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CONTENTS

Original research papers

DEVELOPMENT OF NONVISUAL SENSORY SKILL IN FOOTBALL Nilsson J., Gürsoy A. Hermanson A.	3
HIGH-PERFORMANCE SPORT MANAGEMENT IN LATVIA: A REVIEW OF SPORT FEDERATIONS' MANAGERS VIEW Dombrovskā A., Luika S.	17
PECULIARITIES OF SPORT MOTIVATION AND SPORT SATISFACTION OF YOUNG SPORTSMEN IN DIFFERENT BRANCHES OF SPORTS Mėlinis R., Vilkas A.	46
POSITIVE AND NEGATIVE EMOTIONS: A DIDACTIC INTERVENTION IN PHYSICAL EDUCATION Gomez Caravaca A. Romero-Ramos O.	56
PLANNING OF SPORT PREPARATION OF A FORMATION TEAM IN DANCE SPORT: EXPERIENCE OF THE REPUBLIC OF BELARUS Bialiauskis D.	66

Review paper

SPORTS - RIGHT OR PRIVILEGE? SOCIAL STRATIFICATION IN SPORT. CASE OF ROMANIA Rusu O.	83
CURRENT NEWS.....	93
GUIDELINES FOR CONTRIBUTORS.....	94



ORIGINAL RESEARCH PAPER

DEVELOPMENT OF NONVISUAL SENSORY SKILL IN FOOTBALL

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Abstract

The purpose was to study if young football players can develop their nonvisual sensory performance, here defined as control of the ball without visual feedback. In total 20 elite male football players participated in the study. Their mean age (\pm SD) was 12.1 (\pm 0.5) years. The participants were divided into an intervention group ($n=12$) and a control group ($n=8$). The selection of players was based on performance in the non-visual slalom pre-test. The study followed a pre- post-test design in which the intervention group practiced ball control without visual feedback (nonvisual sensory training) three times 30 minutes per week over four weeks as part of their normal training. The control group exercised conventional football training with full vision for the same amount of time. The pre- and post-test consisted of two sub-tests performed with and without visual control: 1) a stationary ball control test and 2) a slalom course ball drive test. The results show a significant improvement in the intervention group in both the stationary ball control test ($p<0.001$ and Effect Size (ES)=1.59) and in the slalom ball drive test ($p<0.004$ and ES=1.09). The control group showed no significant changes in performance between the pre- and post-test.

Conclusion. Nonvisual sensory skill can be significantly improved in 12 training sessions of 30 minutes each in young elite male football players.

Keywords: *nonvisual sensory skill, football, ball control, performance*

Introduction

Typical in football is the perceptual dominance of the visual system used in the control of the ball and in the interaction with the other players. Skilled players collect relevant visual information about the ongoing play to a large extent during a typical football match (Williams et al. 1994, Williams & Davids 1998, Williams 2000, Jordet 2004, Eldridge et al. 2013). Thus, the visual system is dominant in football and due to this, it is plausible that other sensory systems are relatively less stimulated in football training. When the player moves on the pitch without the ball, the perceptual demands may seem fairly easy; however, if a player drives the ball and is challenged by opponent players, the demands increase a great deal, forcing the player that controlling the ball to utilise non-visual sensory systems to control the ball while seeking environmental visual information. Due to the visual dominance in conventional football training, it is reasonable to assume that nonvisual sensory systems may not be developed enough to fully control the ball and to sample information simultaneously with environmental visual information. Therefore, it is important to evaluate the potential of the nonvisual sensory system to adapt to and cope with a greater involvement in the control of the ball in football.

Nonvisual sensory perception enables awareness of whole body and segmental positions and orientations in space by means of the vestibular system, muscle spindles and joint receptors as well as sensation of how hard and fast contact with external objects is by means of receptors located in the skin and projection to distinct areas on the sensory cortex (Latash 2008). Thus, the nonvisual sensory system allows us to sense balance, joint angles, and position of body segments, pressure and speed of impact when we are in contact with the ball. The nonvisual sensory system functions in collaboration with the visual system but can to a certain extent also function alone in the control of the body, which is obvious when someone tries to walk blindfolded in a furnished room. The afferent sensory receptors' subserving nonvisual sensory perception includes receptor systems with afferent spinal input to the reticular formation, cerebellum, thalamic relay nuclei and sensory cortex (Martin & Jessel 1991). Both conscious and subconscious perception exists. Condo and Nashner (1982) found that the latency of postural responses recorded as muscle activation was shorter than what could be expected when higher cortical centers were involved. This indicates that subconscious automatic processing occurs at the spinal, cerebellar and brainstem levels. There is reason to believe that afferent signals are used for both closed loop and open loop control of movements (Ghez & Sainburg 1995, Sjölander & Johansson 1997). Processes at a central level can use afferent information to preset stiffness in muscles in

feed-forward control of movements (Johansson 1993) and not only in feed-back processes. Thus, the above indicate that there is a substantial sensory and neural apparatus that can serve in a restricted visual context and in proprioceptive motor control.

There is a central adaptation that indicates a substantial neuro-cortical plasticity in the form of reorganisation, reactivation and increased number of synaptic connections associated with changes in peripheral afferent input (Merzenich et al. 1983, Bach-y-Rita 1986, Jenkins et al. 1990). In a study by Kapreli and co-workers (2009), patients with unilateral anterior cruciate ligament (ACL) deficiency from a previous injury were compared with matched controls concerning brain activation examined by functional magnetic resonance imaging technique (1.5-T scanner). The results showed that the patients with ACL dysfunction had diminished activation in several senso-motor cortical areas and increased activation in three areas compared with the controls. Thus, injuries affecting different tissues such as ACL can cause reorganisation in the central nervous system including higher brain areas. Another possible central adaptation is called “attention switching”, which is thought to change the nonvisual sensory focus in accordance with performance demands (Wickens 1980). Hypothetically, such mechanisms may improve a nonvisual sensory response to a given movement demand and thus contribute to improved performance. To our knowledge, there is no information to support the assumption that sensor density increases with training, but it may be reasonable to assume that the fusi-motor drive and systematically increased gain in received afferent signals as well as nonvisual sensory attention may respond to training and improve performance (Wickens 1980). Thus, development of the nonvisual sensory system will allow for ball control simultaneously with a visual search of relevant information about the ongoing play. Thus, far less time needs to be devoted to look at the ball in the control of it. This places the nonvisual sensory system in the foreground as being an important interacting system with the visual system in football. The above information about neuronal sensory system and brain plasticity (Merzenich et al. 1983, Bach-y-Rita 1986, Jenkins et al. 1990, Kapreli et al. 2009) indicates that this could be developed.

Surprisingly little research has focused on the nonvisual sensory system and its function in football. Barfield and Fischman (1990) studied the interaction between vision and proprioception in terms of ball control and positioning of the foot in a simple soccer moves. Skilled and novice football players participated in an experiment with full vision and restricted vision. The skilled players made fewer errors compared with novice players, and all players made fewer control errors with full vision compared with

restricted vision. Williams and colleagues (2002) conducted two experiments on lower limb action with full vision and restricted vision. In the second experiment, 12-year-old players practised under full vision or in a condition where sight of the foot was occluded. The results showed that players who practised under occluded viewing conditions showed greater relative improvement in performance compared with a full vision control group. Thus, the research of Barfield and Fischman (1990) as well as of Williams et al. (2002) indicates that skill level and training under occluded viewing conditions influenced performance. Another indication of the possible importance of nonvisual sensory skill in football was improvement in technical football skills after a period of nonvisual sensory skill and balance training (Evangelos et al. 2012). Paillard and Noé (2006) compared football players of different rank with respect to body posture and stature while they balanced on one leg. The highest ranked players used different movement strategies compared with the lower ranked players. This may be due to a difference in nonvisual sensory system development. In a study by Han and co-workers (2013), so-called proprioceptive sensitivity was analysed among 100 athletes from different sports and skill levels. The results showed no significant differences between sports; however, they did show significant differences between athletes at different skill levels. A similar study was conducted by Muaidi et al. (2008), but here the focus was on sensitivity in knee angular displacement. The aim was to find out how the level of football performance was statistically associated with knee joint sensitivity. Their results in the study confirmed a significant positive association. Together, these studies indirectly confirm that nonvisual sensory skill might be a factor of importance in football performance and as such it is of interest to explore further in a specific study if this factor develops with training. Therefore, the purpose was to study if young football players with specific training can develop their nonvisual sensory performance in terms of their ball control without visual feedback.

Materials and Methods

In total, 20 young players from an elite male football team participated in the study. Their mean (\pm SD) age was 12.1 (\pm 0.5) years. The participants were divided into an intervention group ($n=12$) and a control group ($n=8$) with an average age of 12.2 and 12.0 years, respectively. The selection of players to the intervention group and control group was based on the performance in one of the tests (non-visual slalom test, see below). The aim of this selection was to have two groups with similar performance levels in the intervention parameter non-visual ball drive control.

The test procedures and training were approved by the players and their guardians. The design and procedures in the study were approved by the Regional Ethical Review Board in Uppsala, Sweden.

Test design and procedures. The study followed a pre- and post-test design in which the intervention group trained 30 minutes specific nonvisual sensory skill training within their normal training sessions three times a week over four weeks: thus, in total six hours of specific nonvisual sensory skill training with specially constructed glasses, which, when used correctly, prevented the players from seeing the ball while controlling it. Simultaneously, the control group received the same amount of training, but theirs was conventional football training, with full vision. The players in the control group agreed not to train with visual constraints between the pre- and post-test.

Three days before the pre-test, all participants were instructed in the test procedures and were acquainted with the test exercises and test glasses in one specific training session of approximately 30 minutes.

The participants performed conventional warm-up exercises before the pre- and post-test and in addition they were given five minutes to warm up for the test exercises. Each test exercise was first performed with full vision and subsequently with visual restriction. All tests were filmed with a video camera at 50 Hz time resolution, and the video recordings were stored for subsequent analysis.

The pre- and post-tests consisted of two exercises:

1) *Stationary ball control.* The participants performed a sole and ball backward draw followed by a forward inside-foot diagonal kick to the contralateral foot, repeating the same procedure as the ipsi-lateral foot completing one cycle. The whole test procedure was performed inside a wooden frame ($1.04 \cdot 0.88 \cdot 0.07$ m) (see Figure 1A). All players were instructed to perform as many cycles (rounds) as possible in 60 seconds. The test was first performed with full visual control and subsequently with full visual restriction by means of a blindfold to obstruct vision completely (Figure 1A). During the test, the participants were easily able to regain the ball in the frame by probing with their feet. If the ball was dropped outside the frame, it was put back by one of the experimenters, and the participant was able to continue with the test. The number of dropouts was recorded. Whenever the ball was found outside the frame, the time was paused from the moment the ball left the participant's foot until an experimenter returned it to the same foot of the participant. When the participant was able to continue the movement, the time-recording started again.

2) *Slalom course ball drive* (Figure 1B). The participants were instructed to drive the ball through a slalom course (total length = 16.5m,

1.5 m between each gate) as fast as possible. This was first performed with full visual control and subsequently with special “glasses” made of foam rubber (Figure 1C) that allowed the participants to see only the direction of the course when used correctly. The participants with the glasses were instructed to tilt their head forward while standing 0.3 m from the ball until they saw the top of it (Figure 1D and E).

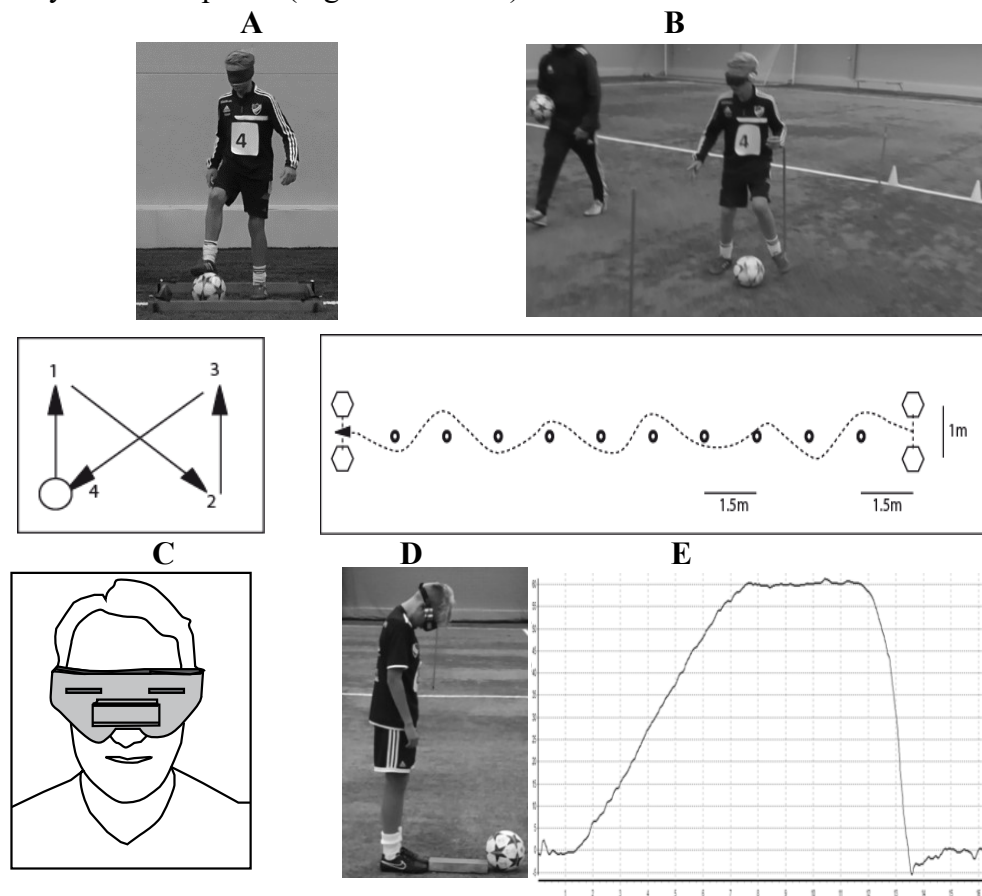


Figure 1. A) Stationary ball control inside a wooden frame (size inside the frame: $1.04 \cdot 0.88 \cdot 0.07$ m). The arrows in the top view lower inset figure show the order and ball direction for one cycle. The number of cycles over 60 seconds was recorded. B) The slalom ball drive. The total distance was 16.5 m from start to finish interspaced with ten gates. C) Foam rubber test “glasses” used in the slalom ball drive test. D) Test setup that allows for detection of the forward tilt of the head needed for a player to see the ball using the test glasses controlled by a gyrodevice. E) Typical angular displacement output from the gyroscope and software during the calibration procedure. The units on the abscissa is seconds and on the ordinate show arbitrary values for angle in degrees. The same ball brand (Adidas, Champion’s League Top Training), ball size (size: 4) and pressure inside the ball (0.8 Bar) were used in all tests.

This was filmed in the sagittal plane and simultaneously recorded with a gyroscope (X-IMU, x-io Technologies, UK) that communicated with a PC by means of Bluetooth signals that together with software automatically calculated the pitch angle when the ball was seen. The mean (\pm SD) pitch angle for the participants was $62.3 (\pm 4.2)$ degrees from the horizontal level.

This procedure made it easy for the experimenters to subsequently detect when the participants looked at the ball during the test in the analysis of the video recordings. If the participants dropped the ball away from the slalom course, they normally looked down to find the ball. The number of gazes for each participant was recorded. When the ball was dropped outside the course, the experimenter put it back to the place where it was dropped, and the participants continued from there. The time for this procedure was subtracted from the test time by means of the subsequent video analysis. The number of dropouts from the course was also recorded.

The reliability of the stationary ball control and the slalom course ball drive tests was analysed in the intervention group by means of a test-retest procedure performed by 10 players within 48 hours. The correlation coefficient was 0.87 and 0.81, respectively. The reliability in the judgement of the two researchers who conducted the video analysis was established through a comparison of the judgements of gazes in the non-visual stationary test and slalom course, and the correlation coefficient between the judgements of the two experimenters was 1.0 in both cases.

All the tests in the pre- and post-test protocol were conducted on artificial plastic turf and indoors in the same football hall.

Training design for the intervention and control group. All players in the intervention group wore the specially designed vision restricting glasses throughout the training session of 30 minutes. Each training session of nonvisual sensory skill in football started with a warm-up part of 6-7 minutes in which the 12 players started with one ball each that they moved around and controlled. Subsequently, the same players used 8 balls, which were passed around among them. Each time a player received a ball, then performed 1-3 ball touches with his feet before passing it to another player (6 minutes). All players in the intervention group were then subdivided into three sub-groups and performed three exercises, each one taking about 6 minutes. In one exercise, the players had to drive the ball through a slalom course. In another exercise, the players had to play a small-scale game (2 vs 2 players) on a small area ($11 \cdot 7$ m) with small pop-up goals. In another exercise, the players soled and kicked the ball in a frame. Approximately 3 minutes were used to move between and to begin new exercises. The training was filmed in order to estimate the number of repetitions for each exercise, which was based on three randomly chosen players. In the

stationary ball control exercise, the players were activated on average 85 % of the time. In the slalom course ball drive exercise, the players completed on average 16.7 laps. Finally, the players in the small-scale games completed on average 68 touches, passed the ball 10.7 times and drove the ball 34.1 seconds. The control group's training comprised conventional football with full vision over the same amount of time as the intervention group practiced their nonvisual ball handling. Subsequently, all players in the team (intervention and control group) continued with conventional team training.

