

University doctoral (PhD) dissertation abstract

**CHARACTERISTICS AND OPPORTUNITIES OF BALANCING THE
ATHLETIC CAREER AND ACADEMIC STUDIES AT THE
UNIVERSITY OF DEBRECEN**

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Debrecen, 2016

1. THE BACKGROUND AND OBJECTIVES OF THE RESEARCH, INTRODUCTION OF HYPOTHESES

The driving force of conducting the current research was previous experience of elite athletes struggling to integrate into civil society as well as perceptible challenges of balancing an athletic career and academic studies in a period when these two overlap. One of the most important drivers of the research topic choice was the fact that sport has been playing a significant role at the University of Debrecen. The university has always tried to create adequate circumstances, besides high-quality academic and research programmes, to be able to provide elite athletes accepted to the institution with the possibility to balance academic studies and elite sport.

One significant milestone in an athletic career is when athletes start their academic studies in higher education because from that point on they build their career in sport and continue academic studies at the same time. In order to ensure progress in both fields in this particular period, the individual goals (related to the athletic career and future profession) and university requirements need to be harmonised and balanced successfully.

The study elaborates on the compatibility of the athletic career and the academic studies as well as athletes' pursuit of academic progression and successful athletic results, which narrows down the two dimensions of the definition of dual-career defined in European Union document context to the notion of elite athletes studying in higher education, however, does not take future occupation into account.

The research offers a complex overview of the feasibility of simultaneous academic and athletic progression of elite and competitive athletes studying at the University of Debrecen majoring in no sport-specific fields, based on the opinion of athletes and lecturers of the institution.

Objectives of the study

- Objective 1: Elite athletes developing their athletic career and pursuing studies in higher education institutions at the same time may face difficulties while balancing sport and academic studies. The objective of the study is to explore the feasibility of balance between academic studies and elite sport by taking athletes' and lecturers' opinion into consideration.
- Objective 2: The study intends to examine the trend of priority change between the academic studies and the athletic career taking the objectives of the athletic career into account.
- Objective 3: The objective of the research is to explore the athletic career span and factors influencing elite athletes' career aspirations during academic years.
- Objective 4: The level of sport and time devoted to the athletic career during academic studies may influence athletes' academic performance. The objective of the research is to analyse the relationship between academic performance and the level of sport.
- Objective 5: The study intends to explore the subjective assessment and objective use of institutional regulations provided by the Sport Concept of the University of Debrecen with which the university supports studies and elite sport to be balanced successfully.
- Objective 6: Lecturers at the university have different background knowledge regarding student athletes and the requirements of an athletic career, which may influence their attitude towards athletes. The objective of the research is to shed light on lecturers' experience about athletes and their opinion about the compatibility of studies and sport.

2. DATABASE AND DESCRIPTION OF APPLIED METHODS

The research on opportunities and challenges of balancing the athletic career and academic studies was conducted among elite and competitive athletes studying at the University of Debrecen and their lecturers, touching upon and analysing the regulatory system of the University of Debrecen and its sport associations. The whole of the elite athlete population was assessed during the research. As an extension of the research, a questionnaire survey was carried out examining elite athletes having participated in the Universiade organised in Kazan in 2013 studying in different higher education institutions across the country.

Primary and secondary data collection were both carried out. Own research information constituted part of the primary data, for which document analysis, focus group interviews and questionnaire surveys were applied. The most suitable methods were chosen in order to prove the credibility of data and to achieve new results applicable in both the academic field and in practice. For this purpose, the research topic was approached from many different aspects.

The processing of previously published results of relevant international and national literature offered secondary data providing opportunity to develop a complex overview on features and characteristics of the duality of the athletic career and post-athletic occupation choice. Good practices in the European Union that are in line with relevant publications were also presented.

2.1. Document analysis

Concerning international literature, document analysis was used with particular regard to western and central eastern European countries as well as programmes of two domestic organisations relevant to athletes' pursuit of academic studies and athletic career at the same time. The analysis dealt with the support system of "Olympic Athlete Life Path Programme" by the Hungarian Olympic Committee (MOB) and the Hajós Alfréd Plan launched in 2013 by the Hungarian University-College Sport Association (MEFS).

Furthermore, document analysis was used to examine the structure, rules and regulations and strategy of the University of Debrecen and the affiliated sport associations. The organisational structure of sport at the university and the functioning of relevant fields

were also analysed, with regard to the Sport Concept of the University of Debrecen accepted in 2005 and amended in 2011. (SPORT CONCEPT OF UD, 2005, 2011). Moreover, Act I of 2004 on Sport and its amendment in 2011 as well as any relevant sport related amendments and acts on the right of associations, non-profit organisations and the functioning and support of civil organisations (Act I of 2004 on Sport; Act CLXXII of 2011; Act CLXXV of 2011; Act LXXXII of 2011). The relationship between university affiliated sport associations - DEAC and DASE associations and DEAC Sport Nk Kft - as well as the change in organisational structure, functioning and funding were analysed.

2.2. Focus group analysis

Focus group analysis was applied to set up the different dimensions of the student questionnaire (VICSEK, 2006; LANGER, 2009). Based on the results of the focus group analysis, comprehensive questionnaires were developed to measure the competitive and elite athlete population assessing connections from different aspects. The questionnaire for lecturers was also based on the results of the analysis. As for the interviews, the first part of the interviews was structured, the second covered open questions primarily.

The target group of the study was student athletes of the highest level of sport at international and national championship levels who had applied for sport scholarship (grant) in the first semester of the academic year 2013/14 at the University of Debrecen. The small number of international and top level athletes in the entire athlete population of the University of Debrecen meant that the research was rather difficult to conduct. According to the previously set criteria, 22 athletes were chosen. 68% of all the athletes chosen (N=15) were present. Regarding the patterns, the primary measure was the level of sport (international results, participation in/ member of the age group or adult national team, participation in the highest level in the given sport discipline). Furthermore, much emphasis was laid on the insurance of balance on different levels of sport; the gender distribution and sport discipline were also taken into account. The focus group sessions were organised on two different days, maximum 2 athletes of each sport discipline, individual and team sports were interviewed. An important feature of the study is that it did not only measure student athletes studying in sport relevant fields. Students

represented eight different faculties, only one providing sport related studies, of the University of Debrecen. Each academic year was represented.

