (PMCSQ – 21 čestica, ocjenjivanje na ljestvici Likertova tipa) koji mjere usmjerenost ili na vještinu ili na uspjeh. Sportaši s invalidnošću ispunjavali su upitnik prije treninga u njihovom uobičajenom sportskom okruženju. Zdravi sportaši ispunili su upitnik za vrijeme ugovorenog seminara.

Za analizu dobivenih podataka korištena je multivarijatna analiza varijance (MANOVA), a ispitanici su podijeljeni u grupe po spolu (muškarci i žene) i po tjelesnim karakteristikama (sportaši s invalidnošću i zdravi sportaši). Četiri zavisne varijable bile su: *usmjerenost prema zadatku*, *ego orijentacija*, *klima orijentirana na vještinu* i *klima usmjerena na uspjeh, rezultat*.

## Rezultati

MANOVOM su dobivene razlike između muških i ženskih grupa (Wilks' Lambda = .885, F (4, 110) = 3.58, p < .01) te razlike između sportaša s invalidnošću i zdravih sportaša (Wilks' Lambda = .898, F (4, 110) = 3.11, p < .02), ali razlike nisu bile statistički značajne. Rezultati multivarijatne analize varijance zahtijevali su provedbu 8 univarijatnih testova da bi se dokazala statistička značajnost razlika te je alpha postavljena na .006 (.05/8 = .006; Bonferronijeva metoda). Univarijatnim testovima utvrđena je statistički značajna razlika između muških i ženskih ispitanika samo u varijabli *klima usmjerena na uspjeh, rezultat* u kojoj su žene postigle bolje rezultate od muškaraca, F (1, 113) = 14.43, p < .001, d = .66. Daljnji testovi pokazali su da su sportaši s invalidnošću postigli statistički značajno bolje rezultate u varijabli *klima usmjerena na vještinu* u odnosu na zdrave sportaše F (1, 113) = 9.23, p < .003, d = .63, ali statistički značajne razlike nisu dobivene u ostalim varijablama (tablica 1).

## Rasprava

Rezultati ovog istraživanja potvrđuju dosadašnje spoznaje i pokazuju da je razliku između sportaša s invalidnošću i zdravih sportaša moguće zamijetiti samo u *klimi usmjerenoj prema vještinu*, pri čemu sportaši s invalidnošću postižu više vrijednosti u testu. Ti rezultati potvrđuju prvu hipotezu studije.

Nepostojanje razlika u varijablama *usmjerenost prema zadatku* i *ego-orijentacija* između sportaša s fizičkom i vidnom invalidnošću i zdravih sportaša u skladu su s rezultatima prethodnih istraživanja i potvrđuju drugu hipotezu provedene studije. Ipak, potrebno je naglasiti da su u ovoj studiji uspoređivane grupe sportaša bile podjednake što se tiče trenaznog volumena, ali ne i natjecateljske razine. Naime, većina studenata sportaša, sudionika istraživanju, ne mogu se smatrati vrhunskim sportašima. Navedene razlike mogle su utjecati na dobivene rezultate istraživanja iako su oni u suglasnosti s rezultatima dobivenim u dosadašnjim istraživanjima.

Dobiveni rezultati potvrđuju i treću postavljenu hipotezu. Percepcija klime usmjerena na usavršavanje zahtijevnih vještina zabilježena kod sportaša s invalidnošću je korisna u sportskom ponašanju za spoznavanje sebe i svojeg emocionalnog stanja. Mađarski sportaši s invalidnošću pokazali su "zdraviji" motivacijski profil u odnosu na zdrave sportaše na temelju orijentacije prema vještinu.

Zabilježene razlike između spolova u percepciji motivacijske klime ne može se povezati s prethodnim istraživanjima i zbog toga ih je vrlo teško interpretirati. Najvjerojatniji razlog za postojanje zabilježenih razlika mogao bi biti u kulturološkim specifičnostima Mađarske. Ipak, ovu pretpostavku potrebno je izravno provjeriti u budućim znanstvenim istraživanjima.