Statistics. Conventional descriptive statistics was used to calculate the mean and standard deviation (SD). The statistical calculations were performed with the Statistica 12.0 software package (StatSoft Inc. US). All distributions were tested for normality before parametric statistical calculations were made. The statistical significance between the pre- and post-test results was calculated by means of Student's t-test and the alpha level for assumed statistical significance was set at 0.01. In addition, effect size (ES) was used to evaluate changes between pre- and post-test results (Cohen 1977), where 0.5 is regarded as a significant learning effect and 0.8 as a significant high learning effect.

Results

In the non-visual stationary ball control test, the results show a significant improvement for the intervention group ($p=0.001$, $ES=1.59$) of 50.9% between pre- and post-test. Corresponding changes for the control group were not significant ($p=0.306$, $ES=0.19$), with a 4.7% reduction in performance in the post-test. The average number of ball drops for the intervention group in the pre- and post-test was 0.2 and 0.4, respectively. The corresponding number of ball drops for the control group was 0.3 and 0.5, respectively.

When the stationary ball control test was performed under visual control pre- and post-tests, the intervention group showed an improvement of 22.5% ($p=0.00004$, $ES=2.13$), while the control group showed a non-significant reduction in performance of 0.5% ($p=0.845$, $ES=0.04$). The number of ball drops for the intervention group and control group pre- and post-tests averaged 0.1 and 0.1, respectively.

In the slalom ball drive test with visual restriction, the intervention group significantly improved the results in the post-test compared with the pre-test by 24.9% ($p=0.004$, $ES=1.09$). The control group showed a reduction in performance of 12.6% in the same test situation, which was not significant ($p=0.105$, $ES=0.55$). The number of ball gazes in the ball drive test was on average 1.5 and 0.8 for the intervention group in the pre- and

post-tests, respectively. The corresponding number of gazes for the control group was 1.3 and 0.4 in the pre- and post-tests, respectively.

In the slalom ball drive test with no visual restrictions, the intervention group showed a non-significant improvement of 0.9% ($p=0.825$, $ES=0.08$), while the control group showed a non-significant reduction in performance of 3.1% ($p=0.575$, $ES=0.4$). The number of ball drops in the full visual pre- and post-test for the intervention group was on average 0.2 and 0, which corresponded to 0 and 0 for the control group.

In the stationary ball control test, the ratio between the number of cycles in non-visual versus visual conditions increased significantly from 0.60 to 0.72 (20%) for the intervention group ($p=0.049$).

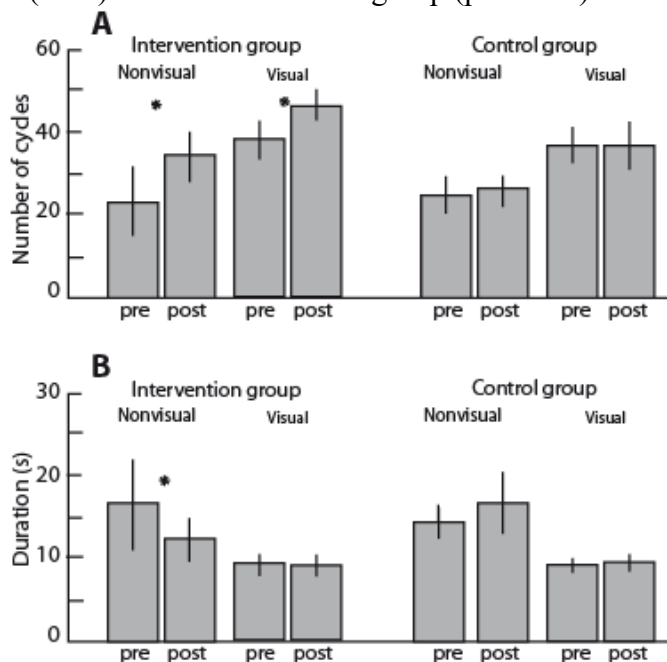


Figure 2. Pre- and post-test results of (A) stationary ball drive control number of cycles in the wooden frame over 60 seconds and (B) Slalom course ball drive for the intervention group and control group. *=Significant difference ($p < 0.01$).

The ratio for the control group increased from 0.64 to 0.67 (5%) but was not significant ($p=0.583$). In the slalom drive ball test, the ratio between time to finish the slalom course in non-visual versus visual conditions decreased significantly from 1.91 to 1.45 (24%) for the intervention group ($p=0.015$) between pre- and post-test. The corresponding ratio for the control group showed a non-significant increase of 6% from 1.49 to 1.58 ($p=0.794$).

Discussion

The present study showed significant improvements among players in the intervention group concerning nonvisual stationary ball control and slalom ball drive of approximately 50 and 25%, respectively. No significant changes occurred in the control group, indicating that nonvisual sensory skill training influenced the ability to perform in the present non-visual test exercises, which was specific for the intervention group and showed that the research question can be answered affirmatively.

In our study, the intervention group showed significant improvements in the development of nonvisual sensory skill in stationary ball control and ball drive in a slalom course. The training in the intervention group included the test exercises (20 plus 20% of the training time) due to their relevance for ball control in football. However, the improvements in these two exercises shown by the tests may be influenced by the specific training the footballers received in the test exercises. If this were the case, an improvement in the tests with no visual restrictions would probably occur. A significant improvement was seen in the visual stationary ball control test, but not in the visual ball drive test. The significant improvement seen in visual performance in stationary ball control, but not in the slalom course, for the intervention group indicates that the transfer of learning improvement process is at least not uniform. One reason for this may be that the specific training of stationary ball control and slalom course ball drive was together only 40% of the training time. Furthermore, the control group's lack of improvement demonstrates that they did not develop between the pre-test and the post-test, indicating that the testing did not result in learning.

The ultimate training result for the intervention group is that the performance during non-visual conditions is as good as during full visual feedback conditions. Thus, it should not matter whether or not the player sees the ball while controlling it. This means that the nonvisual sensory system has reached an extreme level of development, which may be useful in football as it would allow visual information to be collected to a large extent simultaneously with nonvisual sensory control of the ball. In the test exercises, this ratio between full vision and nonvision improved with training as the participants in the intervention group performed the slalom course without visual feedback in a shorter time during the post-test compared with the pre-test and in the stationary ball control test, the performance in the intervention group improved under both visual and non-visual conditions.

Previous research indicates that there seems to be an association between skill in football and postural control (Paillard & Noé 2006, Biec'

and Kuczynski 2010) as well as in performance level and so-called proprioceptive sensitivity (Han et al. 2013, Muaidi et al. 2008). This justified the aim of this study to investigate nonvisual sensory response to training. In addition, the study by Barfield and Fischman (1990) shows that skilled players made fewer errors while controlling the football. This study also showed a reduced performance when the ball was controlled under restricted viewing conditions, which was also observable in the present study. Williams and co-workers (2002) showed that training under restricted viewing conditions resulted in a larger relative improvement compared with training under full vision. A significant improvement was also shown in the present study after nonvisual sensory training.

A hypothesis, forwarded by Proteau et al. (1998), states that a decrement in performance will occur when a specific important source of afferent information (e.g. sight of the foot), available during training, is removed. According to Proteau's hypothesis, the decrement in performance will occur with practice under restricted viewing conditions. This hypothesis was not supported by Williams et al. (2002). In addition, the results in the present study showed that training under nonvisual conditions left performance under visual conditions unchanged or improved (see Figure 2 A and B). The latter is supported by the data of Bennett et al. (1999) and Williams et al. (2002). In contrast to Proteau's hypothesis, it seems that restriction in visual feedback may have enabled an exploitation of alternative sources of afferent information. This supports the hypothesis presented in the present study that restriction in viewing conditions will allow the nonvisual sensory system – for example, proprioception – to develop. Furthermore, it is reasonable to assume that a development of nonvisual sensory skill will be beneficial to ball control during full visual conditions as well, which is evident at least with the stationary ball control in the present study.

The impact on improvement in motor performance under nonvisual conditions shown by Bennett et al. (1999), Williams et al. (2002) and the present study indicates the importance of the sensory information in motor performance, which was previously also claimed by, for example, Henriques and Cressman (2012). They pointed out that sensory plasticity and particularly proprioceptive recalibration play a unique and important role in motor learning. The improved performance in full-vision stationary ball control in the intervention group indicates that manipulation with visual restriction can improve motor performance. At this stage, it is not possible to exactly pinpoint where the changes are in the neuro-motor system or what they are.

In a match situation, a player's increased ability to control the ball without visual control has the potential to increase the time that is available for the visual system to obtain information about ongoing play. However, there is no guarantee that an increase in nonvisual sensory competence will automatically change the visual scanning patterns in football. This study shows only that training of stationary control and drive of the ball on the pitch can be improved by nonvisual sensory training. This will only indirectly show that there is a potential for this to happen during an authentic match. Further research is needed to study if the real visual scanning pattern changed during a match or match-like situations after nonvisual sensory training.

Previous information about sensory manipulation (Barfield and Fischman 1990, Bennett et al. 1999, Williams et al. 2002), as well as the results from the present study, is important for practitioners in the design of this type of training and in the periodisation of it. Future studies where the intervention period is longer and is also repeated may reveal new features in the nonvisual sensory skill adaptation to training.

Conclusion

Nonvisual sensory skill in stationary ball control and driving the ball in a slalom course can be significantly improved in 12 training sessions of 30 minutes each.

What does this article add?

The results in this study clearly show that the control of the ball in typical football movements without visual control can be improved significantly in a relatively short period of time. This knowledge indicates that sensory information other than information through the visual system can contribute to the control of the ball in football. Perhaps players with high nonvisual sensory competence will be able to control the ball in a match situation and simultaneously be able to seek valuable visual information about the ongoing play. The latter requires further research.

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ORIGINAL RESEARCH PAPER

HIGH-PERFORMANCE SPORT MANAGEMENT IN LATVIA: A REVIEW OF SPORT FEDERATIONS' MANAGERS VIEW

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Abstract

The current economic environment throws a sharper focus on sport management and the performance of sport organizations than ever before. All governments play an active and a crucial role in developing and supporting the sporting life of their nations. This is true at the high-performance level and in community sport systems for people of all ages and abilities. Growing body of literature highlights the importance of sport organizations in high-performance sport management and success. Robinson, Chelladurai, Bodet, and Downward (2012) point out that there is no model of governance that will transform a poor-performing organisation into a pillar of high-performance. The performance of the board is almost entirely dependent on the people involved; models or frameworks can only help them by providing tools to work with. The purpose of this paper is to examine the process of Latvian high-performance sport management from an organisational perspective of 89 national sport organisations - recognised sport federations. The study is based on a review of laws and regulations and a survey. Managers of sport federations were contacted to complete an online survey, a questionnaire related to theoretical issues. Overall, 50 federations completed the questionnaire. The data were analysed with the method of descriptive statistics. The results show that it is necessary to pay more attention to specific factors – the high-performance sport development planning in the long-term, involving more participants in the sport; development of talent recognition, sport development system in the country, and athlete support during and after career. In order to provide high quality training opportunities, it is necessary to ensure education for coaches and develop sport infrastructure. Also, it is essential to ensure scientific support for sport.

Keywords: *high-performance sport, high-performance sport system development factors, high-performance sporting success*

Introduction

The delivery of sporting opportunities tends to fall into three main sectors which, according to Robinson et al. (2012), are characterized by different principles, different objectives, and different governance methods. The work of local authorities, municipalities, and schools are components describing the first sector. The second is the private or commercial sector, primarily consisting of the health and fitness industry and professional sport leagues. The third is the voluntary sector, primarily made up of clubs and national federations. It is, however, more complex than this as it is often difficult to determine what sector an organization operates within.

The universal principles of good governance articulated by the International Olympic Committee include having (a) vision, mission and strategy, (b) appropriate structures, regulation and democratic processes, (c) highest level of competence, integrity and ethical standards at every level of the organization, (d) being accountable, transparent and in control, (e) focused on solidarity and development, (f) caring for athletes and allowing their participation in governance, and (g) cultivating harmonious relationship with governments while preserving autonomy (International Olympic Committee, 2014).

Management can be considered as a formal process that occurs within organizations in order to direct and organize resources to meet stated objectives. Different working spheres and objectives of sport emphasize the need for planned and careful sport management. The field of sport management has changed significantly over the past few decades, becoming more formalized better planned and arguably more professional (Robinson et al., 2012). With the increasing level of investment in national high-performance sporting systems it is not surprising that governments, the principal investors, have been keen to learn from successful sporting nations (Aquilina & Henry, 2014).

Nowadays, the high-performance sport is completely dependent on systems of people and resources that are directed at athletes. While the Olympic medal can be given to an individual sport athlete, in reality it is a reflection of a process and a team, which have supported the particular athlete, and its success. Behind every athlete is a team. It is a system starting from athletes, coaches, medical staff, equipment provision, science and technology, managers and organizations, sponsors, marketing, business, and also mass media and journalists, fan clubs, and society. The sport

development system, also known as “totalization process”, urges the athlete to be a part of an enormous team or organization, which is competing with each other in different ways – not only in the sport environment, but also in mass media, for sponsors and politics. Often athletes are the spectators of their own career development (Joyce & Lewindon, 2014).

Athlete representatives (within the property rights holder’s executive board (e.g., International Olympic and Paralympic Committees; Commonwealth Games Federation)) have an important role in preparing athletes to deal with the new realities of competing in major sport event competitions. Therefore, there comes a need to have a strong working knowledge of how national sport governing bodies function, of the governance structure and policies that impact the athletes they represent (Ferkins & Shilbury, 2012). The athlete representatives’ role is multifaceted and demanding. Some of the current functions of the athlete representatives include the development of national level athlete engagement models, career and post career transitioning, assisting in host city selection, discussing future Games with the host organizing committee, contributing to governance decisions, ensuring the fulfilment of the strategic plan, mission, vision and values, and advocating for athletes’ rights (MacIntosh & Weckend Dill, 2015).

It could be argued that the literature on organizational effectiveness would provide a list of activities a sport governing body should carry out. Unfortunately, that is not necessarily the case. For instance, the model of goal effectiveness focuses on the attainment of stated goals, while the system resources model stresses the resources necessary to carry out organizational activities, and the process model emphasizes the logic of internal processes linking the resources to desired outcomes (Chelladurai, 1987).

SPLISS project – research that has determined the dimensions of a high-performance sport system in order to manage high-level performance perceived to be necessary:

- Financial support;
- An integrated approach to policy development;
- Participation in sport;
- Talent identification and development system;
- Athlete career and post career support;
- Training facilities;
- Coaching provision and coach development;
- (Inter)national competitions;
- Scientific research and innovations.

SPLISS model can be used to evaluate national high-performance sport policy (De Bosscher, Bingham, Shibli, van Bottenburg, & De Knop, 2008).

Smolianov and Zakus (2008), made a “Model of Integrated High-performance Sport and Mass Sport Development” by mixing the previously made models that have been used to analyse and compare the national high-performance sport systems. Their model reflects the hierarchy of high-performance sport system development:

- Balanced and integrated funding and structures of mass and high-performance sport;
- Partnerships with supporting agencies;
- Educational, scientific/medical, philosophical, promotional support;
- Domestic and international competitions;
- Training centres and multi-facility activity hubs;
- Talent identification and development;
- Advanced athlete preparation and support;

The model includes the foundational necessities of national sport systems with a value the country places for the sporting success in different sports (Smolianov, Gallo, & Naylor, 2014). It is important to note that the above-mentioned factors are not the only ones included in different models and different authors' variations.

Before examining the existent situation of each factor in detail, it is important to primarily consider the management and the structure of sport in Latvia to set a context for the discussion around the various factors.

The term – “sports” in Latvia is understood as all types of individual or organised activities for person's physical and mental health, as well as to achieve success in sports competitions (LR Saeima, 2002). The goal of the Latvian national sports policy is the formation of healthy, physically and mentally highly developed personalities.

The general legal basis of sports organisation and development in Latvia is determined by the Sports Law, adopted in 2002. The purpose of this Law is to specify the general and legal basis for sports organisations and development, mutual relationship of sports organisations, the State and local government institutions and basic tasks in sports development, and the basis for the financing of sport, as well as the principles that shall be observed when taking part in the international sports movement (LR Saeima, 2002).

