

SUMMARY OF THE PHD THESIS

SZABÓ ATTILA

HEALTH EDUCATION AND COACHING BY APPLYING POSITIVE PSYCHOLOGY

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INTRODUCTION

It is extremely important for both elite athletes and coaches to make the right decision in the right moment. It can influence the athletes career and later their civilian life as well. Of course it applies to all the aspects of life but especially emphasized in top level sport. Being a coach is about thinking over the choices and options and determine the right direction for the athlete. Among the several circumstances it is possibly the most important to establish a performance based training system, in which the individual athletes can fit and are able to bear the load being in compliance with their age. This kind of system is built up using the traditions of the given sport, the results of current research and our own experience.

The main question is how talented young athletes can be fit into a world famous adult team and what methods are to be used during the trainings which are not harmful for their health. Today successful coaches often find themselves at a crossroad, and they can only rely on themselves in these questions. The aim of our research is to help strengthen the pedagogical profile of sport coaches. It should be determined in a statistical way that top level sport can help in later phases of life as well as with coping techniques, and the efficiency of the new method needs to be measured. In order to achieve this we thrive to establish a training plan which helps the mental side and check if it works by using measurements. In the study it is detailed what experience sportsmen have during the planned trainings and competitions. When and how does the flow experience take over the feeling of monotony and the suffering. Does experiencing it change their attitudes towards training and competing? One of the most crucial phases of life (the Olympic cycle) is unveiled. This phase tells a lot about the partial stages of the developed, goal setting personality who intentionally head forward. The novelty about the research is that we can obtain the data of both areas (PI and Flow) by way of a cross sectional research. The research results can provide an opportunity for a problem analysis which is based on the results of the development programme elaborated by us.

THEORETICAL BACKGROUND

The first part of the thesis deals with explaining the term of free time recreation and top level sport, also elaborates topics like the development of the term of health and the relationship between sport and health. In the reference review the results related to flow research are presented. It is done in order to make the acquired knowledge be used to create a training programme facilitating the flow experience. To be able to compile the trainings the results of motivation researches must be known, and writings related to team building have also been studied.

In the second part is focusing on the development of the terminology, the results of the interviews and the research with the help of flow and PI questionnaires. Its aim is to justify the necessity of the precise terminology by way of using measurement results, and the terminology together with the flow experience affects the performance in sport. The influence of top level sport on the later private life is also studied. Lastly the summary and further research possibilities are elaborated.

By way of explaining the terms of top level sport, free time sport and recreational sport a clear picture can be created about the specializations of top level sport. Three functions of free time can be separated. Ensuring personal development, entertainment and refreshment (*Dumzeider, 1960*). Free time can be spent on self fulfilment and self development. In this case free time may as well become a flow experience. However, passive entertainment is just unnecessary waste of strength and energy consumption. When talking about free time quality is a crucial factor, this way it can have a recreational effect *Csikszentmihályi, (2001)*. This way of thinking can be followed in Nash's free time spending pyramid *Nash (1960)(Szabó, 2009)*. The importance of spending free time in an active and creative way is also supported by *Leitner és Leitner (2004)*; and *Szabó (2009)*. From the perspective of the thesis the influence of recreation on sport performance and physical-mental capacity is highlighted (*Fritz, 2011*). To word it in a modern way recreation means all the cultural, social, game like and movement including activities that individuals pursue in order to release the fatigue and stress caused by the main activity every day (*Fritz, 2011, 2015*).