Questions were composed according to a pre-set protocol to touch upon three different topics: 1) Compatibility of academic studies with high-level sport results; 2) Utilisation and evaluation of support provided for elite athletes at the University of Debrecen; 3) Predictability of the length of elite athletes' sporting career.

2.2.1. Methods applied for evaluating the focus group analysis

Qualitative method was applied to explore athletes' mindset, emotions, past experience and opinion (FÁBIÁN, 2014; HORVÁTH – MITEV, 2015). The content of texts that had been transcribed from video and audio recordings used for documenting data collection were analysed by Atlas 5.0 software. Analysis and grouping of responses as well as evaluation of results were carried out in each question topic. In the first part of the analysis, the focus was on situational factors; the second part covered thematic factors.

2.3. Questionnaire survey among athletes and lecturers

Based on the results of the focus group analysis, two questionnaires – “*Monitoring of Athletes' Dual-Career, I-II. Questionnaire for Athletes*” – were developed for athletes (LENTÉNÉ PUSKÁS – PERÉNYI, 2014). After finalising the questions, data collection could start in the two groups.

There were five major question-groups developed in the questionnaire:

1. Athletes' identification (gender, age) and information relevant to their academic studies (academic year, faculty, funding of the study, type of training),
2. Information relevant to sport, sport discipline, type of sport as well as level of sport. Questions covered the level of sport, results achieved so far, number of training sessions per day and per week, time devoted to training in the preparation phase and in the competition period and goals set for the upcoming 6 years in the sporting career.
3. Questions also measured the respondents' awareness of institutional regulations, the utilisation of these regulations and relevant opinions as well as their opinion about

institutional regulations aiming at facilitating the balance between academic studies and elite sport.

4. The fourth group of questions focused on athletes' relationships with peers and lecturers, on lecturers' attitude towards sport and athletes and the subjective evaluation thereof.
5. The fifth group focused on the compatibility and priorities of academic studies and top-class sport results, the preparation for a sudden break in the sporting career and plans for the post-athletic period.

Lecturers at the University of Debrecen were asked to fill the questionnaire "Monitoring of Athletes' Dual-Career, Questionnaire for Lecturers I." (SKKM-OK I. 2015) © developed by PERÉNYI – LENTÉNE PUSKÁS (2015). This questionnaire covered three major question-groups relevant to (1) university sport, elite athletes studying at the university, (2) opportunities of elite athletes in higher education and (3) identification data of lecturers.

Pattern of elite athletes at the University of Debrecen

The questionnaire was asked to be filled by student athletes having applied for sport scholarship (grant) in the second semester of the academic year 2013/14 at the University of Debrecen. The finalised online questionnaires were sent out to athletes (207) via Evasys. By the time the system was closed, 159 athletes had filled the questionnaire that equals a response rate of 76% The number of elements was low due to the diversity and limited accessibility of the population analysed.

72% of respondents (114 people) were men, 28% (45 people) were women. In order to get the accurate distribution per year, the academic years of BSC studies and 5-year-programmes (undivided) were first matched then merged. As for the setting up of categories based on the level of sport, athletes in division III. and regional level were put in one category. The pattern also consisted of European champions, world champions, athletes with rankings in the Olympic Games, Universiade winner and national athletes. 72% (114 people) of respondents were team-sport athletes, 28% (45 people) were individual athletes. The distribution of athletes majoring in medicine and health sciences

justified another merge as well. The most athletes responding to questions came from the Faculty of Applied Economics and Rural Development (54 people, 34%).

During the analysis of academic performance, several factors such as the GPA, registered and completed credits and time devoted to study (in the semester and exam period) were taken into account. In connection with the level of sport, time devoted to training and competitions/ games were considered. Results were also examined in the light of different supporting possibilities provided by the Academic and Examination Regulation of the University of Debrecen.

Regarding questions of priorities of study and elite sport, athletes were categorised on the basis of their responses. They were grouped according to their current priorities, whether they prioritised ‘study’, ‘sport’ or ‘balance’.

In order to define the athletic career span, only the highest-level athletes were analysed from the whole of the pattern - justified by research-decision. Regarding the athletic career span, athletes were classified into three categories.

‘Regressive’ was the one for athletes who had been planning to continue sport at a lower the level or terminate their athletic career in four years’ time.

The category ‘stagnant’ involved all athletes who had not had any aspiration of participating in world or national level competitions but had not planned to continue sport at a lower the level or terminate their athletic career. Furthermore, athletes who marked goals already achieved (Olympic Games or Universiade or already members of national teams, thus goals are not progressive) were considered as part of this category as well.

The ‘progressive’ category consisted of athletes who had had any aspiration of participating in/ qualifying to world competitions and/or becoming a member of the national adult team. Athletes who were planning to continue sport at a lower the level or terminate their athletic career only in four years’ time could also get into this category. In this case, the particular period of academic studies was also taken into account if the respondent had marked qualification to or participation in world competitions over the course of the last three years.

Pattern of athletes in the Universiade

Athletes who had participated in the Universiade were asked to fill the questionnaire in the second semester of the academic year 2014/15. Data were collected by means of online questionnaire via Evasys (N=137). 49 questionnaires were sent back that means a 35.7% response rate. Athletes pursue academic studies in 18 national higher education institutions (in the fields of agronomy, humanities, economics, military science and defence, law, engineering, medicine, sport sciences and natural sciences) that provides a very diverse pattern. Institutional analysis was not carried out. As for the pattern, 67% of the respondents (33 people) were male and 33% (16 people) were female athletes. In order to get the accurate distribution per year, the academic years of BSC/ MSC studies and 5-year-programmes (undivided) were first matched then merged. 69,4% of respondents (34 people) were individual, athletes, 30,6% (15 people) were team-sport athletes. Given that only national athletes competing at international level were part of the pattern, these athletes were considered as the highest-level category during the analysis.