The Ministry of Education and Science is the state administration institution responsible for the area of sports as it is stated in the Sports Law

(The Ministry of Education and Science, 2016b). The latest Sports Policy Guidelines were created by the Ministry for the period of 2014–2020. It is a medium-term planning document of policies that regulates the sport politics in the State during the closest two Olympic cycles. This document addresses the promotion of children and youth sport, sport for all, and also the high-performance sport. This is the only document in Latvia in which the term – high-performance sport is defined – “youth (15 years old, in some sports from the age of 12), junior/cadet and adult/national team candidate, and participant preparation to represent the country and participate in international sports competitions in order to achieve high results and everything related to training – training and work, contest organizational, methodological, financial, scientific, medical, technical, etc. provision accordingly to outstanding achievements in sports criteria” (Cabinet of Ministers, 2013).

“Latvian Olympic Committee” by the Sports Law is committed to implement the programme for the participation of the State’s best athletes in the Olympic Games, youth Olympiads, and other international and regional complex competitions. However, this is just one out of five programmes the committee has to implement by combining the State’s, local governments’, and its own financial resources (LR Saeima, 2002). For the implementation of the Olympic programmes and events, Latvian Olympic Committee receives funding from the general budget of the State, International Olympic Committee, donations, and its own generated income (Latvian Olympic Committee, 2016).

The preparation of the country’s best athletes for participation in the Olympic Games, youth Olympiads, and other international sports competitions in the individual Olympic sports shall be ensured by the specialised sports organisation – the limited liability company – “Latvian Olympic Team” (LR Saeima, 2002). The main task of the unit is to support the best Latvian athletes organizationally and financially with an aim to improve the quality of trainings as it could lead to high-performance success in official international competitions (Latvian Olympic Team, 2004). This organisation has its own criteria, and not every athlete can fulfil the requirements to get the support.

Sport federations in accordance with the Sports Law are sport organisations. The non-governmental organization “Latvian Council of Sport Federations” coordinates the activities of the sports federations recognised in Latvia, represents and implements their shared interests. “Latvian Council of Sport Federations” is an independent union of 89 sports federations of the sport sector recognized in accordance with the procedures set by the regulatory enactments, which, in accordance with the Sports Law,

represents and implements common interests of these federations. The aim of “Latvian Council of Sport Federations” in Latvia is to unite all recognised federations to accomplish the highest sporting goals (Latvian Council of Sport Federations, 2016).

A sports federation is an association, which is composed of sports clubs and other legal persons, the work of which is associated with a specific type of sport or field of activities. The purpose of association is to manage and coordinate the work in the relevant type of sport or field of activities, as well as to represent such type of sport or field of activities in the relevant international sports organisations. A sports federation may represent several types of sport or fields of activities (LR Saeima, 2002). A sports federation has the right to manage and coordinate the work in the relevant type of sport (in the relevant types of sport) or field of activities in the State, as well as to represent the State in the relevant international sports organisation if such federation has been recognised in accordance with the procedures specified in this Law.

The Sports Law determines that only one sports federation may be recognised in one type of sports or field of activities.

A sports federation shall be recognised if it meets the following criteria:

1. the objective of activity specified in the statutes of the sports federation is the development of the relevant type of sport (the relevant types of sports) or the field of activities in the State;
2. the sports competitions are organised in the type of sports represented by the sports federation or in the field of activities thereof;
3. the term of office of the executive body specified in the statutes of the sports federation does not exceed four years;
4. the members of the sports federation are only legal persons;
5. the head of the sports federation is a citizen of the Republic of Latvia;
6. merchants in the sports federation form not more than a half of the total number of the members of the sports federation;
7. the sports federation observes the requirements of anti-doping in the activity thereof;
8. the information regarding the sports federation and the events organised by it is available on the Internet.

A decision regarding the recognition of a sports federation, refusal to recognise it or a decision regarding the withdrawal of the status of a sports federation shall be taken by the association “The Council of Sport Federations”. The Cabinet shall determine the procedures for the recognition

of a sports federation. It is mentioned in the Sport Law that the field of activity of the recognised sports federations shall be controlled by the association “The Council of Sports Federation”. The Cabinet shall specify the procedures, by which the activities of the recognised sports federations in the field of sports shall be controlled (LR Saeima, 2002). Sports federations recognised in Latvia have the right to receive financial resources from the State budget. The Council of Sport Federations annually summarizes the information regarding the activities of sport federations and distributes the intended federation funding on the basis of the criteria created by the board within the framework of the State budget programme (Latvian Council of Sports Federation, 2016).

In order to investigate the management of the high-performance sport in Latvia, sport statistical factor analysis in the context of specific factors defined by the theory was carried out – financial support, an integrated approach to policy development, participation in sport, talent identification and development system, athlete career and post career support, training facilities, coaching provision and coach development, (inter)national competitions, scientific research, and innovations.

Financial support

Factor 1 is concerned with measuring the financial support made by nation in sport generally and in high-performance sport specifically.

The regulation that the Saeima adopts every year is the one regarding the State budget, and it also involves the sport sector – the programme “Sport” with one of the sub-program “High-performance sport”. In the sub-program “High-performance sport” the priority is set to support the programmes of Latvian Olympic Committee (including TOP50), Latvian Olympic Team and Latvian Olympians Social Fund (The Ministry of Education and Science of Latvia, 2016a).

Besides state funding, there are also other sources for funding the sport (according to the Sports Law, funding for sport is also provided by the funding of municipal, legal and physical entities, sport organisations and provisions from international sport federations) (LR Saeima, 2002).

Table 1.

Funding from the State for sport and high-performance sport (The Ministry of Education and Science of Latvia, 2016a)

Year	Funding for Sport (EUR)	Funding for High performance sport (EUR)
2013	25.244	4.759
2014	36.304	5.223
2015	31.949	5.980
2016	36.893	6.558

The vast majority of funding for high-performance sport tends to be derived from central government. Table 1 shows what is the amount given to high-performance sport from the total. It is the quantification of this data that is most important for Factor 1.

An integrated approach to policy development

Factor 2 is concerned with the organisation and structure of sport. At a strategic level it is thought that for nations to have a realistic chance of high-performance sporting success, an appropriate lead needs to be given by governments.

According to Oakley and Green (2001) and Clumpner (1994), it is particularly important to delineate clearly the responsibilities of different agencies, to ensure there is effective communication between them, and to simplify administration. In 2002, the principal normative act in sport was issued – the Sports Law, which determines organisational and legal basis for sport, the mutual relations between sport social organisations and the state and municipal institutions, funding and participation in the international sport movement.

The Sports Law determines that the Ministry of Education and Science is the state administration organisation responsible for the sport sector. The most important collaboration partners of the Ministry are the Latvian Olympic Committee, the Latvian Sports Federation's Council, the Latvian Paralympic Committee, the Latvian Olympians Social Fund, the Latvian Team Sport Games Association, and the Directors' Council of Latvian Sports Education Institutions. In 2016, approximately one hundred non-governmental sports organisations were active, including 89 sports federations accredited following the Sports Law procedure. Non-governmental sport organisations perform the tasks delegated by the state and defined in the Sports Law (Cabinet of Ministers, 2013; The Ministry of Education and Science of Latvia, 2016a). In turn, the Latvian National Sports Council was created to facilitate collaboration between the governmental and the non-governmental sport organisations, which is an international consulting institution, participating in the development of the governmental politics in sport, and facilitating the development of sport and collaboration in the sport sector, as well as making decisions on sports-related issues (Cabinet of Ministers, 2013).

In 2009, the Ministry of Education and Science developed important legal acts regulating the sport sector – laws, regulations, and guidelines of the Cabinet of Ministers, as well as initiating the development and completion of several legal acts regulating the sport sector. Currently, over 40 normative acts regulate sports activity in Latvia (Luika, 2012).

The medium-term planning document of policies that regulates the sport politics in the State during the closest two Olympic cycles is “Sports Policy Guidelines”. The latest guidelines were created by the Ministry of Education and Science in 2013 for the period of 2014-2020. The guidelines include the main principles, goals, directions, target groups and priorities, action directions and tasks for achieving the goals of sports policy and problem resolution (Cabinet of Ministers, 2013).

Participation in sport

In Factor 3, the focus is on sport at three levels: sport during or after school time, non-organised sports participation and organised sports participation.

Albeit the relations between the “high-performance sport” and “sports for all” are undefined, most high-performing athletes originate from grassroot sport competitions. The importance of grassroot sport is likewise confirmed by de Coubertin’s assertion that, for one hundred people to turn to sport culture, it is necessary that fifty people engage in sport, and, to engage fifty people in sport, twenty must specialise in it and five must achieve high results (The Olympic studies centre, 2017).

The main guidelines of sport politics for 2014-2020 on priority directions in sport politics in Latvia declare the development of Children and Youth Sport and Sports for All. The aim of sports politics defined in the main guidelines is to increase the proportion of Latvian residents who participate in physical or sports activities at least 1-2 times a week (Cabinet of Ministers, 2013). Table 2 shows the number of sports participants registered by the sport federations in 2013-2016.

Table 2

Number of participants in sport federations (LCSF meetings)

Year	Number of participants	Number of participating youths
2013	109488	67817
2014	106812	65799
2015	121378	73596
2016	125850	74309

Talent identification and development system

Factor 4 is concerned with two aspects of elite sport development: first talent identification, and second talent development.

One of the most important challenges high performance sports system faces is the way of retaining young, talented athletes in sport and not leaving it when growing up (Bergsgard, Houlihan & Mangset, 2007).

The system of selecting athletes enables finding talents in sport, to direct young athletes to a sport that meets his/her abilities best.

Selection in sport determines not only the usefulness of practicing a particular sport type, but, mainly, the finding of the potential options for the future athlete, namely, planning and forecasting (Nikiforova & Žīdens, 2004).

The development of the Children and Youths Sports in Latvia is based on professionally-oriented sport education. Among other things, the acquisition of professionally oriented sport education is a way of raising a new generation of high-performing athletes (The Ministry of Education and Science of Latvia, 2014). The number of professionally oriented sport education institutions (sport schools) and sport clubs and their participants is shown in Table 3.

Table 3

Professionally oriented sport education institutions (sport schools) and sport clubs and their participants (The Ministry of Education and Science of Latvia, 2017b)

Year	Sport schools and sport clubs	Number of participants
2013	91	32912
2014	101	34288
2015	380	20946
2016	266	41679

The Ministry of Education and Science has the only state-established and state-funded general education and sport education institution under its control. The aim of the gymnasium is to organise the process of education following the standards and programmes defined in the state for general education and general educational subjects. The main directions of the institution's activity are educational, sport and instructional activities. The process of education is subjected to conditioning athletes following the specific requirements of various sports. The aim of the educational institution is to facilitate the achievement of sporting results in Olympic sports and the creation of an educational environment (Murjani State Gymnasium, 2009).

On 16 November 2015, based on Order No. 721 of the Cabinet of Ministers, the Government examined and supported a conceptual report prepared by the Ministry of Education and Science on the creation of a system of centres for preparing high-ranking athletes. The conceptual report is developed following the Main Guidelines for Sport Policy in 2014-2020. The report envisages the creation of centres for preparing high-ranking athletes (further – Centres for Preparing Athletes), which will provide high-quality environment and amenities to facilitate the development of excellence among young athletes. The aim of creating Centres for Preparing Athletes is to develop a high-quality system for preparing high-ranking

athletes in Latvia, providing initial conditions for the development of internationally competitive athletes (Cabinet of Ministers, 2015; The Ministry of Education and Science of Latvia, 2015). Up to 31 December 2017, the first stage of introducing a system of centres for preparing high-ranking athletes takes place in Ventspils and Valmiera, and it involves 32 young athletes in five Olympic disciplines – weightlifting, track and field athletics, short track speed skating, BMX and swimming (Latvian Council of Sports Federations, 2015).

Athletic and post career support

Factor 5 is concerned with support for athletes during and after their sporting career. Support means not only funding but also the possibility of benefitting from necessary services on a daily basis, for instance, medical provisions, insurance, psychological support, consulting for career opportunities, media trainings, and availability of sport infrastructure. In many sport disciplines the competition level necessary to reach the podium requires from athletes complete devotion to sport and full-time training (Houlihan & Green, 2008). However, in only a few disciplines and only a few athletes are able to earn their living due to career income. Due to this reason, the state provides financial support to athletes to ensure the daily availability of the necessary services and to cover their expenses (De Bosscher et al., 2008).

In Latvia, the state support for preparing athletes and ensuring the process of training is provided following the procedure set in the Sports Law using the mediation of accredited sport federations. Municipalities likewise provide substantial investment into preparing athletes and ensuring the progress of athletic accomplishment. The aims and tasks of the support programme for the best athletes by the Latvian Olympic Committee is the creation of a national selection system for high performing athletes following the LOV criteria; provision of working environments for athletes' training; provision of participant expenses for Olympic qualification competitions; medical provision and insurance, and maintenance of information exchange between the International Olympic Committee, the Latvian Olympic Team, and national and international sports federations (Āķe – Vīksne, 2012).

The Ministry of Education and Science maintains specialised sport organisation: performance of the sport programme of the Latvian Olympic Team (LOT), supporting, following the LOT criteria, the best national athletes in individual Olympic discipline in their preparation for participation in the Olympic Games, the World and the European Championships and other international competitions, as well as substitute athletes and their trainers, while also providing benefits for veterans in sport

for their life-long investment in sport (The Ministry of Education and Science of Latvia, 2016b). Latvian athletes, their trainers and sports employees providing services to athletes, including medical employees, service staff and the respective sport federation are allocated annual monetary prizes for excellent achievements in sport (LR Saeima, 2002).

The Latvian National Sport Council at the meeting on 17 September 2014 decided to support financially the performance of athlete support programme of the Latvian Olympic Committee pilot project "Top 50" (Latvian National Sport Council, 2014). The mission of the newly created programme "TOP 50" was to provide additional financial support to the most talented and best athletes and teams in Latvia, to ensure all the necessary amenities for the process of preparing athletes on their way to the Olympic Games with the aim of winning Olympic medals (Latvian Olympic Committee, 2015). To facilitate the combination of studies and athletic development by high-performing athletes, the LCSF allocates, from 2007 onwards, bursaries for athletes-students. Table 4 shows the amount of allocated bursaries and the number of students who received the bursaries in 2013-2016. The bursaries are allocated from state budget grant sub-programme "Sport Federations and Sport Events" (Latvian Council of Sports Federations, 2015).

Table 4
Number of sport bursaries and funding amount of the LCSF (LCSF meetings)

Year	EUR	Number of students
2013./2014.	33153	38
2014./2015.	36600	35
2015./2016.	39800	44
2016./2017.	40900	48

A career in sport is much shorter than other careers or employments, and many athletes leave sport eventually, either voluntarily or involuntarily. All athletes, irrespectively of whether they compete internationally or professionally, have to leave the sport of high performance. Athletes must get prepared for life after a career in sport while they are still involved in sport (Dana & Terry, 1993). The International Olympic Committee has created a career programme for high-ranking athletes to help high-ranking athletes successfully engage in the employment market after a career in sport (International Olympic committee, 2012).

In 2011, the activity of a locally-established "Latvian Olympians' Social Fund" became supported, providing the allocation of monthly benefits to athletes and trainers that are part of the LOT groups A and B, as

well as benefits for life-long investment in sport to sport veterans (The Ministry of Education and Science of Latvia, 2017b).

Training facilities

Factor 6 is concerned with high-performance sport facilities and infrastructure. These factors were identified as being important by, among others, Oakley and Green (2001) who identify 'well developed and specific facilities with priority access for elite athletes' as one of ten characteristics commonly found in elite sports development systems.

Sport complex is one of the primary requirements for sport training. The construction of sport buildings for sport of high performance ensures that a country has sufficient places for training and athletes are provided access to raining places in view of their load. The fact that a country has specialised buildings does not necessarily mean they are accessible to athletes. In many disciplines, there remain unresolved needs peculiar to high-performance athletes in difference from the needs of other athletes or sport clubs in the infrastructure of sport buildings. Research shows that athletes points to problems not in the infrastructure of sport buildings but in the possibilities for training in these buildings, because the load on the buildings largely depends on the buildings' owners and the owners' aims in relation to high-performance sport or grassroot sport (Houlihan & Green, 2008).

Following part one of article 12 of the Sports Law, sport complexes in Latvia are created and maintained to provide inhabitants with possibilities of participating in sport, while the sport complexes belonging to the state or the municipality are used for providing the necessary sport services for residents. Following part three of the above article of the law, information about the sport complexes in the country is collected in a register of sport complexes maintained by the Ministry of Education and Science (The Ministry of Education and Science of Latvia, 2016b). At the end of 2017, the register of sport complexes included 1211 sport complexes and 3123 sport objects (The Ministry of Education and Science of Latvia, 2017a)

To facilitate the development of national sport complexes and to create environments for preparing Latvian athletes for competing in the Olympic Games, in the World and European Championships and other competitions, and to provide for the organization of international competitions in Latvia, the law "On the Status of National Sport Complexes" was issued in 2009. For a sport building to acquire the status of a sport complex, it must meet the requirements for organising competition of the World and European Championships, their sections, the Cup or qualification contests. Following the law "On the Real Estate", national sport complexes and the land for their maintenance are not taxed with the

real estate tax, and the owner of a national sport complex may receive co-funding from the state budget for maintaining a sport complex following the procedure set by the Cabinet of Ministers (LR Saeima, 1998, 2009).