The expression sport is used for movement related activities many times *Bíróné (2004)*. If performance is considered as goal, it is by no means top level sport. According to its structure it is pursued in order to achieve a deliberately determined goal and result. (*Bíróné, 2004*). Sport activities appear as a social reality as its part and this way it is a tool for developing culture, so it is a cultural asset (*Bíróné, 2004*). Irrespective of their age sportsmen spend most of their time at sports centres. In many cases they are stressed not only by their family problems but also the fact that they are pressured to perform well. Due to the constantly changing circumstances several sportsmen do not feel secure. The quality of the time spent at the sports centre is absolutely important for development. Sportsmen spend 8 or 10 hours with training under organised conditions (*Szabó, 2015a*). Besides family the responsibility of the sports section and the coaches working there has increased. Health education within such institutions is a very crucial question (*Borkovits, 2014*). "Health is the state of complete physical, mental and social well being and not just the lack of a disease or disability" (*WHO, 1948*). Maintaining health is not just considered as an optimal condition, in which you are able to complete your set tasks. The coherent person fights with problems and keeps their health at all times. According to *Antonovszky's (1979)* opinion the feeling of coherence is built up based on the effects

experienced during young ages. In this process sport can play a main part. Sportsmen spend a lot of their times in training camps or at sport events or competitions. Due to the environmental changes their emphatic and moral abilities tend to decrease (*Szatmári, 2009*). Satisfaction or the lack of it can be closely related to this fact and it determines the atmosphere of the trainings and their performance. The point of view of the positive psychology emphasizes the rewarding effect of the deliberate development just for the sake of pleasure (*Hamvai és Pikó, 2008, Csíkszentmihályi, 2014*). The importance of justifying factors creating a background for social well-being and proper behaviour by way of measurements is also highlighted. (*Oláh, 2004; Seligman és Csíkszentmihályi, 2000*). *Seligman és Csíkszentmihályi* (2000) developed the opportunity to use psychology to strengthen individuals and to deal with talents. A sportsman is considered to be an autotelic personality if they thrive to achieve their personal goals and not to obey requirements set by others (*Jackson és Csíkszentmihályi, 2001; Baumann, 2012*). Those who often have a flow experience have better life quality as well – at least as compared to that of those who set goals for themselves which mean less challenge (*Jackson és Csíkszentmihályi, 2001; Csíkszentmihályi, Rathunde és Whalen, 2010; Csíkszentmihályi és Halton 2011; Csíkszentmihályi és Schneider, 2011; Csíkszentmihályi, 2013a;b*).

The other pole of the thesis is comprised by the Antonovsky model, according to which the main task of the organisation is to deal with the stressed condition generated by challenges and stressing factors. It is important to have protective factors which create the construction of the coherence feeling which makes the stimuli comprehensible, manageable and sensible (*Antonovsky, 1987*). Following this view in my thesis I am compiling a training plan which is based on the measurements which comply with the positive psychology and I intend to prove and support its efficiency with the measurement results.

HYPOTHESES OF THE RESEARCH

The research embraces a broad variety of topics that are eventually discussed within a common project. My hypotheses are thus formulated according to the topics concerned.

H₁: Research into special literature suggests that really significant results can only be achieved in the state of flow.

H₂: Research into special literature suggests that each athlete who have achieved a big result, has also had a flow experience during the competition or race.

H₃: It has also been suggested that the creation of an exercise programme involving the flow experience is well based and timely.

H₄: Research into special literature suggests that a strategy which is based on classroom analyses has an impact on the development of the canoeing techniques.

H₅: Research into special literature suggests that the high level of technical knowledge facilitates the positive experiences that can be related to the state of flow.

H₆: Research into special literature suggests that the state of flow experienced during the trainings increases efficiency.

H₇: Research into special literature suggests that the assorted sportsmen have a developed sense of coherence.

H₈: Research into special literature suggests that the evolved psychological immune system (PI) can be utilised in the later civilian life.

RESEARCH METHODS

The first part of the research has provided data for the elaboration of a programme strengthening the mental side.

Tools of measurement and assessors

In the examinations being included in the thesis two validated questionnaires were used (Oláh, 2005) PI (Psychological Immune Competency) and Flow (Experiences related to the state of Flow). The questions of the interview were compiled on the basis of the guidance of Oláh (2005) and the related references by our research team (Jackson és Csíkszentmihályi, 2001; Pates és Palmi, 2002; Oláh, 2004, 2005; Seligman, Steen, Park és Peterson, 2005; Csíkszentmihályi, Abuhamdeh, Nakamura, Andrew, és Dweck, 2005; Szondi, 2006; Csíkszentmihályi, Rathunde és Whalen, 2010; Csíkszentmihályi és Halton 2011; Csíkszentmihályi és Schneider, 2011; Csíkszentmihályi, 2013a;b).