Pattern of lecturers at the University of Debrecen

Lecturers at the University of Debrecen were asked to fill the questionnaire in the second semester of the academic year 2014/15. Data were collected by means of online questionnaire via Evasys (N=190). The number of questionnaires sent back showed a 24% response rate (45 people).

The pattern of lecturers was developed in several stages. In the first stage, 3 categories (high, medium, low distribution) were set up based on the distribution of athletes of different levels of sport who had applied for sport scholarship (grant) in the second semester of the academic year 2013/14 and first semester of the academic year 2013/14 and had responded to the questionnaire, taking the number of athletes studying the same major into account. In the second stage, 5 majors were chosen from each category the way that each faculty and major would be represented. Lecturer groups with approximately the same number were chosen to be part of the pattern taken the number of different majors at different faculties and lecturers into consideration. Lecturers teaching at various majors were only considered once (for one major). In the third stage, lecturers were chosen randomly (N=190) from the list of 15 different majors; there were 119 male lecturers

(63%) and 71 female lecturers (37%) involved. Questionnaires were composed of both quantitative and qualitative questions leaving some space for lecturers to note any additional thought in writing.

2.3.1. Methods applied for evaluating the questionnaires

Descriptive statistics were used for the description of data during the data processing phase, multivariate statistical analysis was applied to examine the relationship between variables. First, descriptive statistics were used to describe low variables (gender, year, faculty, level of sport, sport discipline, orientation, career span, compatibility, consciousness) as well as frequency and percentage distribution of categories. High variables (academic results, rate of completing credits, number of training sessions per day and per week, time of training, competitions, number of games) were described by means and standard deviation. In order to describe the relationship between low variables, the analysis of contingency tables was carried out applying the chi-square test.

Concerning high variables, normality test was used applying the Kolmogorov – Smirnov test. In case variables were not normally distributed, relevant nonparametric tests were carried out in the next step; the relationship between variables was examined by correlation. The relationship between high dependent variables and low independent variables was explored by the t-test or the analysis of variance (ANOVA), if the dependent variables were normally distributed.

Concerning the GPA and the rate of completing credits, Npar test was applied to check whether the variables were normally distributed. In case variables were not normally distributed, relevant nonparametric tests were performed. In the case of two variables, Mann – Whitney test was applied; for comparing three or more categories, Kruskal – Wallis test was used (HUNYADI – VITA, 2006, SAJTOS – MITEV, 2007). SPSS 21.0 software processed statistical calculations.

Regarding the questionnaire developed for athletes, the relationship between the career span and GPA and between the career span and institutional regulations was analysed by chi-square test. The expected frequency (value must be over 5 in the contingency table) was thoroughly considered. The results are published in the same order as the respective methods were presented.

3. MAIN CONCLUSIONS OF THE RESEARCH

The complex development programme of the University of Debrecen was launched in 2005 and has been gradually improved since then encouraging the different fields of sport to undergo a progressive change, which was possible because of the amendment of laws and regulations. One of the core elements of the Sport Concept of the university is that it supports elite athletes' academic studies so that they could successfully obtain a degree. This is in line with the objectives related to athletes' integration into higher education formulated by the European Union and drafted in the Hajós Alfréd Plan. Another important area of university sport waiting for improvement was the modification of the system of relationships and functioning of university affiliated sport organisations. The university tries to provide an alternative with this to elite and competitive athletes to be able to continue their athletic career.

The results have proved that the majority of elite athletes, after being accepted to higher education institutions, strive to balance academic studies and top level sport as well as student and athlete roles thinking that harmony between these two fields is achievable. The opinion about harmony being feasible is influenced by the level of sport, the type of sport and the chosen major; the successful establishment of harmony is influenced by balancing strategies (strict schedule, more effort, periodical shift of priorities, private life pushed into the background) as well as commitment, responsibility and considerable awareness. The notion of compatibility changes with the end of studies approaching, apparently, the preparation for civil life is more and more emphasised as graduation gets closer in time.

The analysis of priorities underpinned the assumption that athletes' priorities regarding studies and sport actually change. Compared to the three academic years of bachelor studies, during the two years of master studies emphasis is shifted towards studying, which results in a further decrease concerning the number of 'balance oriented' and 'sport oriented' athletes. According to the results, even in the first three years of academic studies the number of students who primarily focus on their athletic career is very small and these number further decreases with years passing by. This means that by the end of the academic studies, many of them "drop out of sport". Universities, compared to

secondary schools, overshadow the athletic stage of athletes' lives, and despite institutional regulations, athlete retention is not quite sure. (Figure 1).