Table 5

State-supported national sport complexes and the amount of allocated funding (The Ministry of Education and Science of Latvia, 2016b)

Year	Supported NAC activity	Funding (EUR)
2013	21	1 254 240
2014	10	5 256 129
2015	9	7 156 230
2016	7	6 342 683

Latvia has over 3000 sport objects maintained by both the state and municipalities and by non-governmental organisations and private enterprises. A fragmented administrative structure hinders centralised acquisition of new information on sport objects (The Ministry of Education and Science of Latvia, 2016c)

Coaching provision and coach development

Pillar 7 focuses on the different areas of career development for coaches and the existence, or otherwise, of high level opportunities for coaches to develop all aspects of their high-performance coaching career. Secondly the factor addresses the employment status of coaches and the provisions made for coaches.

The quality and quantity of trainers are important at each level of sport development as a whole. In this respect, two criteria in high-performance sport provide the principal grounds for comparison. The first point is quality and trainer certification system, and the second – individual living circumstance of high-performance sport trainers (De Bosscher et al., 2008). These circumstances should motivate talented amateur trainers to engage in this profession as full-time work rather than as a collateral job (Houlihan & Green, 2008).

In Latvia, the procedure for certifying specialists in sport and requirements that a sport specialist must meet to become entitle to work in sport industry are defined by the regulations of the Cabinet of Ministers. Following point 11 of the Certification Regulations, a person who manages a sport training (class) or performs educational or methodological work in sport industry, as well as persons who support the above, who attend sport trainings (classes) or acquire a professionally-oriented sport educational programme must have the certificate of specialist in sport. The terms of certification provide three categories, A, B and C for issuing a certificate. The number of certified specialists in sport is outlined in Table 6. The

Sports Law states that specialists in sport are certified by the “Latvian Sport Federations’ Council”.

Table 6

Number of certified specialists in sport classified by category of certificate
(LCSF meetings)

Year	A	B	C
2013	65	338	149
2014	181	1024	463
2015	193	1118	555
2016	227	1268	894

On 10 November 2010, a sport industry federation was accredited – Latvian Trainers’ Centre of Continuing Education, entitled to manage and coordinate trainers’ education in the country. The aim of the organisation is to provide the conformance of Latvian sport trainers and other sport specialists to modern requirements, which would be confirmed by a state-accredited certificate. The aim of the centre’s activity is to provide education and/or continuous education to sport trainers and other sport specialists, as well as developing suggestions for trainer qualification requirements and participating in the process of certification (Latvian Trainers’ Centre of Continuing Education, 2011).

(Inter)national competition

Factor 8 is concerned with the organisation of competitions at national and international level as both have been identified as important factors in athlete development.

The national system of competition is an important criterion, because competitions are integral to athletes’ development. The Sports Law states that a “sport event” means a sport competition, demonstration or any other sport event. In turn, “sport competition” is an event for determining the best athlete or team, which takes place following the regulations confirmed by the organiser of the competition (LR Saeima, 2002). Table 7 shows the number of international competitions in which a sport federation participated and Latvian championships and cup contests for adults organised by sport federations.

Table 7

Participation of Latvian athletes in international competitions and competitions organised by sport federations in Latvia (LCSF meetings)

Year	International competitions	Latvian championships
2013	772	385
2014	719	372
2015	801	391
2016	809	419

Criteria and procedure for accrediting a sport federation specify that a federation can be accredited if it meets several criteria, one of which is that a sport federation organises sport competitions in the represented sport discipline or area of activity. The participation of the national selection team in international sport competition is organised by the Latvian sport federation representing the respective international sport organization.

Scientific research and innovation

The ninth factor is concerned with the scientific input to high-performance sport and seeks to examine the extent to which nations take a coordinated approach to the organisation and dissemination of research and scientific information.

Scientific studies related to systematic collection of scientific information and its dissemination in such fields as talent recognition and development, medicine, nutrition, psychology, physiology and biomechanics (De Bosscher et al., 2008).

The Ministry of Education and Science (further – the Ministry), following regulations No. 528 of the Cabinet of Ministers of 16 September 2003 “Regulations of the Ministry of Education and Science”, is the main governmental administrative body in the area of science. The Ministry controls the institution of direct management – the Latvian Council of Science, the aim of which is to facilitate the execution and coordination of science, technology and innovation policy, ensure the organisation of the application of the scientific research projects and assessment results.

16 November, 1999 the Latvian Council of Science confirmed at its meeting the list of Science Branches and Sub-branches. Sport science was confirmed as a separate branch, which is the science studying the relations between human physical health, development, conditioning and achievements in sport. It includes studies in issues in pedagogy, psychology, medicine, biology, biomechanics, sociology and economics related to sport (Latvian Council of Science, 2009). The state funding for scientific research is reflected in Table 8.

Table 8

Total funding for scientific research (Central Statistical Bureau, 2017)

Year	State funding (mil. /EUR)	Funding for higher educational institutions (mil. /EUR)
2013	33.4	3.7
2014	41.7	3.8
2015	49.8	3.4
2016	52.7	3.2

One of the Latvian higher educational institutions coordinating and performing research in sport as well as educating specialists in sport science

is the Latvian Academy of Sport Education (LASE). The educational methodological materials and lectures prepared by the LASE teaching staff, as well as the students' bachelor, master and doctoral theses (2010-2014) can be viewed at the library devoted to the sport industry of the LASE.

Overall, it can be concluded that the data to be found to describe the situation in Latvia are in most cases of limited availability or remain unrecorded.

Material and Methods

Research data were collected in two ways; the investigation and analysis of the literature sources, laws and regulations, and an on-line survey – questionnaire. The questionnaire consists of questions the respondents had to answer without the assistance of the interviewer. To investigate the views of sport federations' managers on high performance sport, the survey based on theoretical findings of de Bosscher (2006) and Smolianov (2008) were stated. Respondents were given statements about the high-performance sport management with five multiple choices in Likert scale: strongly agree (1), agree (2), neither agree neither disagree (3), disagree (4), and strongly disagree (5). The respondents had to choose one answer, which in their opinion was the most appropriate.

As shown in table 9, the participants in survey were 50 managers of sport federations (68% male and 32% females) and 50% of respondents had a Master's degree.

Table 9

Demographic Profile of respondents

Variable	Category	Respondents (%)
Gender	Male	68%
	Female	32%
Education level	Secondary education	16%
	Bachelor's degree	26%
	Master's degree	50%
	Doctor's degree	8%

In the survey participated 50 sport federations from 89 in total. 32 different kinds of sports were represented: alpine skiing, arm-wrestling, basketball, beach volleyball, bobsleigh, canoeing, curling, cycling, BMX cycling, road cycling, floorball, freestyle wrestling, karate, lacrosse, luge, modern pentathlon, motocross, orienteering, powerlifting, rallycross, rowing, sailing, sambo, shooting, short track, skeleton, skiing, sport climbing, swimming, table tennis, track and field, and windsurfing.

However, response rate among federations from different disciplines varied.

Nine main groups of statements in questionnaire with respect to the aim were as follows: 2 focused on the Financial support, 5: on an Integrated approach to policy development and 4: on the Participation in sport, 5: on Talent identification and development system; 3: on Athletic and post career support; 6: on Training facilities; 6: on Coaching provision and coach development; 6: on (Inter)national competition and 3: on Scientific research and innovation. 1 of the questions was open and 39 were closed questions. All data were processed and calculated using computer programme MS Excel. Descriptive statistics indicators were computed (mean, median, mode and standard deviation). Directors of sport federations most often (Mode) chose answer “disagree”. Only for 2 of all the statements the most often (Median) chosen answer was “agree”.

The findings were summarized with the help of mathematical statistics. From the analysis of the sport federations managers’ views on the processes ongoing in high performance sport, with induction or cognition method were drawn the conclusions.

Results

Survey responses were illustrated as aggregated percentages. The aggregated percentages of responses allow the appreciation of the distribution of manager’s responses.

Summarizing the data regarding “Financial support” (indicators: the existence of sufficient financial support for sport in general and the financial support for the high-performance sport – Figure 1), was found that more than a half of sport federation managers have similar views - 56% of respondents disagree that financial support for sport is sufficient.

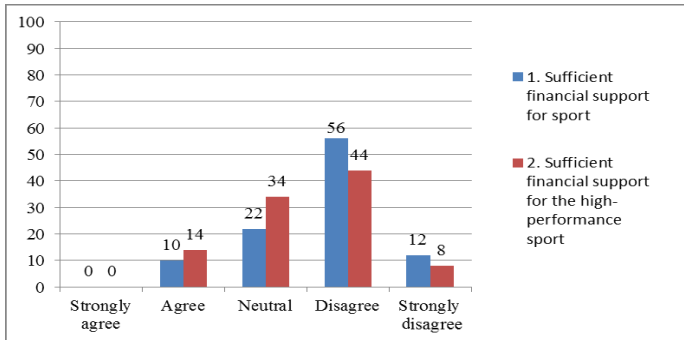


Figure 1. Respondents’ views on the sufficient financial support for sport and high-performance sport

44% of respondents disagree that there is sufficient financial support for high-performance sport. Comparing the responses of the managers by

federations it can be concluded that more satisfied with financial support are federations which gain more success in international competitions. The results are likewise confirmed by the Sports Law, which states that, for excellent achievements in sport, the Cabinet of Ministers may allocate monetary prizes not only to athletes and related persons but also to sport federations. Also, one of the criteria set by the Latvian Sport Federations Council on the division of funding among certified federations is achievements in sport.

It is important to observe that data show different views among sport federations managers with respect to an integrated approach to policy development. The analysis was focused on the existence of coordination, long-term planning, communication, and role of each and everyone organisation involved in the management of the high-performance sport. Just 16% of managers agree that there is a coordination of all agencies involved in the high-performance sport with clear task descriptions. Confusion may occur in relationship between sport organisations as there is more than just one organisation responsible for high-performance sport in Latvia.

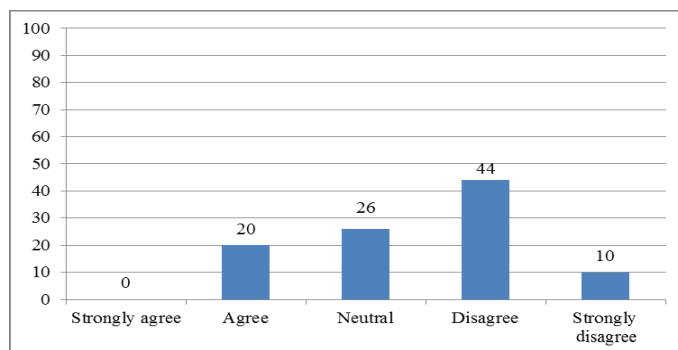


Figure 2. Respondents' views on the existence of long-term planning for the high-performance sport

None of managers would totally agree that there is a long-term planning for the high-performance sport in the country (Figure 2), while 20% agree with the statement. 38% of respondents strongly agree and agree that resources are targeted at relatively few sports through identifying those that have a real chance of success in the whole world level (Figure 3). At the same time, 28% of respondents strongly disagree and disagree that resources are targeted at relatively few sports. With the statement "There is a structured communication and cooperation between organizations, commercial partners and the media" agree 30% of managers, whereas 36% disagree, and 26% stay neutral.

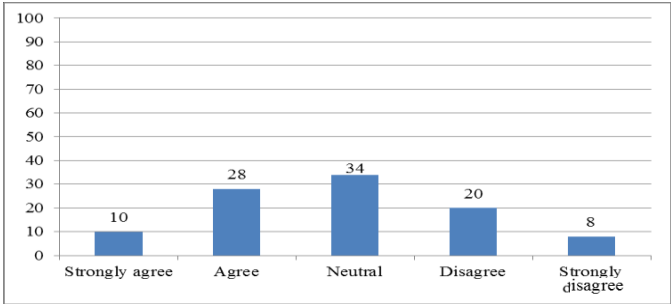


Figure 3. Respondents’ views on statement that resources are targeted at relatively few sports

Almost half of respondents (48%) disagree and 12% strongly disagree that athletes are involved in the planning of the high-performance sport policy.

It is important to observe that sport federation managers agree (72%) that children have opportunities to participate in sport at school, during physical education or extracurricular activities (Figure 4).

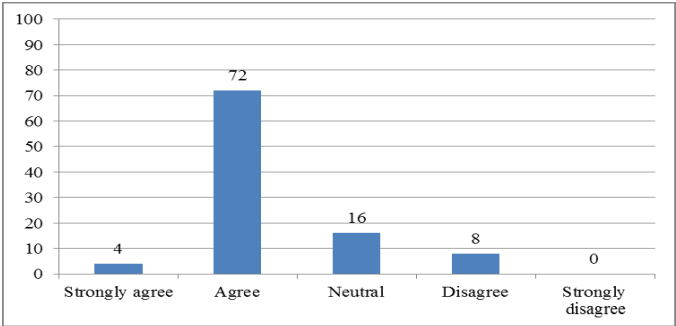


Figure 4. Respondents’ views on children opportunities to participate in sport

At the same time, 60% of managers disagree that there is a high general sport participation rate (Figure 5). High-performance sport requires a strong base of mass sport participants to ensure new talented athletes.

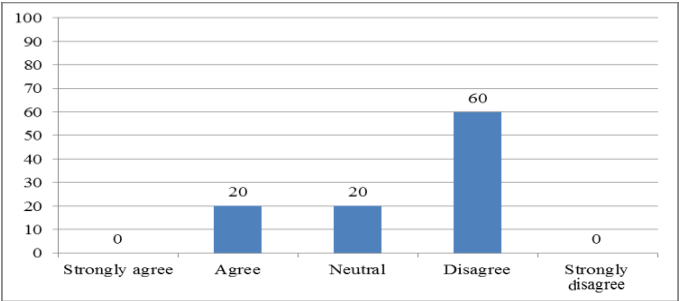


Figure 5. Respondents’ views on generally high sport participation rate

All statements regarding talent received negative feedback from the sport federation managers. Data obtained prove that more than half of the respondents (58%) disagree that there is an effective system for the identification of young talented athletes in Latvia, so that the maximum number of potential talents are reached at the right time (Figure 6).

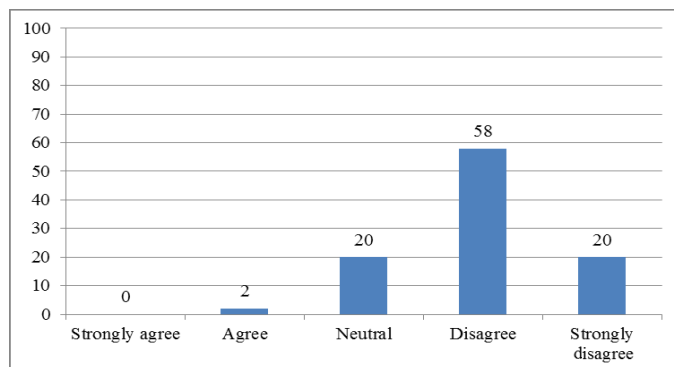


Figure 6. Respondents' views on the existence of an effective system for the identification of young talented athletes

On the other hand, Figure 6 also shows that there are some sport federation managers that agree with the statement despite theoretical review which did not verify existence of any talent identification system. 58% of respondents also disagree with the statement “Young talents receive a multidimensional support to develop them as young athletes at the highest level” (Figure 7).

52% of managers disagree that young talents receive a nationally coordinated support for the combination of trainings and studies in secondary school (12-16/18) and, also in primary education for early specialisation sports where such a system is required. Considerably less, but also a remarkable part of respondents – 40% disagree that young talents receive a nationally coordinated support for the combination of trainings and studies in higher education (university/college level). It can be concluded that the support athletes receive is insufficient. It is important to support athletes during their education years. One of the reasons athletes quit sport is insufficient support for the combination of trainings and studies.

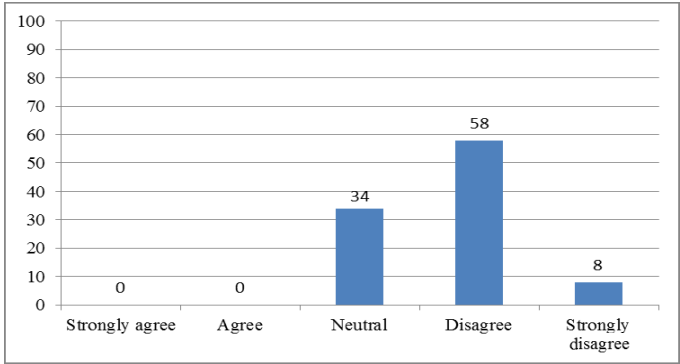


Figure 7. Respondents’ views on young talents receiving a multidimensional support

6% of managers strongly agree with this statement that High-performance sport is a full-time job, and athletes receive a financial support so that they can fully concentrate on their sport, while 46% of respondents disagree. Respondents show different response to the statement on the existence of coordinated support programme for the high-performance sport athletes (Figure 8): 28% of respondents agree, but 24% - disagree, and 36% stay neutral.