Analyses

During the statistical procedures qualitative and quantitative methods were equally used. The choice of the procedure depended on the goals related to the specific measurement and the sample size. In the development areas individual examinations and developments were emphasized, thus in several cases qualitative procedures were prioritized. During the first survey descriptions of several references related to the topic were taken into consideration for the elaboration of the questions of the interview (Seidman, 2003; Falus, 2004). In case of the fourth survey there were interviews, however the low sample size and the descriptive nature of the answers did not make the quantitative analyses possible after the qualitative evaluation so we focused on the concrete presentation of the terminology used in the interviews.

While analysing the results descriptive statistical methods were used to present the results at data level, we calculated correlation and in some of the cases even regression analysis was used. The two-sample t-test (with two partial samples) and the variance analysis (with several partial samples) analyse if there are differences between the partial samples regarding specific variables (e.g. sex, qualifications, etc.). On the other hand the paired samples t-test examines the results within the same samples. Videos and photos being included in the qualitative and quantitative procedures of the research facilitate the thorough presentation of the examination. 16.0 SPSS statistical application was used for the analysis.

Implementation of the measurements

Our examinations comprise several steps and measurements, which are related to each other logically, therefore the results will be summarized in research projects later on.

Project No. 1: *Interview on the circumstances of winning the Olympic, World, Europe and National Championships.* In this projects 46 individuals were questioned including assorted sportsmen taking part in the Olympics, World Championships or National Championships who reported their flow experience during the competition in

the interviews. We are examining if experienced athletes have had a flow experience and if they have, when. If there is a connection between the achieved result and the frequency of the flow experience.

Project No. 2: Elaboration of a new programme

The second project was the elaboration of a training programme facilitating the flow experience which is our own development after processing the references.

Project No. 3: in order to increase the efficiency of the newly introduced training programme videos were recorded about the canoe movement (6 of our own athletes). An analysis of the canoeing technique as well as a unified training and canoe terminology was created.

Project No. 4: Measuring the technical knowledge of our own canoeists

The connection between the knowledge of the picture of the technique and frequency of the flow experience was examined with the help of 6 of our athletes.

Project No. 5: Measuring the state of Flow

The examination of the influence of the skills practised at the trainings with regard the flow experience with the help of our sportsmen (n=6) and the members of the control group (n=6).

Project No. 6: Examination with the Psychological Immune Competency questionnaire

The study was aimed to measure the psychological immune competency (PI) as well as the coherence test of the professional sportsmen (n=46). Monitoring the period after finishing the top level sport activities based on the 16 scales of the psychological immune competency questionnaire. The control group included teachers who have finished doing sports (n=47).

RESULTS

Project No. 1: Interview on the circumstances of winning the Olympic, World, Europe and National Championships

Assorted sportsmen were interviewed to elaborate the exercise programme. Each athlete has different abilities and is good at different things. The important thing is how they sense their abilities as compared to the challenges in front of them. If they managed to meet a challenge they felt happiness which they wanted to experience again. Reports about the moments of the Olympic finals describe an even more significant attention and exaltation (*Seligman és Csíkszentmihályi, 2001*). Without exception all the individuals questioned said that the state of balance was the condition of starting the flow experience (*Szabó, 2014; 2015a,b,c; 2016*).

Project No. 2: Elaboration of a new programme

On the basis of processing the references and the measurement results a training program developing the mental side was created (*Szabó, 2014; 2015a,b,c; 2016*).

Project No. 3: in order to increase the efficiency of the newly introduced training programme videos were recorded about the canoe movement.