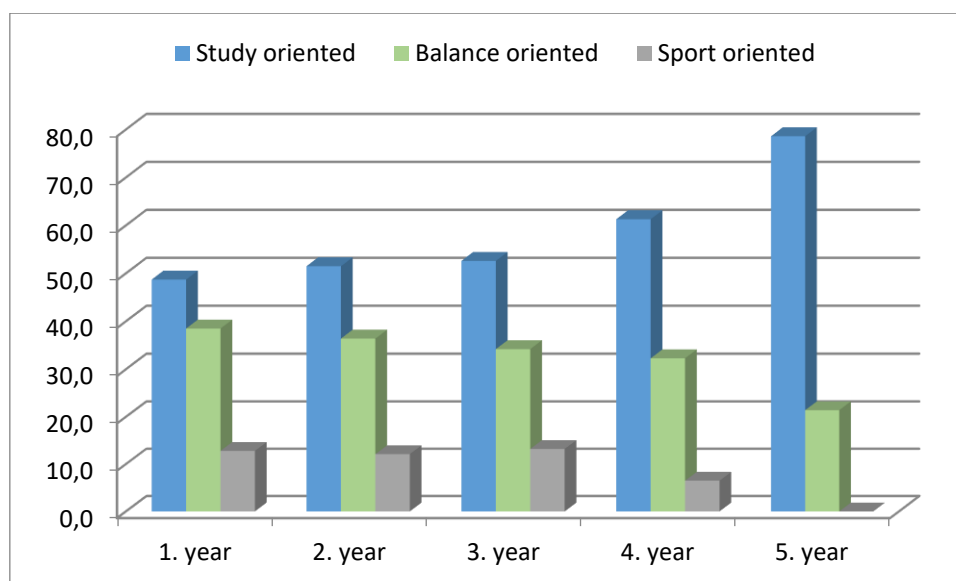


Figure 1: Change in Priorities during the Semester (%) N=159

Source: Own research, 2015

Priorities are closely connected to time devoted to training. Depending on priorities, the amount of training time changes that may have an effect on the academic performance too. 'Study oriented' athletes devote less time to training, thus can achieve better academic results, whereas 'sport oriented' athletes, who have more training sessions and training load, produce weaker academic results (Table 1).

Table 1: Priorities – Grade Point Average (N=159)

Priority	Grade point average 2nd semester of 2012/13 (UD)		Grade point average 2nd semester of 2013/14 (Universiade)		Grade point average 1st semester of 2013/14 (UD)		Grade point average 1st semester of 2014/15 (Universiade)	
	Mean	Std. D	Mean	Std. D	Mean	Std. D	Mean	Std. D
Study oriented	3,72	,79	3,65	,69	3,84	,75	3,76	,87
Balance oriented	3,41	,71	3,34	1,26	3,44	,78	3,57	1,10
Sport oriented	2,93	1,22	3,41	,72	3,09	,96	3,49	,74
Sig.	,009		-		,001		-	

Source: Own research, 2015

However, an interesting result of the research is that the academic performance of ‘sport oriented’ athletes of the University of Debrecen was far weaker than the performance of the Universiade athletes. There was no significant difference between ‘study –’, ‘sport – or ‘balance oriented’ Universiade athletes. Therefore, this needs more careful examination and thorough analysis to explore further relationships. The research has underpinned that even among the highest-level athletes, despite more training load, the ratio of ‘balance oriented’ and ‘study oriented’ athletes is high.

The findings related to the athletic career span shed light on the fact that the majority of high level athletes in both patterns (DE, Universiade) are associated with a progressive career span and most of these athletes do not plan to continue their sporting career at lower level in the upcoming 6 years. By the last year of academic studies, however, the number of athletes associated with a progressive span significantly decreases and the ratio of athletes within the regressive category parallel increases.

Based on the analysis of the career span it can be concluded that the direction of career span is connected to the various characteristics of the given sport discipline (type of sport, level of sport, number of training sessions per week, time of training per week). According to the analysis performed on the characteristics of sport disciplines, there are significantly more individual athletes setting progressive goals than team-sport athletes, who rather focus on studies and their future civil life beside doing sport. The lower rate of team-sport athletes within the progressive category suggests that athletes’ orientation and way of thinking are influenced by the given sport discipline. The highest-level athletes’ (national, international, Olympic athletes) differ from athletes competing in domestic championships in terms of academic progression and its compatibility with top-class sport. Consequently, the fulfilment of athletic and academic requirements for highest-level athletes is more challenging due to fixed training schedules, more training sessions a day, games and matches at weekends as well as travel time and training camps. Moreover, the type of the sport (team or individual sport) may also influence the maintenance of progressivity of the athletic career because for certain sport disciplines the progression at macro- (international level) and meso- (categorisation of associations and the chances thereof) levels might cause stagnation or, on the contrary, give more momentum at individual level (for athletes).

An important finding of the research is that in both populations the highest-level progressive athletes produced balanced academic performance in spite of the significantly higher number of training sessions and more training time (Table 2).

**Table 2: Athletic Career Span – Grade Point Average – Rate of Completed Credits
% (University of Debrecen) N=55**

Career span	Grade point average 2nd semester of 2012/13		Grade point average 1st semester of 2013/14		Completion of credits 2nd semester of 2012/13		Completion of credits 1st semester of 2013/14	
	Mean	Std. D	Mean	Std. D	Mean	Std. D	Mean	Std. D
Progressive	3,51	,80	3,60	,78	88,0	23,41	85,0	26,26
Stagnant	3,49	,76	3,63	,71	93,4	10,78	93,0	16,96
Regressive	3,73	,80	3,35	1,07	96,5	5,51	78,7	35,27

Source: Own research, 2015

This suggests that it is important for athletes to harmonise and balance their own athletic and academic objectives with the academic requirements of the university. It seems that regular competitive sport has a very positive effect on academic performance, which has already been proved in several previous studies (PUSZTAI, 2009 ON BROH, 2002; SHERRY ET AL., 2001). Athletes' academic performance also revealed that requirements can successfully be met by applying the adequate balancing strategies and by making more effort.

During the analysis of the GPA and the ratio of completed credits, academic efficiency was measured. These two variables were used for further analyses. Athletes' GPAs were found to be better than the average GPA of their faculty (except one faculty) which suggests that sport has a positive effect on athletes' academic performance that is in line with the results of previous research conducted in this particular field (PUSZTAI, 2009 ON BROH, 2002; MCKENNA – DUNSTAN-LEWIS, 2004; UMBACH ET AL. 2006; AQUILINA, 2013).

The notion that female athletes' academic performance is better than male athletes' performance is based on the connection of academic results and gender. The changing academic performance is also connected to the different stages of pursuing studies.

Regarding undergraduate programmes, with the end of studies approaching, academic performance seems to be on an upward trajectory that is a result of emphasis shift towards studying and the desire to obtain a degree. This is also in line with the decrease of time devoted to sport during master studies (Table 3).