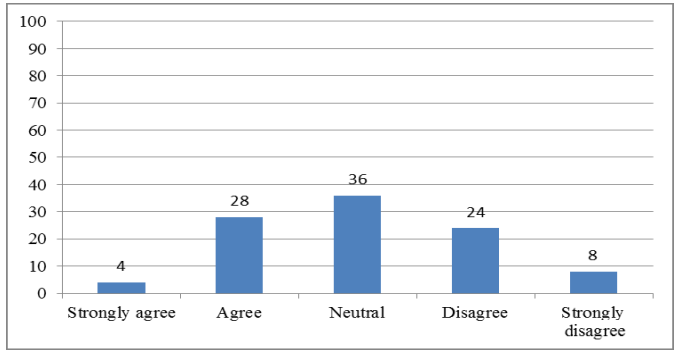


Figure 8. Respondents’ views on the existence of coordinated support programme for the high-performance sport athletes

More uniform view managers have on statement about athletes’ post-career.

54% of respondents disagree with the statement Athletes can receive a post-career support from the government and they are ready for the life after sporting career, and 26% of respondents strongly disagree with it (Figure 9).

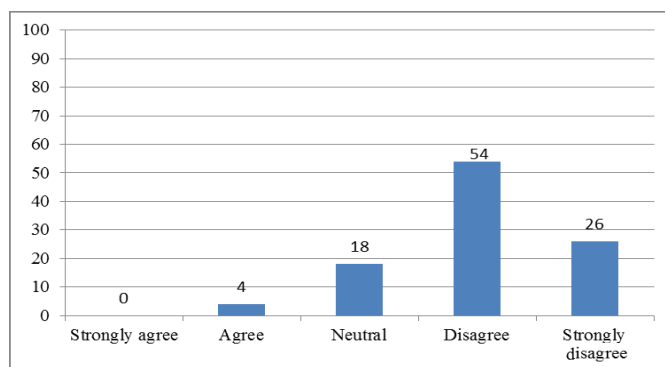


Figure 9. Respondents' views on the statement that athletes can receive a post-career support from the government

The data analysis regarding training facilities shows various responses. 32% of sport federation managers agree with the statement that There is a database with information about sport facilities, their availability, and quality, but 28% disagree with this statement. In their turn, 30% agree and in the same time 30% disagree that there are functional sport facilities in the country, while 36% of respondents stay neutral in this respect.

Regarding statements about coaching provision and coach development, just 20% of sport federation managers agree that there is a sufficient number of well-trained and experienced high-performance sport coaches in the country (Figure 10).

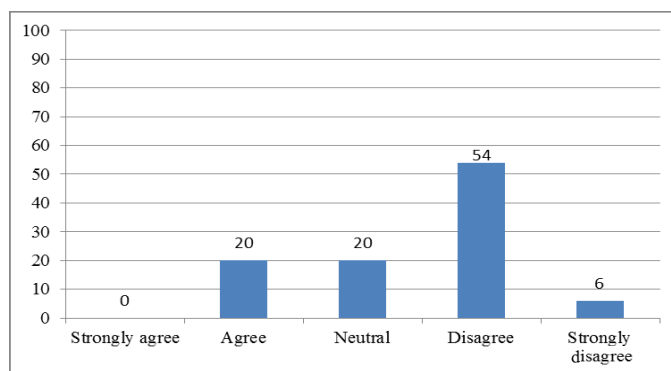


Figure 10. Respondents' views on the sufficient number of well-trained and experienced high-performance sport coaches in the country

Similarly, just 4% of respondents agree that coaches have sufficient opportunities to develop their coaching career to become a world-class high-performance sport coaches (Figure 11).

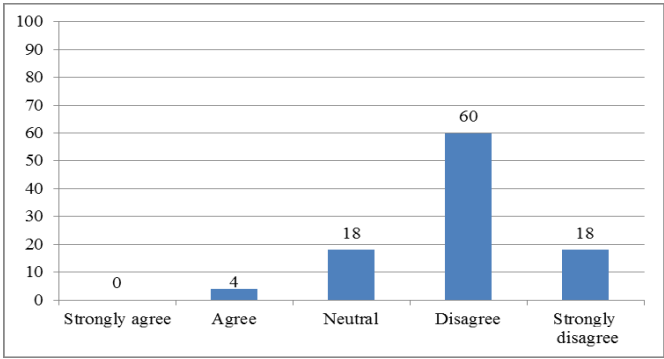


Figure 11. Respondents' views on the sufficient opportunities to develop coaching career in Latvia

This study found extremely low agreement (2%) to the statement that coaches' general monthly income is sufficient to provide for living. Also, just 4% of respondents agree that high-performance coaches receive a support for life after their coaching career. Not all the trainers currently working in the country are certified. There is no defined system that may control the qualification acquired by a practicing trainer. Likewise, normative acts do not foresee administrative liability for failure to conform to the terms of certification for sport specialists. The above mentioned may be one of reasons why trainers lack motivation for education. Concerning (inter)national competitions, 30% of sport federation managers agree to the statement that young talents can sufficiently participate in international (high-level) competitions at the right age, while 44% disagree with this statement. More than a half (52%) of the respondents agree that high-performance athletes can sufficiently participate in international (high-level) competitions. The analysis of the answers to the statements about scientific research and innovation data shows almost similar views (Figure 12 and Figure 13).

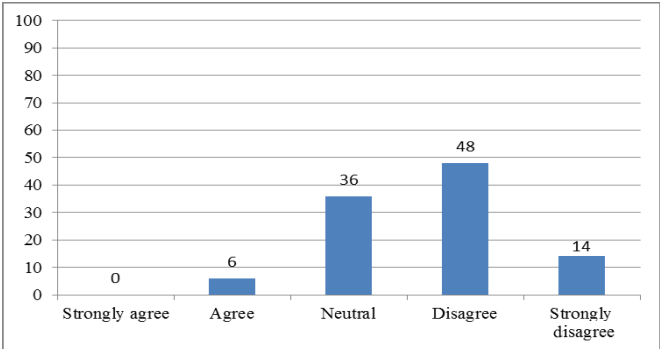


Figure 12. Respondents' views on the statement that scientific research is collected, coordinated and disseminated

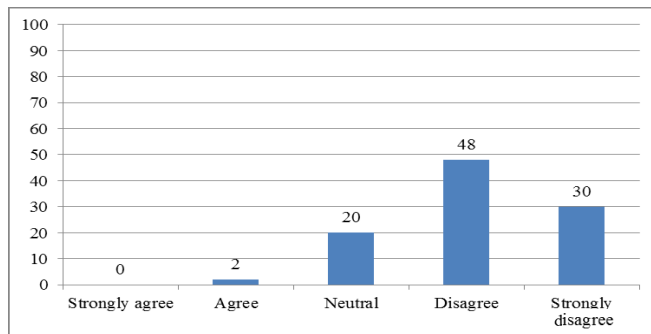


Figure 13. Respondents' views on sufficient financial support for scientific research and innovation

48% of respondents disagree that scientific research is collected, coordinated, and disseminated among coaches and sport organisations, also 48% of respondents disagree with the statement that there is a sufficient financial support for scientific research and innovation.

Discussion

The study analyses the opinions of the heads of accredited sport federations on the management of high-performance sport in Latvia.

The opinion of the heads of sport federations acquired indicates a contradiction: if the accredited sport federation works efficiently and performs the terms of the Sports Law, namely, a Sport Federation is entitled to control and coordinate work in the respective sport discipline or area of activity in the country, why do the obtained data reveal such evident general level of disagreement to the statements included in the study questionnaire? In view of the fact that the aim of the Latvian Sport Federations' Council is to unite all sport federations acknowledged in Latvia to perform the highest sport goals and meet the criteria developed by the Council (number of members in the federations, number of practitioners, the participation of the federation in the World and European Championships, in the championships for adults and youths in Latvia organised by the federation, international competitions in Latvia organised by the federation, etc.) for receiving the state funding to facilitate the development of the sport industry, it is surprising that the opinion expressed in the study testifies to insufficient funding, lack of long-term planning for the development of high-performance sport, absence of a talent identification system and an insufficient support to athletes during and after their career in sport. It should also be mentioned that the heads of sport federations neither think that there is a well-organised trainer education and support system, nor the heads of sport federation consider that sport buildings in the country are of

good quality. Likewise, the impact of sport science in the development of sport is insufficient. At this point, it is essential to note that the above factors also fall within the field of competence of the accredited sport federations. Sport federations should work more efficiently to improve the existing situation. An important theme for a future study would be the analysis of the extent to which a pre-set level has been achieved.

Besides, it is possible that a more precise and detailed opinion could be obtained by analysing the obtained data using other criteria – such as the criteria of the Olympic and non-Olympic sport discipline federations, of team sports, of individual sports and others.

Conclusions

A sports federation has the right to manage and co-ordinate the work in the relevant types of sport or in the field of activities in the State, as well as represent the State in the relevant international sports organisation and only one sports federation may be recognised in one type of sport or field of activities. Therefore, it is essential to determine the opinion of representatives of sport federations on the management of high-performance sport in Latvia. The results show that managers of sport federations think that:

- Funding allocated to sport is insufficient – 68% (56% disagree + 12% strongly disagree);
- Funding allocated to high-performance sport is insufficient – 52% (44% disagree + 8% strongly disagree);
- Development of high-performance sport is not planned in the long term – 54% (44% disagree + 10% strongly disagree);
- The inhabitants of Latvia participate in physical activities too little (60% agree);
- The state needs to create an efficient system for identifying and developing talents – 78% (58% disagree + 20% strongly disagree);
- It is necessary to improve the support provided to athletes after they finish their athletic careers – 80% (54% disagree + 26% strongly disagree);
- Sport science has insufficient financial support – 78% (48% disagree + 30% strongly disagree).

Therefore, purposeful use of resources, long-term planning, participation in sport, talent identification and development, support to athletes throughout their careers and after they leave sport, a developed infrastructure, provisions for trainers, and the involvement of science in high-performance sport has to become more lucid.

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ORIGINAL RESEARCH PAPER

PECULIARITIES OF SPORT MOTIVATION AND SPORT SATISFACTION OF YOUNG SPORTSMEN IN DIFFERENT BRANCHES OF SPORTS

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Abstract

Background. Some conducted research (Gillet et.al. 2010; Lorimer, 2011) reveals that athletes' satisfaction and motivation have a large impact on their results. Therefore, sport coaches should be aware of the regularities of the expression of motivation characteristic of young athletes and the level of their satisfaction. Methods. The sample of the current research included 211 athletes divided into 5 groups. The athletes completed two questionnaires. The questionnaire concerning motivation for sport was devised on the basis of the Sport Motivation Scale (SMS, The Sport Motivation Scale; Pelletier et al., 1995) that is applied in Lithuania (Grajauskas, 2008). The athletes were also asked to fill in the Athlete Satisfaction Questionnaire compiled by Riemer and Chelladurai, which aimed at investigating the athletes' satisfaction with their participation in sports (Riemer, Chelladurai 1998). Results. Handball (IM – 4,47, EM – 3,96) and football players (IM – 4,41, EM – 3,93) had the strongest intrinsic motivation, whereas the athletes of individual sport branches had the weakest intrinsic and extrinsic motivation (IM – 4,15, EM – 3,63). Handball players seemed most satisfied with own performance in sport activity. The athletes of martial arts were least satisfied with their individual performance in sports. Conclusions. It was determined that athletes with high intrinsic motivation for doing sport activities giving them satisfaction and pleasure tend to evaluate their participation in sport more favourably. The athletes of martial arts were least satisfied with their participation in

sport; therefore, their activity bore no sense for them. This shows the highest level of amotivation, which is associated with the loss of the meaningfulness of the activity.

Keywords: *motivation, satisfaction, amotivation, adolescents.*

Introduction

Under the conditions of great competition, high achievements in sports can be expected only if an athlete is highly motivated for the attainment of the set goal. According to sports psychologists (Malinauskas, 2003a, 2003b; Weinberg, Gould, 2006; Ryan, Deci, 2007), strengthening of motivation is an important part of sport training. Both personal motifs, as well as intrinsic and extrinsic motifs undergo considerable changes from the beginning of sport career to the attainment of high performance (Willimczik, Kronsbein, 2005).

In training young athletes, it is important to consider what motifs should be stimulated and when so that they should help to attain high results. Every person willing to achieve good results should have a strong motivation (Weinberg, Gould, 2006).

When sport activity does not give positive results, the demand for sports is difficult or impossible to be satisfied. This causes despair, negative emotions and continuous stress (Malinauskas, Bukauskas, 2005).

In the process of sport training, athletes themselves perform an important role that determines their success. Their achievements depend on the motivation characteristic of an athlete (Gillet et al., 2010; Abu Samah, Adekalu, Omaras, Ismi, 2013), his/her self-perception (Jackson et al., 2001) and self-satisfaction (Riemer, Chelladurai, 1998). Athletes' self-satisfaction shows a direct connection to the attained results (Lorimer, 2011).

However, an athlete also practices in an environment, which largely determines the attainment of his/her results (Jackson et al., 2001), in which there is a team and a coach, who influences the athlete's satisfaction during trainings and competition, and thus, affects their results in sports (Nazaruddin, 2009).

It has been determined that team interaction is the main role of athletes in attaining the common goal (Turman, 2008; Katz-Navon, Erez, 2005).

Research (Gillet et. al., 2010; Lorimer, 2011) reveals that athletes' satisfaction and motivation have a large impact on their results. Hence, it is important to further explore how to create most beneficial conditions for the development of young athletes' sport performance in different branches of sport seeking for the attainment of the highest results and long-term goals.

Therefore, sport coaches should be aware of the regularities of the expression of motivation characteristic of young athletes and the level of their satisfaction.

Materials and Methods

The sample and sampling

The sample included 211 athletes divided into 5 groups (Football N=52, branches of individual sports N=51, Basketball N=39, Handball N=40, Martial Arts N=29). The average age of athletes was 15.28 ± 1.63 years.

Instruments

The athletes completed two questionnaires: the first questionnaire focused on the motivation for sports, whereas the second dealt with the satisfaction in participating in sport activities.

The Sport Motivation Scale

The questionnaire concerning motivation for sport was devised on the basis of the Sport Motivation Scale (Pelletier et al., 1995) that is applied in Lithuania (Grajauskas, 2008). The scale is composed of 28 questions subdivided into 7 subscales of 4 questions each. The subscales categorise the intrinsic motivation of athletes (IM), extrinsic motivation (EM) and amotivated behaviour: IM – to know, IM – to strive for perfection, IM – to experience, EM – to identify, EM – direct external regulation, EM – subconsciously acknowledged external regulation, amotivation. The respondents were asked to evaluate every statement of the questionnaire using the 5-point Likert scale; the options for answers ranged from “totally disagree” (1) to “totally agree” (5).

The Athlete Satisfaction Questionnaire

The athletes were also asked to fill in the Athlete Satisfaction Questionnaire compiled by Riemer and Chelladurai, which aimed at investigating the athletes' satisfaction with their participation in sports (Riemer, Chelladurai 1998). The Athlete Satisfaction Questionnaire contains 56 items and 15 subscales. These subscales include (a) individual performance, (b) team performance, (c) ability utilization, (d) strategy, (e) personal treatment, (f) training and instruction, (g) team task contribution, (h) team social contribution, (i) ethics, (j) team integration, (k) personal dedication, (l) budget, (m) medical personnel, (n) academic support services, and (o) external agents. These are presented on a uni-dimensional 7-point Likert scale anchored at 1 (not at all satisfied) and 7 (extremely satisfied). Higher scores reflect greater satisfaction (Bray et al., 2005).

Methods of mathematical statistics

Arithmetical mean (**Error! Reference source not found.**) and average standard deviation (SD) were calculated. The statistical data analysis was performed using SPSS 21 software.

Results

Evaluating the expression of the athletes' motifs according to sport branches, it was determined that handball (IM – 4,47, EM – 3,96) and football players (IM – 4,41, EM – 3,93) had the strongest intrinsic motivation that stimulated them to do sports, gave them pleasure and satisfaction, as well as stimulated their extrinsic motivation associated with the attainment of the final goals of the activity, whereas the athletes of individual sport branches had the weakest intrinsic and extrinsic motivation (IM – 4,15, EM – 3,63).

Football players claimed achieving greatest pleasure in discovering new exercises and training methods (IM – to know); yet, the subscales of total involvement into the sport activity and acquisition of interesting experience (IM – to experience) were valued the least among the subscales of intrinsic motivation. The athletes of individual sport branches, basketball players, handball players and athletes of individual sport branches were mostly focused on the performance of tasks that involved new and complicated moves and techniques when describing their personal satisfaction (IM – to strive for perfection). The athletes of individual sport branches and basketball players ascribed least importance to the willingness to get involved into sport activity and acquire interesting experience (IM – to experience), whereas handball players, differently from footballers, considered aspirations for novelties as least important (IM – to know) (Table 1).