Project No. 4: Measuring the technical knowledge of our own canoeists

The connection between the knowledge of the picture of the technique and frequency of the flow experience was examined. The athletes mentioned the ceasing of the external world, they knew from the very beginning that they could be absolutely sure of their victory irrespective of the external factors including the power of their opponents. They had similar experiences even during the trainings¹.

Besides the physical self confidence of the athletes the internal harmony meant a very strong mental confidence due to which they felt that everything was perfect and given for the success. When “the ship becomes one with the body” signals the experience when the athletes devote themselves to the competition and they get into a state of extasy. (*Szabó, 2007; 2010; 2011; 2012; 2013a, b, c; 2014a, b; 2015a, b, 2016; Szabó és Béres, 2015; Szabó és Borkovits, 2015a,b*). Finally the interviewees underlined the success shared with their mates and the celebration of the victory. The results of the flow questionnaire and the answers for the interviews have shown that most of the athletes find the role of the coach extremely important.

Project No. 5: Measuring the influence of the technical knowledge and the efficiency of the mental training programme with the treated group

Significant differences were experienced when measuring the effects of the program developing the mental side. In case of the group of the flow questions the individuals being asked had to decide on how typical the statements are for them at the trainings and during doing the exercises being in compliance with the training plan.

Due to the mental development and the perfecting of the techniques the challenges were experienced as exciting tests by the athletes (*Jackson és Csíkszentmihályi, 2001, Csíkszentmihályi, Rathunde és Whalen, 2010; Csíkszentmihályi és Halton 2011; Csíkszentmihályi és Schneider, 2011; Csíkszentmihályi, 2013a; Csíkszentmihályi, 2013b*). In case of the first measurement there was a significant difference between the attitudes to the trainings. The members of the control group were more bothered and fatigued by the trainings even at the beginnings. During the second measurement there was a significant difference between the treated and the control group in each case. With regard

to the flow questions it was the treated group which chose the higher values, while in case of the questions concerning apathy and anxiety the statements were more typical for the control group.

Project No. 6: *Examination with the Psychological Immune Competency questionnaire.* The psychological immunity related to challenges of the assorted sportsmen was measured with the psychological immune competency questionnaire. The authors created 16 factors including Positive Thinking, Sense of Control, Sense of Coherence, Creative Self Concept, Sense of Self-Growth, Change Challenge Orientation, Social Monitoring, Problem Solving, Self Efficacy, Social Mobilizing Capacity, Social Creating Capacity, Synchronicity, Goal Orientation, Impulse Control, Emotional Control, Irritability Control (Oláh, 1999; 2004; 2005; Oláh, Nagy és G. Tóth, 2010). Answers concerning the *Sense of Coherence* were ranked as first by the teachers (Oláh, 2005). The answers related to the *Sense of Control* were preferred by the athletes. They ranked *Creative Self Concept* at the second place while for the teachers the second was *Sense of Self-Growth*. Athletes were characterized by the pride over their own performance, while teachers emphasized the promotion of their development. *Change Challenge Orientation* was at third place with both partial samples. The importance of self development was equally important for both groups. At fourth place *Positive Thinking* was ranked by the athletes while *Creative Self Concept* by the teachers. The *Self Efficacy* was important for both groups. In case of the athletes a correlation of over 0.6 was noted among the answers given for *Sense of Self-Growth* and *Impulse Control*. *Problem Solving* and *Synchronicity* are also closely related similarly to *Synchronicity* and *Impulse Control*. For those who were characterized by *Problem Solving*, *Synchronicity* was also important.

In case of teachers the correlation of *Positive Thinking* to the *Sense of Self-Growth*, the *Change Challenge Orientation* and *Self Efficacy* was typical. Concerning the teachers there was a relation between the *Sense of Coherence* and the *Sense of Self-Growth* as well as between the *Sense of Coherence* and *Synchronicity*. The factor of *Change Challenge Orientation* had the highest linear coefficient. According to this the positive orientation of the athletes is significantly influenced by how they relate to the different challenges as well as positive thinking is strongly influenced by the aggregation of the examined factors.