Table 3: Grade Point Average – Credits (%) – Semester (N=159)

	GPA in the 2nd semester of 2012/13		GPA in the 1st semester of 2013/14		Credits in the 2nd semester of 2012/13		Credits in the 1st semester of 2013/14	
	Mean	Std. D	Mean	Std. D	Mean	Std. D	Mean	Std. D
1. year	2,37	,92	3,66	,78	76,1	33,67	89,6	24,21
2. year	3,66	,75	3,53	,84	93,8	10,14	88,9	19,95
3. year	3,32	,81	3,40	,78	88,1	22,43	88,0	23,46
4. year	3,57	,77	3,76	,76	95,2	7,15	90,6	16,39
5. year	4,21	,66	4,35	,62	99,4	2,42	96,0	12,02
Sig.	,000		,003		-		-	

Source: Own research, 2015

The fulfilment of academic requirements shows some differences between faculties. The best academic performance and successful credit completion were measured among athletes studying at the Faculty of Humanities as well as Medical and Health Science Faculties. Their performance was better than the average GPA of the given faculty and the performance of other athletes measured from other faculties. This result is surprising because the special nature of medical studies requires more attention, hence balancing studies and sport is supposed to be more difficult. This might be the result of a complex interplay of various factors. The correlation of academic performance and the chosen major was not proved.

The relationship between GPA, credits and sport related variables showed some differences in terms of the type of sport and level of sport. Regarding the type of sport, it was not unambiguously proved that athletes of individual sports, given that their athletic arrangements are more flexible, could perform better at school. However, the level of sport was one of the most influential factors in the study. In the case of the two categories of highest level athletes (Universiade and highest level athletes at the University of

Debrecen) a relationship was discovered between academic performance and time devoted to training per day and per week. As top-class athletes have more training sessions, thus more time devoted to training per week than lower level athletes, they have less time to spare for studying and other fields of life. So, athletes on the highest levels of sport might have to struggle the most and face difficult challenges due to more training time. As a result of less time devoted to training at lower levels of sport, the measurable academic performance was better (Figure 2).

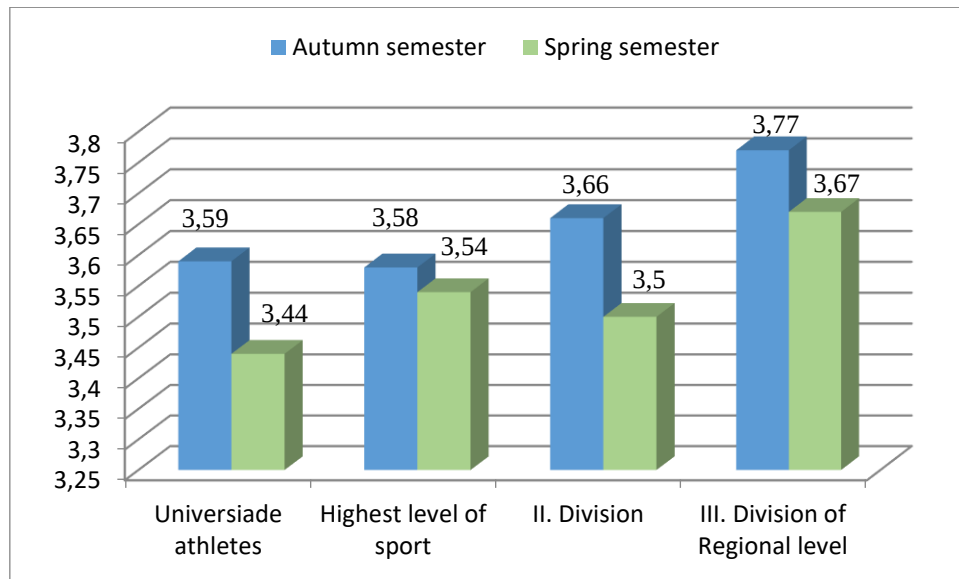


Figure 2: Grade Point Average – Level of Sport (N=159)

Source: Own research, 2015

Nevertheless, highest level athletes' academic performance suggests that they are able to apply what they have learnt in sport, such as goal-orientation, planning, consciousness and perseverance in their studies too. Efficient time management and adequate strategies are the only conditions. These can help athletes to devote as much of their time as they need to successfully progress in academic studies as well. Institutional regulations and support also contribute to this process. Similar results have been found by several other researchers according to which athletes can achieve outstanding results in both the academic and athletic sphere if they use conscious time management and find the balance of priorities (DAVID, 2005; MILLER, 2000; AQUILINA, 2013). These studies have already emphasised that optimal solutions are subject to the individual, each athlete finds different but the most suitable methods for themselves.

The results of the analysis of the relationship between time devoted to sport and sport related variables shed light on the fact that the amount of time devoted to training is connected to gender, the period of academic studies, the level of sport as well as priorities. The amount of training time indicated a different pattern for each orientation category. Primarily it can be concluded that athletes focusing on their athletic career train significantly more a week in both the preparation and competition period than ‘balance oriented’ and ‘study oriented’ athletes. Thus, ‘sport oriented’ athletes’ weekly training time is the highest (Table 4).

Table 4: Time of Training (hour) – Priorities (%) N=159

Priorities	Study oriented		Balance oriented		Sport oriented		Sig.
	Time of training per week						
	Mean	Std. D	Mean	Std. D	Mean	Std. D	
Preparation period	15,7	16,60	26,6	26,11	41,7	23,98	,000
Competition period	14,8	14,25	18,0	14,60	31,7	23,98	,001
	Number of training sessions per week						
Preparation period	5,0	2,79	7,1	3,46	9,3	3,59	,000
Competition period	4,5	1,99	5,9	2,67	8,2	4,11	,000

Source: Own research, 2015

While analysing the amount of time devoted to sport it turned out that there is a difference in terms of time-pressure (number of training sessions and games, time of training, time of games) and energy-investment between top-level athletes (national athletes, athletes who had participated and had been ranked in world, European and national championships) and I.-II- division athletes. International athletes devote reasonably more time to training in both the preparation and competition period than the top-level athletes of the University of Debrecen; further decrease in time was observed at lower levels as well. At the same time, the values suggest that athletes of the I-II divisions make a great effort as training and competitions take much time and energy investment, even though they are not international athletes (Table 5).