The respondents of all sport branches experienced a certain pressure to be physically fit and felt embarrassed when they could not attain this (EM – subconscious acknowledgement of external regulation); however, basketball, football and handball players considered the activity performed for external reasons and contributing to their personal development as least important (EM – to identify). The athletes of individual sport branches and martial arts ascribed least importance to EM – direct external regulation, a subscale of extrinsic motivation. It shows that the athletes of individual sport branches and martial arts do sports for their personal satisfaction rather than a reward or avoidance of criticism.

The greatest amotivation related to the state of helplessness was determined among martial arts athletes (2,44 points) and athletes of individual sport branches, whereas the lowest amotivation was characteristic of football (1,76 points) and basketball players (1,83 points) (Table 1).

Table 1

Expression of the motivation of young athletes in different sport branches for doing sports in different subscales

Sport branch	Indicator	IM – to experience	IM – to know	IM – to strive for perfection	EM – direct external regulation	EM – to identify	EM – subconsciously acknowledged external regulation	Amotivation
Football N=52	Mean	4.31	4.52	4.41	3.86	3.75	4.17	1.76
	Std. Deviation	0.85	0.67	0.78	1.00	1.14	0.90	1.10
Branches of individual sport N=51	Mean	4.09	4.16	4.21	3.42	3.52	3.96	2.11
	Std. Deviation	1.08	0.98	0.96	1.24	1.25	1.07	1.27
Basketball N=39	Mean	4.24	4.36	4.41	3.52	3.35	4.11	1.83
	Std. Deviation	0.81	0.73	0.76	1.23	1.15	1.03	1.05
Handball N=40	Mean	4.49	4.43	4.50	3.89	3.86	4.11	1.91
	Std. Deviation	0.69	0.67	0.62	1.17	1.13	0.92	1.03
Martial arts N=29	Mean	3.98	4.25	4.26	3.65	3.73	3.97	2.44
	Std. Deviation	1.03	0.85	0.85	1.09	1.20	0.99	1.22
Total N=211	Mean	4.23	4.35	4.36	3.67	3.64	4.07	1.98
	Std. Deviation	0.92	0.80	0.81	1.16	1.19	0.98	1.16

The comparison of the research results related to the satisfaction of the athletes with their participation in sport according to sport branches (Table 2) revealed that football players were most satisfied with their personal dedication, team performance, as well as training and instruction. The athletes of individual sport branches were most satisfied with the team integration for the attainment of common goals (Team integration), personal treatment and ethics. Similarly to footballers, the athletes of individual sport branches were dissatisfied with the utilization of their talents and abilities by coaches (Ability utilization). The most valued categories of satisfaction were team integration, training and instruction, and personal dedication. Basketball players demonstrated rather low satisfaction with medical personnel, although handball players were satisfied with this category. Besides, they were also satisfied with training and instruction, as well as personal dedication; however, they were dissatisfied with the same aspects

as other athletes. Among all the respondent groups, handball players seemed most satisfied with own performance in sport activity. Out of 15 categories, they evaluated 9 with a higher rank than the representatives of other sport branches (Table 2). The athletes of martial arts were least satisfied with their individual performance in sports. All the 15 categories were given the least number of points. However, they were quite satisfied with training and instruction, personal treatment and team performance (Table 2).

Table 2

Results of the Athlete Satisfaction Questionnaire according to sport branches

Sport branch	Indicator	Team integration	Team social contribution	Strategy	Medical personnel	Personal dedication	Individual performance	Ability utilization	Ethics	Team task contribution	Budget	External agents	Personal treatment	Team performance	Training and instruction	Academic support services
Football N=52	Mean	5.74	5.72	5.61	5.45	5.97	5.71	5.65	5.35	5.58	5.22	5.32	5.63	5.87	5.79	5.44
	SD	1.16	1.22	1.39	1.46	1.14	1.41	1.37	1.38	1.14	1.50	1.48	1.41	1.22	1.35	1.45
Individual sport branches N=51	Mean	5.64	5.54	5.43	5.18	5.54	5.23	5.14	5.58	5.55	4.80	4.96	5.64	5.56	5.52	5.39
	SD	1.27	1.18	1.71	1.48	1.40	1.74	1.79	1.31	1.29	1.68	1.62	1.69	1.39	1.79	1.63
Basketball N=39	Mean	5.78	5.43	5.44	5.21	5.73	5.52	5.27	5.53	5.38	5.25	5.09	5.54	5.62	5.77	5.31
	SD	1.21	1.38	1.50	1.40	1.12	1.40	1.51	1.32	1.28	1.38	1.80	1.39	1.35	1.22	1.48
Handball N=40	Mean	5.81	5.67	5.78	5.95	5.85	5.81	5.63	5.80	5.69	5.00	5.08	5.78	5.83	6.17	5.33
	SD	1.25	1.23	1.33	0.98	1.22	1.43	1.36	1.13	1.25	1.82	1.56	1.36	1.29	1.22	1.50
Martial Arts N=29	Mean	5.09	5.08	5.29	5.12	5.22	4.98	5.07	4.97	5.13	4.62	4.59	5.54	5.30	5.56	5.03
	SD	1.23	1.11	1.55	1.31	1.44	1.58	1.39	1.18	1.25	1.78	1.78	1.49	1.24	1.58	1.51
Total N=211	Mean	5.64	5.52	5.52	5.39	5.69	5.48	5.37	5.47	5.49	5.00	5.05	5.63	5.66	5.76	5.33
	SD	1.24	1.24	1.51	1.38	1.28	1.54	1.52	1.30	1.25	1.64	1.65	1.48	1.31	1.47	1.52

The research results reveal that the better the climate in a team, the higher the athletes value each other. The better they value each other, the higher is their self-evaluation. The better they value themselves and team members, the better evaluations they give to their coaches. Consequently, the better evaluations are given to team members, coaches and own self-esteem, the better concentration and results are attained by the athletes

(Miškinis, 1998). The potential capacities of the coach and the athlete can best be revealed in a good psychological environment.

It has been determined by other researchers (Helen et al., 2012) that young athletes having strong intrinsic motivation aspire for higher achievements in sport. The high level of intrinsic motivation of school-age athletes is also related to their higher satisfaction with sport performance (Martens, Webber, 2002), greater attention and lower level of early withdrawal from sport (Kingston et al., 2006), better sport performance (Vallerand, 2007), as well as better sport results (Murcia et al., 2008).

Handball and football players demonstrated both higher intrinsic motivation, which determined their aspiration for efficiency and performance, and extrinsic motivation seeking for external evaluation or an attempt to escape punishment (Myers, 2000).

The athletes that were characterised by weaker external motivation experienced anxiety during the competition more often, as well as finished their sport career earlier. Other researchers (Garcia, Streat, 2007) note that teenagers with high intrinsic and extrinsic motivation consider challenges as new tasks that they have to complete. Moreover, they show greater interest in sport performance, have a greater sense of responsibility and duty, as well as faster recover after failures.

The results of our research demonstrate that the athletes of individual sport branches had the lowest motivation of all. The athletes of martial arts showed weak intrinsic motivation, whereas basketball players revealed weak extrinsic motivation.

The obtained results show that intrinsic motivation determines considerable achievements, which determine athletes' satisfaction with own performance and good atmosphere and psychological climate in the team.

A good psychological environment guarantees an athlete's satisfaction with own performance, interpersonal relations, a coach's decisions, as well as eliminates anxiety, fear and other negative emotions, creates a safe and calm mood, and helps to evaluate the possible errors. All the aforesaid factors allow demonstrating creativity and attaining high results in sport (Miškinis, 2000).

The research results reveal that handball players were most satisfied with their sport performance, training and instruction, as well as personal dedication. The lowest level of satisfaction was determined in the group of martial arts athletes, who gave lowest evaluations of all the 15 categories.

Strong motivation helps to reveal the whole potential of an athlete, his/her striving to win, satisfaction with own performance, as well as enthusiasm and aspiration to develop, whereas unfavourable environment

forces to work, creates irritable mood, raises amotivation, stress, and gradual degradation or even suspension of sport activity.

Conclusions

It was determined that athletes with high intrinsic motivation for doing sport activities giving them satisfaction and pleasure tend to evaluate their participation in sport more favourably. The athletes of martial arts were least satisfied with their participation in sport; therefore, their activity bore no sense for them. This shows the highest level of amotivation, which is associated with the loss of the meaningfulness of the activity. It is assumed that there is a connection between motivation (intrinsic, extrinsic and amotivation) and satisfaction with the participation in sport. High motivation and satisfaction have influence on good psychological climate.

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ORIGINAL RESEARCH PAPER

POSITIVE AND NEGATIVE EMOTIONS: A DIDACTIC INTERVENTION IN PHYSICAL EDUCATION

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Abstract

The aim of this study was to measure the impact of two emotions (positive/negative) on emotional experience in a sample of 44 primary level students. A total of 440 questionnaires were collected, using Porter and Cattell's (1982) CPQ (Children's Personality Questionnaire) and the POMS questionnaire (Profile of Mood States) devised by Fuentes, Balaguer, Meliá and García-Merita (1995). The results in the CPQ suggest that there are significant differences between gender in the subdued/enthusiastic, carefree/conscious and hard/soft sensitivity traits. The intervention work on both emotions maintained the intensities of emotional traits, although the mean for vigour was significantly higher in the happiness sessions than in the anger sessions, and between the pre-test and final sessions of both emotions. The conclusions point to the need for emotional work in Primary Education as an instrument for reinforcing students' level of engagement in the classroom, and their emotional resilience in their daily lives.

Keywords: *Physical education, emotions, behaviour, social climate.*

Introduction

Studies indicate that emotions reflect psychophysiological modes, which in turn track and redirect them, modulating behaviour (Critchley & Garfinkel, 2017), revealing the close relationship between emotions and behaviour.

According to models such as the circumplex model (Feldman & Russell, 1998), achievement emotions could be categorised according to two dimensions: valence (positive emotions versus negative emotions) and activation (activation versus de-activation of emotions). The wide range of emotions could be the result of combining both dimensions, finding emotions such as enjoyment (positive-activating), relaxation (positive-deactivating), anxiety (negative-activating) or boredom (negative-deactivating).

Other models establish four different dimensions, adding to valence and activation, the object-focus, these being emotions relating to the activity, learning process or test, and the reference to time, referring to whether an emotion is experienced before, during or after a given event (anticipated, concurrent or retrospective emotions) (Pekrun and Perry, 2014).

In recent empirical studies, enjoyment (positive-activating) has been positively linked to engagement behaviours, while anxiety (negative-activating) and boredom (negative-deactivating) have been negatively linked to engagement behaviours (Kahu, Stephens, Leach & Zepke, 2014; Skinner, Furrer, Marchand & Kindermann, 2008). It would therefore be interesting to apply this in a school context, with the aim of strengthening students' engagement in teaching and learning processes.

On the other hand, feelings and emotions are fundamental factors that influence social coexistence, to the point of becoming consolidated as a foundation for the potential emergence of conflict situations (Pearce and Littlejohn, 1997). These situations usually occur when negative emotions emerge that people have not been able to control and are directly related to aggressive behaviours. In this sense, we could conclude that if we teach our students to better manage their negative emotions, we could help them to reinforce behaviours aimed at improving co-existence in the classroom (Sáez de Ocáriz, Lavega, Mateu & Rovira, 2014).

Different theories reinforce the importance of emotional work in the classroom, such as:

- The Dynamic Model of Affect (DMA), which posits that people who are better able to distinguish between positive and negative emotions, and who experience more positive emotions during distressing

- experiences are more resilient and can recover more quickly in these situations (Pitzer & Bergeman, 2013).
- The theory of dynamic integration, which argues that recognition of the positive and negative aspects of a situation, reflects the ability to see issues from multiple perspectives, and having the ability to tolerate complex and conflicting feelings (Labouvie-Vief, 2015).

Given the significance and omnipresence of emotions in educational settings (Pekrun et al., 2004), many studies have investigated the relationship between achievement goals and positive and negative emotions (Biddle, Wang, Kavussanu and Spray, 2003; Ntoumanis & Biddle, 1999).

Therefore, the idea of teaching as an emotional practice involving cognitive and emotional processes is accepted by many researchers and educators (Hargreaves, 1998; Shapiro, 2010) and entails significant challenges when the emotions of children are involved, whose perspective-taking and meta-knowledge skills, particularly in the emotional sphere, are more limited than those of adults (Denham, 1998).

Psychoeducational interventions conducted in recent years at different educational stages have proved useful in improving emotional function and in interpersonal relationships between students, including between their activity proposals, such as dramatisation, expression activities, cooperative activities, music and dance (Cruz, Caballero & Ruiz, 2013; De Rueda & López, 2013; Green y Rechis, 2006; Sáez de Ocáriz et al., 2014; Torrents, Mateu, Planas & Dinusôva, 2011), or inclusion within physical education sessions, posing the question of the experience of positive or negative emotions in motor situations, which have a direct relationship with interpersonal relationship education (Lavega, Filella, Agulló, Soldevila & March, 2011; Mouratidis, Vansteenkiste, Lens & Auwee, 2009; Sáez de Ocáriz et al., 2014).

According to this perspective, in our study a psychoeducational intervention has been carried out where expression and dramatisation activities have been included, through which emotions have been worked on in a different valence (positive-negative) and at different intensities, with the intention of improving abilities to cope with both types of emotions in the social climate of the classroom, and reinforcing the importance of including negative emotion work in the school context.

Material and Methods

Participants. The sample technique chosen was cluster sampling, comprised of Primary students from a school in the region of Murcia (Spain) between the ages of 11 and 12. There were a total of 46 subjects (2 were not included), so that in the end there were 44 participants (20 boys

and 24 girls) in the sample. School approvals were obtained and school children and their legal guardians were fully informed about all the features of the study [i.e. a thorough description of the methods, potential risks, expected benefits, etc.; based on Thomas, Nelson & Silverman (2015) guidelines] and were required to sign an informed consent document.

Procedure. The measurement instruments used were the CPQ (Children's Personality Questionnaire) by Porter and Cattell (1982) and the POMS questionnaire (Profile of Mood States) by Fuentès and cols. (1995).

The participants' personality characteristics were obtained from the Children's Personality Questionnaire (CPQ). Students completed the questionnaire POMS (Profile of Mood States) in a state of relaxation (pre-test) and also in each one of the 8 sessions carried out (4 for happiness and 4 for rage), which means that each individual completed 9 POMS questionnaires, generating a total of 414 POMS questionnaires. After the intervention, the data was processed by means of SPSS, 15.0., and ANOVA systems.

Two emotions were chosen, happiness and rage, which would be worked though in 4 sessions for each, and the same pattern of activities would be followed for both emotions.

The first 4 sessions conducted were those related to the positive emotion (happiness). Happiness enhances enjoyment, reduces tensions generated in environments where there is interpersonal contact, increases the threshold for the elicitation of aggressive behaviour, and improves interpersonal relationships, etc. We thought that by working with positive emotions first, our research with the following 4 negative emotion sessions would be more straightforward.

Data are reported as mean (standard deviation) in the text and the table, and displayed as mean (standard error) in the figures. Two-way analyses of variance (ANOVA) were used to examine the sex differences. Subsequently, the post-hoc with the Bonferroni adjustment was used for pairwise comparisons. All statistical analyses were performed using the SPSS Version 21.0 for Windows (IBM® SPSS® Statistics).

Results

Table 1 shows the results of the Children's Personality Questionnaire (CPQ), in which significant differences between gender are observed within first tier emotional factors, with girls being more subdued (subdued/enthusiastic trait), more conscious (carefree/conscious trait) and with moderately hard/soft sensitivity (hard/soft sensitivity trait). Meanwhile, boys are more enthusiastic (subdued/enthusiastic trait) and have hard sensitivity (hard/soft sensitivity trait).

The results did not find significant differences between gender in the other first and second tier emotional factors.