DISCUSSION

The primary objective of the thesis was to elaborate an effective training programme developing the mental side. While writing the study the main factor was to create research projects to promote the healthy coping in later civilian life. The sub goals were in compliance with the execution of the main goal. Gaining information about the flow experience by way of interviews with and photos of assorted kayakists and canoeists who have finished competing (*Seidman, 2003; Falus, 2004*). After analysing the photos *Ekman Friesen és Hager (2002)* on the basis of the interviews and the reports of competitions as well as our own experiences and the references we elaborated a training programme which develops the mental side¹. The development programme was completed by a video material and a unified canoeing terminology was created. The measurement of the efficiency of the curricular activities (video analysis, games) was carried out for the sake of checking. After the introduction of the mental activities (training) and having practised them for three years further measurements were carried out with our own (treated) athletes and the control group (canoeists belonging to other clubs). These measurements were carried out with a validated flow questionnaire. In the survey a shortened version of the flow questionnaire (*Oláh, 2005*) was used and interviews were also conducted. When compiling the questions we relied on the experiences of the research. Finally we measured the influence of top level sport on health by using a questionnaire evaluating the psychological immune competency (PI) among ex athletes and a control group which consisted of teachers who have not done any physical activities. Since our examinations and measurements consisted of several steps which were logically related to each other we introduced research projects. The first project was the description of the flow experience at significant competitions. The assorted canoeists answered the previously worded questions during interviews. In the second project we examined if the retrospective result is suitable for elaborating a training programme which develops the mental side. The third project was taking photos and videos of the canoeing movements in order to increase the efficiency of the newly introduced training programme. An analysis of the canoeing technique as well as a unified training and canoe terminology was created. In the fourth project we intended to evaluate our canoeists' picture of their own technical knowledge on the basis of our training programme. The fifth project was the examination of the skills practised at the trainings with regard to the flow experience. The sixth project was the measurement of the psychological immune competency (PI), furthermore we also examined the coherence of top level athletes and the monitoring of the period after finishing their top level sport activities based on the scale of the psychological immune competency questionnaire. In the examinations included in the thesis we used two validated Flow questionnaire (experience related to the state of flow) (*Oláh, 2005*) and the Psychological Immune Competence questionnaire (*Oláh, 2005*). The questions of the interviews were compiled by our research group on the basis of the guidance of (*Oláh, 2005*) and the relating references (*Jackson és Csíkszentmihályi, 2001; Pates és Palmi, 2002; Oláh, 2004, 2005; Seligman, Steen, Park és Peterson, 2005; Csíkszentmihályi, Abuhamdeh, Nakamura, Andrew, és Dweck, 2005; Szondi, 2006; Csíkszentmihályi, Rathunde, Whalen, 2010,*

¹ <https://www.youtube.com/watch?v=Paeoz8n03IU&feature=youtu.be>

Csikszentmihályi és Halton 2011; Csikszentmihályi és Schneider, 2011; Csikszentmihályi, 2013a,b).

H₁. Reliable result shows correlation between success and flow experience (*Jackson és Csikszentmihályi, 2001; Oláh, 2005; Seligman, Steen, Park és Peterson, 2005; Csikszentmihályi, Abuhamdeh, Nakamura, Andrew, és Dweck, 2005; Szondi, 2006; Csikszentmihályi, Rathunde, Whalen, 2010; Csikszentmihályi és Halton 2011; Csikszentmihályi és Schneider, 2011; Csikszentmihályi, 2013a,b).*

H₂. A reliable result has been gained with regard to the fact that all of the athletes having achieved significant results have experienced the state of flow while competing.

H₃. On the basis of the interviews and exploring the references a training plan was elaborated facilitating the flow experience. Based on the reliability indicators we decided to choose the flow measurement for our survey (*Oláh, 2005*). Based on the result of the conducted measurement the training programme is well established and timely (*Oláh, 2005*).

H₄. The measurement results have shown that the strategy based on classroom analysis affects the development of the canoeing techniques (*Jackson és Csikszentmihályi, 2001; Oláh, 2005; Graham és Folkes, 2014*).