Table 5: Time of Training (hour) – Level of Sport (University of Debrecen) N=159

		Time of training per day (PP)	Time of training per day (CP)	Time of training per week (PP)	Time of training per week (CP)	Number of training sessions per week (PP)	Number of training sessions per week (CP)
Highest level	Mean	3,65	3,16	26,09	19,18	7,15	6,07
	Std. D	2,21	1,73	26,46	19,78	3,94	3,44
II. division	Mean	3,22	2,74	21,12	15,59	6,56	5,69
	Std. D	2,08	1,53	23,03	15,97	3,04	2,16
III. division or regional level	Mean	2,26	2,18	9,89	8,50	4,38	3,90
	Std. D	,81	,64	11,12	7,13	2,43	1,76
Sig.		,000	,001	,000	,000	,000	,000

Source: Own research, 2015

According to the results, for elite athletes the amount of time devoted to study and sport is subject to the preparation and competition period as well as the study and exam period. When two highly demanding periods overlap (competition period and exam period), time devoted to sport tend to decrease and time devoted to study tend to increase.

During the focus group stage, a ten-times world champion male athlete said the following:

“My goals are subject to different periods. In the exam period, exams are high priority but I don’t neglect training too much either because it might adversely affect me later. While I was preparing to the world championship last year, obviously, anything else was secondary.”

A world and European champion, sophomore, female national athlete adjusts the number of course-units per semester to the competition period:

“I took less units in the second semester because the exam period and the most important training period overlap and as the world championship is right there I shouldn’t miss any of the training sessions.”

Athletes’ responses shed light on the fact that they are willing to make effort in order to be able to balance their athletic and academic roles. Everyone agreed that it can only be successfully executed if there are consciousness, sacrifices and own balancing strategies. Balancing these two fields needs good time management.

The introduction of various rules and regulations as well as support programmes for athletes have contributed to the balance of studies and sport. Results based on athletes' subjective opinion and the objective use of institutional regulations show that it is the type of study that defines most whether athletes use the support and opportunities provided by regulations. This can be traced back to sport related majors, where the number of athletes applying for individual schedules and exams is the highest, however, regarding majors, where requirements cannot be fulfilled and necessary skills cannot be acquired without regular class attendance, fewer athletes use these alternatives.

Another significant factor is the level of sport as well as time devoted to sport. In case of athletes having much more training sessions in the preparation phase and competition period, the use of individual schedule is a suitable alternative that supports athletes' successful academic progression (Table 6).

Table 6: Use of Individual Schedule – Time Devoted to Sport (N=159)

	Number of training sessions per week PP		Number of training sessions per week CP		Time of training per week PP(hour/week)		Time of training per week CP (hour/week)	
	Mean	Std. D	Mean	Std. D	Mean	Std. D	Mean	Std. D
Individual schedule used	7,29	3,64	6,39	3,00	26,65	23,00	20,72	16,28
Individual schedule not used	5,74	3,25	4,96	2,51	19,87	21,43	16,28	15,58
Sig.	,011		,049		-		-	

Source: Own research, 2015

The lower rate of international athletes in the athlete population of the University of Debrecen and the amount of time devoted to sport, which relates to the level of sport, resulted in fewer athletes using the opportunity of applying for an individual schedule. At the same time, a larger proportion of international Universiade athletes, whose obligations, number of training sessions and pressure of competitions is proportionally higher due to the higher level of sport, used the opportunities provided by institutional regulations. Results of the research shed light on the fact that these athletes need regulations facilitating their academic progression, which proves the necessity of support that takes

flexibility and athletes' timetable into consideration. Regarding the relevant literature and the experience of various programmes supporting elite athletes, it can be concluded that the existence of different regulations and support programmes is justified when it comes to elite athletes in higher education pursuing a dual-career. The pattern of highest-level athletes in the study proved the same.

In connection with priorities, the use of institutional regulation showed that orientation has a significant influence on whether the alternative of an individual schedule and individual exam schedule is used or not. Athletes who are 'balance or study oriented' or in other words, athletes who strive to meet academic requirements beside fulfilling requirements of an athletic career are those who use the opportunity of individual schedule in the first place.

Athletes who applied for individual schedule and exams were typically part of the 'progressive' category in terms of career span, meaning that athletes with progressive goals of qualifying to international competitions used this opportunity the most. According to the results, sport has always played an important role in athletes' life, at the same time, they strive to keep their academic and athletic roles in balance.

After analysing the data collected from lecturers, who were affiliated with the use of regulations by the institution supporting the integration of elite and competitive athletes at the university, the results were interesting. The knowledge of lecturers related to student athletes was very limited. More than half of the lecturers (59.1%) did not know any other outstanding athlete studying at the University of Debrecen except of those in the Olympic Games and did not know anything else about them. This can be traced back to the lack of communication and personal interaction in the first place.

The majority of lecturers thought that pursuing academic studies while developing a sporting career – regardless of the athletic record – was achievable. 68,2% of the respondents (31 people) claimed to be well-informed about challenges related to top-class sport and 74,4% (33 people) said they were aware of the requirements elite athletes must meet to be able to produce outstanding sport results. It is important to underline that lecturers from faculties with higher athlete-distribution claimed to be better informed than those from lower distribution faculties.