Table 1

First and second tier emotional factor results corresponding to the children's personality questionnaire (CPQ)

1ST TIER TRAITS									
Trait	Level	Boys	Girls	Total	Trait	Level	Boys	Girls	Total
Reserved Open	Reserved	22.7%	29.5%	52.3%	Confident Uncertain	Confident	9.1%	13.6%	22.7%
	Moderately R-O	13.6%	11.4%	25.0%		Moderately C-U	34.1%	29.5%	63.6%
	Open	9.1%	13.6%	22.7%		Uncertain	2.3%	11.4%	13.6%
Intelligence	Low	22.7%	22.7%	45.5%	Trusting Astute	Trusting	22.7%	34.1%	56.8%
	Moderate	13.6%	15.9%	29.5%		Moderately A-T	22.7%	18.2%	40.9%
	High	9.1%	15.9%	25.0%		Astute	.0%	2.3%	2.3%
Emotionally Affected Stable	E. Affected	18.2%	18.2%	36.4%	Calm Apprehensive	Calm	22.7%	36.4%	59.1%
	E. Neutral	15.9%	20.5%	36.4%		Moderately A-T	18.2%	15.9%	34.1%
	E. Stable	11.4%	15.9%	27.3%		Apprehensive	4.5%	2.3%	6.8%
Submissive Dominant	Submissive	9.1%	13.6%	22.7%	More/Less Integrated	Less Integrated	.0%	2.3%	2.3%
	Moderately S-D	22.7%	31.8%	54.5%		Moderately I.	29.5%	13.6%	43.2%
	Dominant	13.6%	9.1%	22.7%		More Integrated	15.9%	38.6%	54.5%
(*) Subdued Enthusiastic $\chi^2=15.71$; $p<0.005$	Subdued	.0%	18.2%	18.2%	Relaxed Tense	Relaxed	22.7%	29.5%	52.3%
	Moderately S-E	29.5%	36.4%	65.9%		Moderately R-T	13.6%	22.7%	36.4%
	Enthusiastic	15.9%	.0%	15.9%		Tense	9.1%	2.3%	11.4%
(*) Carefree Conscious $\chi^2=6.35$; $p<0.05$	Carefree	4.5%	.0%	4.5%	(*) Sensitivity hard/soft $\chi^2=15.59$; $p<0.0005$	Hard	31.8%	6.8%	38.6%
	Moderately C-C	18.2%	9.1%	27.3%		Moderately HS	9.1%	38.6%	47.7%
	Conscious	22.7%	45.5%	68.2%		Soft	4.5%	9.1%	13.6%
Shy Self-starter	Shy	11.4%	11.4%	22.8%					
	Moderately S-S	20.5%	29.5%	50%					
	Self-starter	13.6%	13.6%	27.2%					
2ND TIER TRAITS									
Adjustment Anxiety	Adjusted	25.0%	27.3%	52.3%	Listless Excitability	Listless	4.5%	13.6%	18.2%
	Moderately A-A	15.9%	22.7%	38.6%		Moderately S-E	31.8%	38.6%	70.5%
	Anxious	4.5%	4.5%	9.1%		Excitable	9.1%	2.3%	11.4%
Introversion Extroversion	Introverted	.0%	.0%	.0%					
	Moderately I-E	19.5%	12.2%	31.7%					
	Extroverted	26.8%	41.5%	68.3%					

The results obtained from the mean of the mood state profiles in the happiness and anger sessions, and performing the χ^2 test with residual analysis corresponding to the different states according to gender, found no significant differences between boys and girls (Figure 1).

As can be seen in Figure 1, in the happiness and anger sessions, both boys and girls have a state of low tension, low depression and low fatigue and conversely a highly vigorous state.

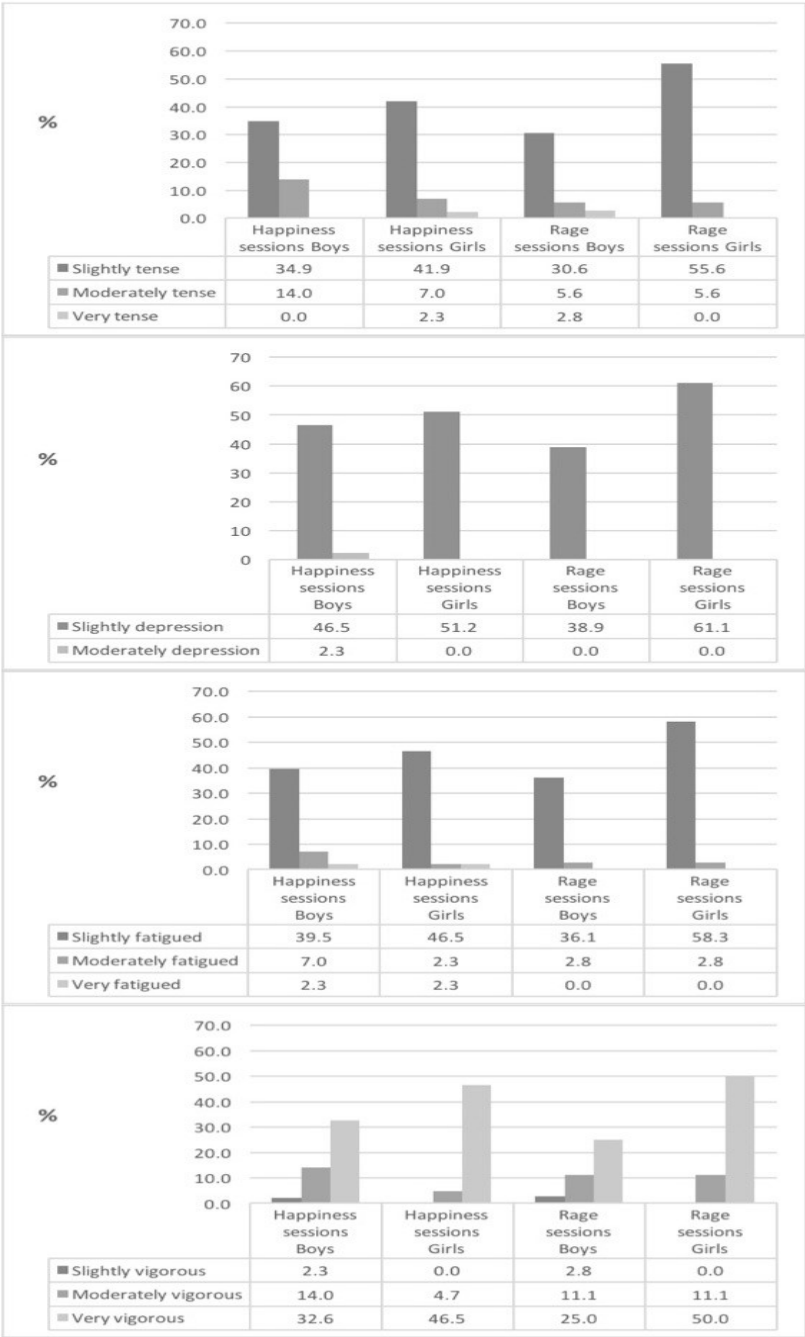


Figure 1. Mean of the tension, depression, fatigue and vigour state profiles in the happiness and anger sessions according to gender

In the T-test for related samples of mood states between the happiness and anger sessions (Figure 2), it can be observed that there are no

significant differences between the mean for tension, depression, anger and fatigue corresponding to the happiness sessions when compared to the anger sessions. However, the mean for vigour is significantly higher during the happiness sessions than those of anger ($t=3.32$; $p<0.005$).

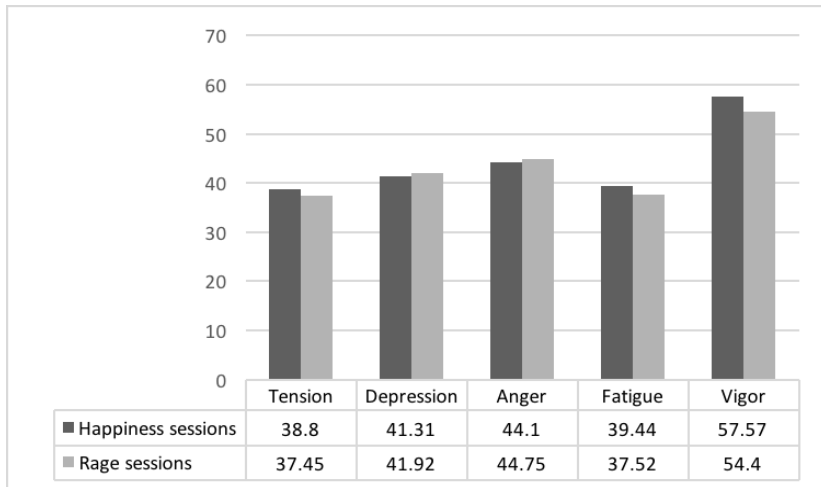


Figure 2. T-test for related samples of the mean tension between happiness sessions and anger sessions

Likewise, significant differences can also be observed in the state of vigour between the pre-test and the fourth session means, both in the anger and happiness sessions (Figure 3).

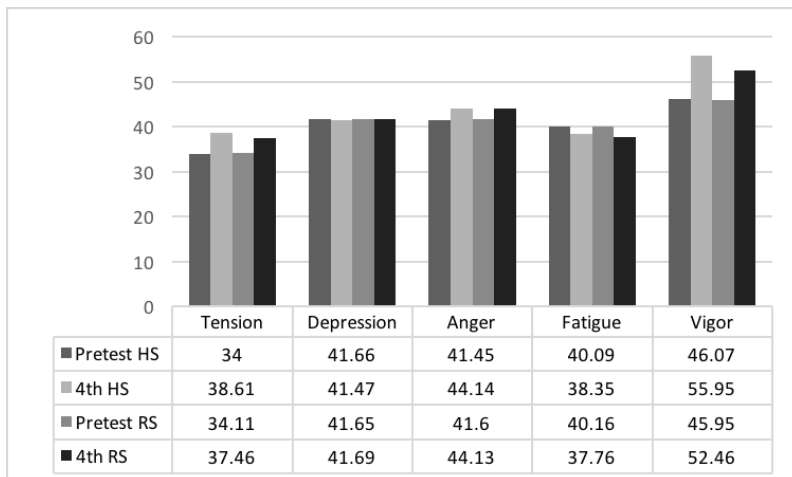


Figure 3. Means of the mood state profiles between the pre-test and fourth session (happiness/anger). (HS: Happiness sessions; RS: Anger sessions)

Conclusions

According to the results, obtained with the Children's Personality Questionnaire (CPQ), significant differences have appeared between genders in the subdued/enthusiastic, carefree/conscious and hard/soft sensitivity traits.

The means of the mood state profiles in the happiness and anger sessions lead us to believe that work on an emotion referred to as 'negative' (anger) can be managed just like another referred to as 'positive' (happiness), since the emotional traits were maintained in all sessions. In this sense, one might conclude that a negative emotional task, such as anger, managed through educational activities, could have a positive impact among participants, minimising the impact of this emotion on social development in our students.

Within the comparison of the T-test mood state profiles between the happiness and anger sessions, the mood state traits were maintained without differences, except for the mean vigour, which was significantly higher in the happiness sessions compared to those of anger. This result could lead us to conclude that vigour may be a trait considered a positive emotion (happiness).

In the same vein, significant differences can also be observed in the state of vigour between the pre-test and the fourth session means, both in the happiness sessions and the anger sessions, suggesting that this type of activity could help to reinforce students' level of engagement in the classroom.

It therefore seems positive that there are no significant changes in the states of fatigue and depression in the different sessions (positive – happiness, and negative – anger), and that in the increase in the state of vigour in the students, results point to the possibility of working on both types of emotions as a positive intervention measure, and for coping with emotions known as 'negative' as a form of work for adapting to experiences and to socio-interpersonal environments, promoting an improvement in social skills, a basic facet of success in personal and social life.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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ORIGINAL RESEARCH PAPER

**PLANNING OF SPORT PREPARATION OF A
FORMATION TEAM IN DANCE SPORT:
EXPERIENCE OF THE REPUBLIC OF BELARUS**

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Abstract

While planning the training process in dance sport it is expedient to use a cycle attached to world, continent, and national championships. The official competition schedule of Formation implies one official competition per year in case of a top-team preparation schedule (World championship, usually held in October – November). It can be further changed if a European championship is included. National Formation championship also requires a peak of sport shape for a team, however, demonstrating one's strengths, but not the competition of the equals, if a dialogue model of domination in formation dance sport is developed in a country (e.g. Belarus realized it in 2011). Belarusian Formation must have two-cycle annual preparation, able of transforming it quickly into a three-cycle one. It is expedient to connect this periodization with a life cycle of a team lasting usually for two seasons in case of a top-team. The Formation team preparation macro-cycle will include two year cycles. The sport shape development of athletes is traditionally provided within preparation, competition and transition periods successively replacing each other. They support the phases of acquiring, maintaining and temporary decrease of a quality of Formation routine performance. This approach to the planning and periodization considers the specificity of Formation dance sport, and requires further detailing with meso- and micro-cycles in the preparation process.

Key words: *dance sport, formation, competition, championship, organizer, routine, result, life cycle of formation routine, macro-cycle*

Introduction

The used approaches to periodization and planning of sport preparation are defined in many ways by the specificity of a kind of sport. Depending on the frequency of competitive exercise change (correction), complex coordination sports can be divided into two groups [1]:

- sports, characterized by the content and form stability of the competitive exercise;

- Sports that require a periodic change of the competitive exercise.

Specialists recommend using a four-phase approach to periodization for the second group of sports [1].

The first phase, also called Basic, is oriented to the achieving of such a level of technical preparedness that would be sufficient for a new competitive exercise performance. It is connected with learning separate elements and combinations and the enhancement of their performance. Besides, special attention is being paid to general and special physical preparation (SPP). This phase is responsible for laying the foundation for the new level of technical mastery and athletes' functional abilities which are necessary for it.

The second phase deals with the task of further technical enhancement by shifting the focus from separate elements and combinations to the performance of the entire sport routine. It requires some decrease of loading volumes in means of SPP, while the collected potential is being maintained by the increase of SPP intensity.

The third phase fulfils the task of new technique adaptation to the competitive conditions of its performance. It is achieved by observing the contumacy and adherence in volumes and intensity of means for technical and physical enhancement. This phase is characterized by the maximum loading volume in means of SPP.

The fourth phase covers the complex enhancement of all the sides of athletes' preparedness. The volume and intensity of loading changes: loading volume for strength and speed-strength qualities decreases while that for endurance and flexibility increases.

If one considers kinds of sport within Olympic program, the entire preparation is adjusted to a four-year cycle with one year for each phase.

Dance sport is a unique kind of sport which includes about 15 disciplines. World Dance Sport Federation has more than 20-year experience of cooperation with International Olympic Committee and International World Games Association. Yet dance sport stays beyond the Olympic program while the World Games program presents as a rule not more than three dancing disciplines.

Formation is a team kind of dance sport. It has quite a rich history and high level of development in the world, as well as specificity of training and competitive activity. It suggests a regular renovation of a presented competitive exercise (formation routine).

Formation has never been included into World Games program. In 2013 it was among disciplines included into the first (and the only so far) WDSF World DanceSport Games. For this reason a four-year (Olympic) cycle of preparation described above cannot be used as Formation demands elaborating of the unique approach to athletes' preparation planning.

Material and Methods

The study of world experience and the analysis of dancing formation genesis allows to state that the approaches to planning of dancing team preparation depends to a great extent on the model of organization and functioning of formation in a country.

Considering the level of development in a kind of sport in a world practice, three basic models of formation organization and functioning can be distinguished (Table 1) [2]:

- discursive model (model of absolute competition);
- dialogue model (model of oligopolistic competition);
- Monologue model (monopolistic model).

Table 1

Description of formation organization and functioning models

Type of model		Specific indicators of development	Representatives
Discursive		<ul style="list-style-type: none"> – long period of development and shaped traditions; – high popularity; – big number of teams; – significant number of schools and clubs which participate in development; – big number of tournaments of different levels, annually held in the country; – significant number of coaches for a team; – high public interest and “awareness”; – active participation in organizing the official tournaments 	Germany, USSR, Russian Federation
Dialogue	<i>Parity</i> (no evident leader)	<ul style="list-style-type: none"> – several formation teams; – one or few annual formation teams tournaments in the country; – several schools and clubs which participate in the development; 	The Netherlands (Latin), Czech Republic, Romania, Slovakia, Mongolia
	<i>Dominant</i> (evident leader)	<ul style="list-style-type: none"> – medium level of public popularity; – discrepancy of coach and adjudication boards 	The Netherlands and Hungary (Standard); the Republic of Belarus (since 2011)

Table 1 continue

Monologue	<ul style="list-style-type: none"> – one formation team; – one school (club) which participate in formation development; – absence of national formation tournaments; – only international competitive activity of the team; – significant discrepancy of coach and adjudication boards 	Lithuania, Moldova, the Republic of Belarus (until 2011)
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In many countries formation had an “ascending vector” of development, i.e. from national competition to entering the international rating. Development of Belarusian formation had a “descending vector”. Belarus got its first international experience in 1992 with “Mara” Formation team. The first experience of holding official European and World Championships was in 1999 (Hemel, European Championship) and in 2004 (Minsk, World Latin Championship). In 2008 – 2009 there happened a change of the leader (“Univers” Formation team of Belarusian State University of Physical Culture), yet monologue model of formation development in the country has remained. Only since 2011 there have appeared more formation teams in Belarus, which made it possible to hold National Formation Standard Championships. This change can be regarded as the beginning of the development of a more progressive dialogue model with oligopoly of dominance in Belarus. Nowadays there are three formation standard teams in Belarus (with the evident leader). Teams’ preparation is organized exclusively on the expense of the establishments which hold sport clubs and the sponsor help. There is no system of staff reserve for formation teams (no models of “sport school – reserve – national team”). State does not finance formation as a professional sport activity. These factors influence the organization of training process: it’s impossible to plan several trainings a day; and the preparation must imply alignment of the physical readiness levels of all the team members and have a “cumulative” effect, as the competition is very low at the national level and very high at the international level.