H₅. The results have proved that the high level of technical knowledge facilitates the positive experiences that can be related to the state of flow (*Wulf és Lewthwaite, 2010*).

H₆ *Seifert és Hedderston (2010)* have also concluded in compliance with our point of view that the state of flow experienced during the trainings increases effectiveness. The survey was repeated at the end of the programme and by comparing the two results the presented result could be concluded.

H₇. In case of this statement based on the reliability indicators we decided to choose the Psychological Immune Competence questionnaire (PIK) for our survey. With regard to the Sense of Coherence our measurement results did not show the same results as those of the published studies (*Scheier és Carver, 1985; Carver, Scheier és Armstrong, 2012; Oláh, 2004; 2005*). The reason can be connected to the extreme rule following behaviour of the athletes (*Gombocz, 2005*). Canoeists are not flexibly, they carry out the instructions of the coach. The individual creativity is not a necessity due to the nature of the sport. The amount of labour done is what counts (*Szabó, 2015*).

H₈. In the question if the acquired psychological immunity can be utilized in the later civilian life we got the same results as our previous examinations (*Szabó, 2010; 2011a, b; 2012; 2013a, b, c; 2014a, b, 2015*) and the published references (PI) (*Oláh, 1999; 2004; 2005; Oláh, Nagy és G. Tóth, 2010; Bredács és Kárpáti, 20*). The results have proved our hypotheses with the exception of the statement related to the *Sense of Coherence (H₇)*.

SUMMARY

Based on the cross sectional examinations, our previous research results and other research carried out abroad we supposed and wanted to prove that the elaboration of a training plan which develops the mental side is timely.

During the cross sectional examinations we tested assorted kayak-canoeists who have stopped doing sports, we wanted to find out more about the consequences of the top level athlete lifestyle. Material for the elaboration of the training programme was collected by exploring the references. The feasibility of the developed programme was checked by performing longitudinal measurements.

On the basis of our previous research results and other tests carried out abroad we supposed that the everyday physical loading affects the mental health. It can be proved that sport helps coping in later civilian life.

Reports of the assorted kayak-canoeists about their most significant success include the same experiences which can also be read about in the publications of *Jackson and Csíkszentmihályi* (2001); *Csíkszentmihályi* (2010, 2013a,b).

In the answers given in the interview the perfect preparation for the competitions and the unstrained challenges without any struggle was highlighted by the athletes.

The basic techniques of canoeing has also developed as well as the equipment (*Granek, 1966; Füzesséri, 1970; Lenz, 2011; Szabó, 2015*). In the process of learning the movements the coach introduces the process of the activity using the specific terminology so the athletes can follow the process that was explained and presented to them.

It has been proved that during the learning of a movement activity it is crucial for the canoeist to know what the coach would like to achieve and understand him.

The probability of experiencing the flow during the learning phase has been increased by the technical safety. During the measurement the Psychological Immune Competency Questionnaire. It was supposed that being used to be an athlete helps the positive changes. Developed psychological immunity has an inducing influence on coping with problems and is related to the frequency of the flow experience (*Oláh, 1999; 2004; 2005; Bredács és Kárpáti, 2012*).

The answers connected to the Sense of Coherence was ranked at the first place by the teachers not doing any sport. The athletes preferred the answers concerning the Sense of Control. They consider the controllability of the things to be important. Creative Self Concept was second for the athletes and the Sense of Growth for the teachers. Athletes were characterized by the pride over their own performance, while teachers emphasized the promotion of their development. Individual professional development was important for both groups. Being used to be an athlete facilitates positive changes. Having this the individuals choose the coping strategy that fits their possibilities the best.

The Psychological Immune Competency Inventory (PISI) indicated the handicap of the athletes with coherence, and the questionnaire has shown the fact that the athletes can feel they can perform better with suitable training methods. However, this fact suggests a coherent personality. Thus the several kinds of research methods (two questionnaires and the interviews) are justified and the efficiency of the training programme can be proved.

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