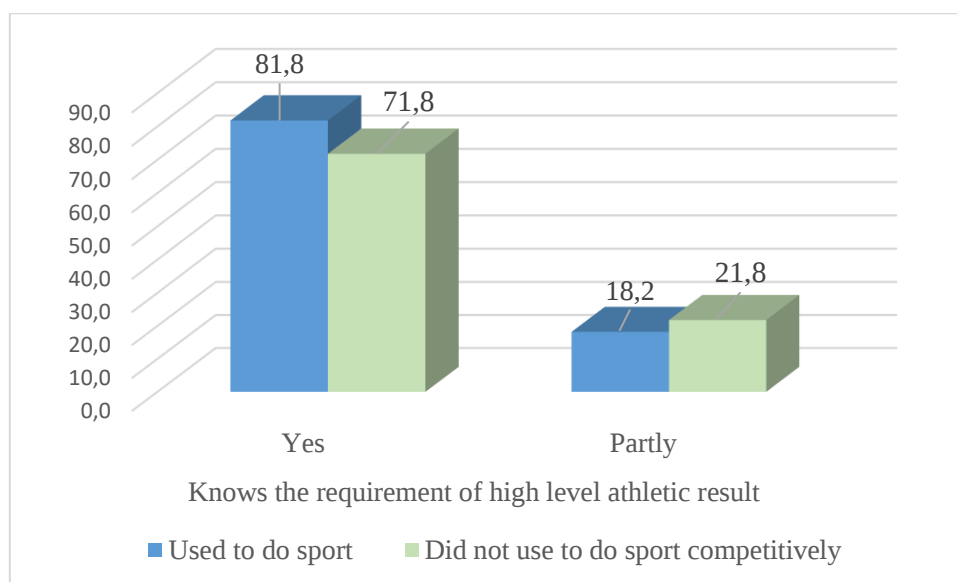


Figure 3: Knowledge of Lecturers on Top-Class Sport (%) – Athletic Record N=45

Source: Own research, 2015

Lecturers previous athletic record influence their attitude towards athletes. Lecturers who used to be competitive athletes or even do sport today are more flexible and understanding towards athletes, they are positively influenced by their personal experience and knowledge. The majority of lecturers claimed they had experienced that most athletes strived to fulfil academic requirements. Most of them agreed with institutional regulations aiming at facilitating the pursuit of a dual-career (80,6%, 36 people) and found it important that the university should support athletes in obtaining a degree by providing just the right conditions for requirement fulfilment (62,8%, 28 people). One significant part of the results is that personal meetings and interaction male lecturers more understanding towards athletes and positively influences the assessment of requests of individual schedules and exams

In the qualitative data collection phase one of the lecturers expressed agreement with institutional regulations aiming at facilitating academic requirements (individual schedule and exams), however, emphasise that:

“It would be important to clearly define responsibilities and the direction of relevant information flow.”

The responses of lecturers reflected that most of them agree with differentiating between elite athletes and peers - based on their knowledge of top-class sport requirements - to a

certain extent, however, the feasibility thereof seem to have triggered different opinion patterns at different faculties.

One lecturer took a firm stance, different from the ones before:

“Students attend university to study, so they need to choose, which one is more important to them.”

This results in the opinion which is

“Elite athletes should focus on their athletic career and in the post-athletic period of their lives - after achieving material well-being - they can study.”

Based on this point of view it can be concluded that amateur competitive athletes at the university are probably mistaken for such elite athletes who gain a significant amount of money from sport, hence they are believed to have the chance to “achieve material well-being”. However, most of the athletes cannot be characterised like that, in addition, they also have to finance their sport related expenses in many cases. During the research, opinions had been formed pro and contra which helped to develop a very comprehensive overview of the situation.

By way of summarising it can be concluded that there is *raison d’être* for elite athletes to be involved in higher education, at the same time, they have to cope with serious challenges of balancing top-class sport and academic requirements. This challenge can be tackled and counterbalanced by efficient and focused time management methods. Simultaneous academic and athletic progression can be ensured by higher education institutions providing relevant regulations and support programmes for athletes. Academic progression is a significant part of preparation for post-athletic life.

4. NEW RESULTS AND NOVELTIES OF THE RESEARCH

Research focusing on athletes' opportunities and challenges of balancing the athletic career and academic studies has obtained scarce results in Hungary so far. Most of the international research focus on the athletic retirement, the different stages of the athletic career and the transition between these stages. The emphasis is on changes and transitions. The novelty of this research lies in the fact that athletes' opportunities and challenges of balancing the athletic career and academic studies are analysed comprehensively, from different aspects – taking the sport structure of the university, the institutional regulations related to athletes as well as lecturers and athletes of the university into account. Such an approach based research in Hungary towards this particular topic has not been published yet. Another novelty is that not only students majoring in sport relevant fields are analysed in terms of balancing academic and athletic progression. In addition to that, regarding result-oriented competitive sport, the academic performance of athletes doing sport at different levels at the University of Debrecen was analysed along with the performance of international athletes participated in the Universiade. This is also an outstanding value of the research.

- Further novelty is the discovery that the successful balance of studies and sport is proved to be connected to the type of sport, level of sport and time devoted to sporting activities and is influenced by the requirements of the academic major. In case of elite student athletes, the amount of time devoted to study and sport is subject to the preparation and competition period as well as the study and exam period. When two highly demanding periods overlap (competition period and exam period), time devoted to sport tend to decrease and time devoted to study tend to increase.
- Another important result the research proved that the majority of athletes identify with the principle of studying during university years; evidence of this is the higher proportion of 'study oriented' athletes and lower proportion of 'sport oriented' athletes over the course of the first three years at the university. With the end of studies approaching, 'sport orientation' tends to be on a downward trajectory that shows how emphasis is shifted towards academic studies. The improvement of

academic performance is accompanied by a higher rate of credit completion and a decrease in number of training sessions, less time devoted to training.

- In contrast to common belief, athletes are able to achieve outstanding academic as well as athletic results, which also counts as a novelty. This is underpinned by the academic performance measured in the athlete population of Debrecen, which shows that athletes' GPAs in the two analysed semesters were better than the average GPA at the faculty, except in the case of one faculty. Even though elite and competitive athletes' time devoted to study is limited due to more training sessions and higher training load, their academic performance is better than that of hobby athletes and nonathlete students, which is quite a remarkable achievement. This proves that athletes are able to apply what they have learnt in sport such as goal-orientation, planning, consciousness and perseverance in their academic studies.
- The development of career span categories can also be considered as a novelty according to which the career span based on athletic objectives can be progressive, stagnant and regressive. A further novelty is that within these categories, the athletic career of the majority of highest-level national and international student athletes is steadily progressive during university years, most of them do not plan to compete at lower levels of sport in the upcoming 6 years. Despite the huge training load, most athletes at higher levels of sport strive to balance academic studies and sport with additional progressive athletic objectives. They are able to balance these two fields in spite of the highly demanding level of sport and much time devoted to it.
- It also counts as novelty that the institutional regulations were proven to contribute to the successful academic progression of athletes within the progressive category with more training sessions and time devoted to sport, hence athletes are provided with a good solution to establish balance between studies and sport.

- Lecturers' opinion on athletes has not been subject of any research in Hungary before. Therefore, it is definitely novel for research that the majority of lecturers keep the establishment of balance between studies and sport achievable if the right attitude and commitment are not missing. Lecturers agree with institutional regulations aiming at facilitating the pursuit of an athletic career and academic studies at the same time, however, they underline the importance of requirements being fulfilled. One significant part of the results is that personal meetings and interaction make lecturers more understanding towards athletes and positively influence the examination of applications to individual schedules and exams.

5. APPLICATION OF RESULTS IN PRACTICE

In order to facilitate the establishment of balance between the two fields, a more flexible course registration system (pre-register for courses) would be important because this would help athletes come up with a schedule where courses and training sessions would not overlap. Regarding the balance of academic and athletic progression, further forms of support for international athletes might be a less complicated administration process related to individual schedules, the alternative according to which missed classes of obligatory attendance might be made up by attending another class of the course, or individual deadlines for hand-in papers.

Certain areas related to the facilitation of simultaneous management of studies and top-class sport are very much to be improved at national level. For the time being, some higher education institutions lack these alternatives but introducing them would be a further relief for elite athletes. An instance is the prioritisation of elite athletes from other regions in student dormitories and the introduction of sport scholarships (grants) or mentor programmes.

It is important to further promote possibilities (individual schedule and exams, mentor programme, sport scholarships or grants), which athletes may use to fulfil their dual-career duties, in order to keep the number of ‘balance oriented’ athletes until the end of studies as high as possible and reduce the number of athletes “dropping out of sport”. The expansion of information available would be an important step the university should make in order to make athletes more aware of how they can apply for and take advantage of the possibilities provided. Workshops can provide athletes with a good opportunity to improve their skills and learning skills or acquire the basics of a good and efficient time management.

Furthermore, it is essential that sport clubs and coaches should maintain athletes’ athletic motivation during the study period and support athletes in fulfilling academic requirements. In case the attitude of the coach is positive and training sessions are flexible when there is any academic requirement to be met, athletes will not be at a crossroads, the balance of studies and sport will be more sustainable.

A more detailed analysis of athletes' personality and their individual motivation methods should not be ignored either. Just as there is a difference between male and female athletes in terms of progressivity, athletes with different personalities are also driven by different types of motivation. It would be worth laying more emphasis on individual and team-sport athletes' inner drivers so that athletes themselves, when talking to the coach or team mates, could become more conscious of their potential career aspirations.

In order to make the judgement process of applications for individual schedule and exams more obvious, it is recommended that guidelines related to documentation and confirmation of athletic activity as well as the acceptance thereof should be designed and specified. Regarding majors where regular course attendance is required, records of lectures and seminars could be uploaded to the intranet site that would be useful for athletes to make up for missed classes and meet the requirements of the given course without applying for an individual schedule.

A face-to-face meeting at the time of submitting the application for individual schedule and exams would further contribute to the relationship of lecturers and athletes, individual progress could be better monitored. A sort of relationship that is built on the principle of lecturers and athletes mutually informing each other is recommended because, on the one hand, athletes get more accurate information about their academic obligations, on the other hand, lecturers can get an insight into the life of elite athletes. This would ensure that lecturers would get to know their athletes' sport disciplines and athletic results better. Therefore, round table discussions, experience sharing sessions and presentations could be organised where in the framework of an interactive discourse participants would have the chance to broaden their knowledge on top-class sport and elite athletes, get to know their everyday struggles and effort and understand drivers in the background usually hidden from laymen. Moreover, mentor programmes at higher education institutions may also be means of ensuring information flow between the parties. Familiarise lecturers and athletes with such programmes, making them accept these as well as improving already existing ones are all necessary to broaden the possibilities and alternatives.

Supporting elite and competitive athletes and their academic progression in higher education is important and necessary to help them obtain a degree, thus a qualification. An indispensable requirement for this is that lecturers, university staff and peers should have

sufficient information about top-class sport, the way elite athletes live, the requirements they need to meet and the time challenge they have to face. This way the judgement of athletes might take a positive turn.

Further research is encouraged by using the same questionnaires at other Hungarian universities to get a national overview and to collect enough data to carry out comparisons between universities as well as longitudinal analyses to explore new relationships between variables.

The Sport Concept of the University of Debrecen is unique all around the country, hence can provide a good model for other higher education institutions. At the same time, continuous improvement of support programmes and regulations and fine-tuning thereof should not be ignored because this process might reveal additional opportunities.

The promotion of supporting elements and balancing strategies among those affected could make it possible that not only those elite and competitive athletes would consider to continue their studies who have developed efficient methods to successfully meet various requirements, but more and more of the young could be informed so that they would know and feel the balance between the athletic and academic fields can be reached , which is also facilitated by universities providing the possibility of using elements of different institutional regulations that aim at supporting elite athletes.

6. PUBLICATIONS RELATED TO THE STUDY



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Candidate: Andrea Lenténé Puskás
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MTMT ID: 10044922

List of publications related to the dissertation

Articles, studies (6)

1. **Lenténé Puskás, A.:** A karriertervezés dimenziói és a sport iránti elkötelezettség változásai élsportoló egyetemi hallgatók körében.
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The Candidate's publication data submitted to the iDEa Tudóstér have been validated by DEENK on the basis of Web of Science, Scopus and Journal Citation Report (Impact Factor) databases.

12 October, 2016