Preparation planning for Belarusian formation team is expedient to make, using the cycle attached to the main competitions. According to current rules in dance sport for formation category there are the following annual international competitions that can be held: world championship, continent championship, world cup, continent cup.

For the last seven seasons (since 2011) European formation standard championship was held only in 2015. Formation Latin championships were held more regularly. However, in seasons of 2015-2017 European

championships were also missing. The last cups were held in 1997 (Table 2).

Table 2

Information on the Organizers of the Official Formation
Competitions in 1992-2018

Year	Championship status	Standard		Latin	
		County of organizer	City of the championship	County of organizer	City of the championship
1	2	3	4	5	6
1992	European Championship	Information is not available			Bremerhaven
	World Championship		Stuttgart		Vienna
1993	European Championship		Berlin		Köln
	World Championship		München		Stavanger
1994	European Championship	Information is not available			Dortmund
	World Championship		Braunschweig		Bremen
1995	European Championship		Doetinchem		Bourges
	World Championship		Stuttgart		Berlin
1996	European Championship		Oldenburg		Bremerhaven
	World Championship		Berlin		Vilnius
1997	European Championship		Ludwigsburg		Warsaw
	World Championship		Chisinau		München
1998	European Championship		Chisinau		Budapest
	World Championship		Braunschweig		Göteborg
1999	European Championship		's-Hertogenboch		Gomel
	World Championship		Elbląg		Vilnius
2000	European Championship		Chisinau		Ostrava
	World Championship		Braunschweig		Wels
2001	European Championship		Usti nad Labem		Bekescsaba
	World Championship		Berlin		Bremerhaven
2002	European Championship		's-Hertogenboch		's-Hertogenbosch
	World Championship		Chisinau		Vilnius

Table 2 continue

1	2	3	4	5	6
2003	European Championship		Chisinau		Usti nad Labem
	World Championship		Stuttgart		Essen
2004	European Championship		Chishinau		Bremen
	World Championship		Braunschweig		Minsk
2005	European Championship		Braunschweig		Bremen
	World Championship		Elbląg		München
2006	European Championship		Chisinau		Vilnius
	World Championship		Moscow		Bremen
2007	European Championship		Chishinau		Dusserldorf
	World Championship		Stuttgart		Bremerhaven
2008	European Championship		Chishinau		Essen
	World Championship		Moscow		Vienna
2009	European Championship		Miskolc		Bremen
	World Championship		Ludwigsburg		Vilnius
2010	European Championship		Ludwigsburg		Bremen
	World Championship		Elbląg		Moscow
2011	European Championship	was not held			Tyumen
	World Championship		Braunschweig		Vilnius
2012	European Championship	was not held			Vienna
	World Championship		Ludwigsburg		Bremen
2013	European Championship	was not held			Vilnius
	World Dance Sport Games		Kaohsiung		Kaohsiung
	World Championship		Tyumen		Bremen
2014	European Championship	was not held			Düren
	World Championship		Braunschweig		Bremen
2015	European Championship		Elbląg	was not held	
	World Championship		Ludwigsburg		Vienna

Table 2 continue

1	2	3		4	
2016	European Championship	was not held		was not held	
	World Championship		Pecs		Bremen
2017	European Championship	was not held		was not held	
	World Championship		Braunschweig		Vienna
2018 (plan)	European Championship		Sochi		Kalisz
	World Championship		Pecs	no information	

Organization of such competitions involves high financial expenses. Moreover, guarantee of audience full house (and getting at least a minimum profit) is possible only if formation dance sport is popular in the country. For this reason the number of organizing countries for such events is not big. So, the list of countries that hosted official standard competitions in 1992-2018 includes only 7 countries (Figure 1).

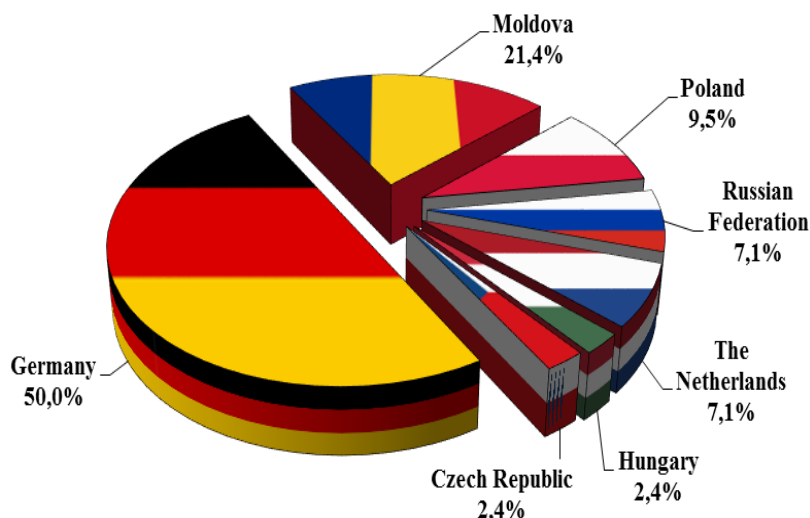


Figure 1. Participation proportion of European countries in organization of official standard championships (1992-2018)

These facts can explain why only world championship is guaranteed annually for formation teams. Another frustrating factor for planning the preparation is that the dates of world and continental championships are announced for the dancing community less than 4 months before the event

takes place (for example, European Championship in 2015, World Championship in 2016 and European Championship in 2018).

Results

Therefore, while planning the preparation of the top formation team in Belarus only one official standard competition, the world championship, usually held in November, can be considered (table 3). Further correction of the preparation process is possible in case European championship is included in the competition schedule.

Table 3

Distribution of main competitions of Belarusian team for a calendar year

Month Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2009		GLook								ECh	WCh	
2010					GLook				ECh	WCh		
2011			GLook								WCh	
2012			NatCh								WCh	
2013			NatCh						VGames WCh			
2014			GLook							GLook	WCh	
2015	Other		NatCh							ECh	WCh	
2016			GLook		NatCh							WCh
2017			NatCh							GLook	WCh	NatCh
2018 (plan)		ECh			GLook						WCh	

Note: WCh – World Championship; ECh – European Championship; VGames – World Games; NatCh – National Championship; GLook – General Look; Other – other tournament.

Another important competition that requires the peak of sportive shape is national formation championship. Such competitions are usually held in spring in Belarus. As the experience shows, the performing quality of formation routine by the top team at such competition is a little lower than at the world championship (previous competition). It is caused to a significant extent by low competition at the national level.

Taking into account the fact, that in 2006-2010 two official standard competitions were held and the dates of their organization were scheduled by World Federation within a month interval (for example, European Championship – October, 14th, 2006 and World Championship – October, 28th, 2006; European Championship – September, 25th, 2010 and World Championship – October, 23rd, 2010), it is more expedient to use “binary” year cycle. If such approach is used, the transitional periods between the first and the second competitions are not scheduled, and the competition period of the previous tournament (European Championship) smoothly

passes into preparatory period of the coming tournament (World Championship) [3, 4].

The season of 2017-2018 is characterized by unusual competition schedule. As the European Championship was scheduled for February, 25th, 2018 (Sochi, Russian Federation), the National Championship which is supposed to nominate teams for the participation in the official competitions for the coming calendar year, was held at the end of 2017. Thus, “binary” cycle for preparation planning is being used for the coming season, but with another sequence of competitions: the World Championship (end of November, 2017) – the National Championship (end of December, 2017) – the European Championship (end of February, 2018).

However, even the effective fulfillment of general and specific tasks of sport preparation within a year cycle cannot guarantee that a formation team will get a high result at the competition if the optimal transitional time for a new competitive exercise (formation routine) is not considered. So it is more expedient to connect the periodization of formation sport preparation with the life cycle of formation routine (LCFR) which implies the time period from the conception and the theme choice till the last presentation of the routine in public [5]. Traditionally LCFR consists of 4 stages: conception (I); creation (II); production (III); perfection of performance skills (IV). In some cases a change of a performer (V) is also possible. As a rule, LCFR of a top-team lasts no longer than two seasons, so macro-cycle of sport preparation in formation will include two year cycles (Figure 2) [6].

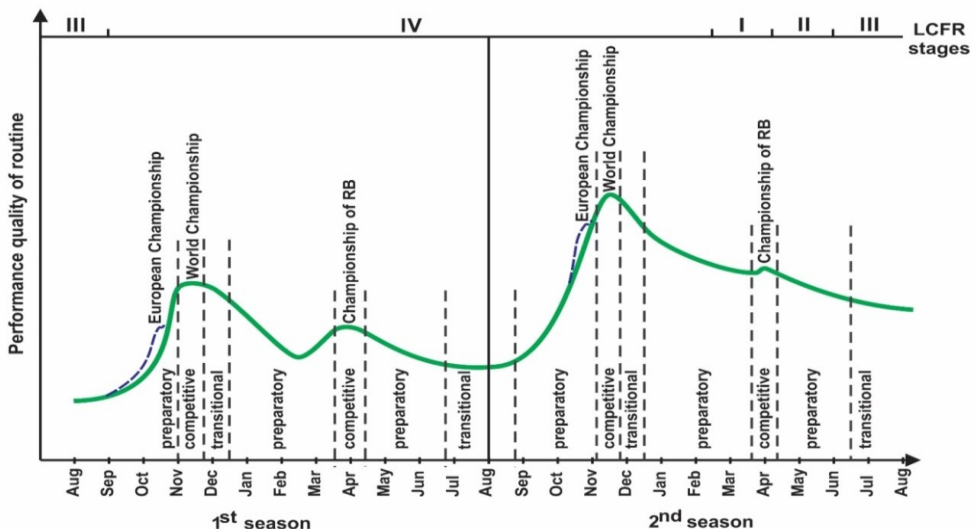


Figure 2. Periodization of macro-cycle for formation team sport preparation in dance sport in the Republic of Belarus

Development of team members' sport shape is traditionally provided within successively changing transitional, preparatory, and competitive periods. These periods support phases of acquiring, maintaining and temporary decreasing of routine performance quality, which are intrinsic for the process of preparation.

Discussion

While organizing the preparation of a formation team, it is necessary to provide the task fulfillment of all the four Olympic macro-cycle phases within distinguished periods of each season.

Transitional period carries out the task of decent rest. Also it maintains the right level of training for being as ready as possible by the beginning of the next cycle [7]. This period usually coincides with the middle of summer season for a formation team, as well as with the end of a calendar year. Its continuation may vary depending on the competition schedule of the coming season, and on the LCFR phase.

Preparatory period is divided into the phases of general and specific preparation [7]. The duration of these phases is various at different stages of LCFR. The phase of general preparation is the longest at II and III stages. This phase may aim at both increasing the level of athletes' physical preparedness with perfection of physical abilities and the production of a new formation routine. The phase of specific preparation (longest at IV stage of LCFR), as a rule, is connected with the stabilization of training load volumes and the increase of intensity by rising technique-tactic means of the training.

Competitive period, carrying out the task of increasing the achieved level of team's specific preparedness on the whole, must help to attain the desired sport results [7]. The early competition phase can be planned considering some invited competition or General Look. Planning the phase of immediate preparation directly depends on the dates of holding the world championship. If the period is binary, swift correction of training process is required regarding the results of "the first" competition. For this purpose it is expedient to use the author's method of management for the formation team's training process, based on bidirectional analysis of competition score (Figure 3) [8].

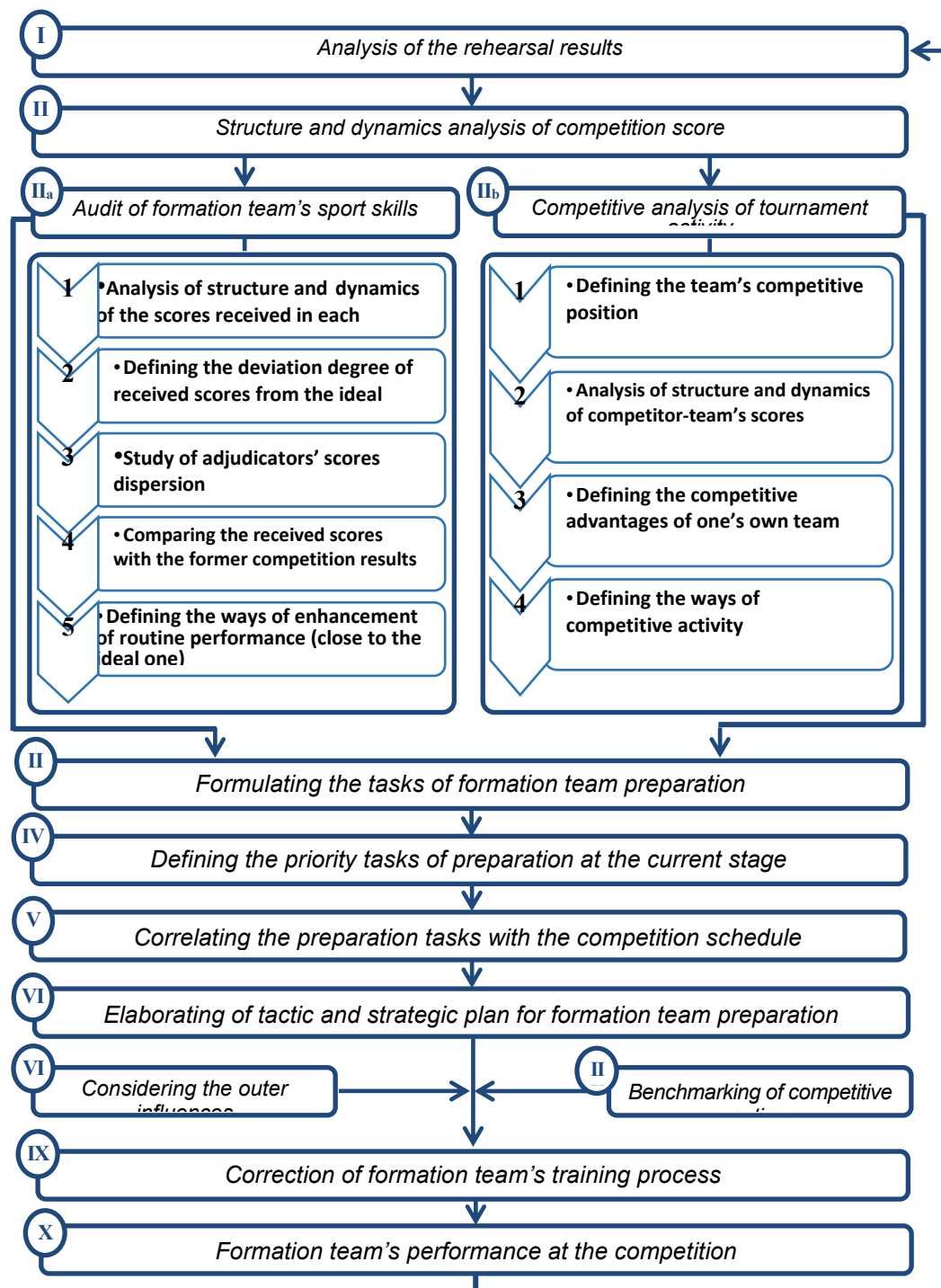


Figure 3. Scheme of management for formation team's preparation process based on bidirectional analysis of competition score

Audit of formation team's sport skills, based on the analysis of adjudicators' score content and structure, informs the coach about the dynamics of formation routine performance quality within LCFR (Table 4), including blind spots in team's preparation.

It is based on the consistent and systematic analysis of a team's competitive results, as well as on collecting the data about the main rivals' and leaders' competitive activity. The author's method of management for the formation team preparation implies that the score, which the athletes got at the competition, indicates the quality of the team's preparation system. A bidirectional analysis of the structure and dynamics for such a mark has been conducted, as well as the detailed study of components that influence the score value has been made.

Table 4

Retrospective analysis of adjudicators' scores
(example of Formation team "Universe", Belarus)

Competition	Dynamics index	Adjudicator's score components				Total Score
		Technical Quality (TQ)	Movement to music (MM)	Team Skill (TS)	Choreography and Presentation (CP)	
World Dance Sport Games, 2013	First performance of the routine	8,375	8,500	8,500	8,500	33,880
WDSF World Formation Standard Championship, 2014	Current adjudicators' score	8,143	8,500	7,857	8,200	32,700
	Growth rate, %	97,230	100,000	92,435	96,471	96,517
	Absolute increase	-0,232	0	-0,643	-0,300	-1,180
	Growth coefficient	0,972	1,000	0,924	0,965	0,965
WDSF World Formation Standard Championship, 2015	Current adjudicators' score	8,957	7,543	8,043	8,3	32,843
	Growth rate, %	109,996	88,741	102,367	101,220	100,437
	Absolute increase	0,814	-0,957	0,186	0,100	0,143
	Growth coefficient	1,100	0,887	1,024	1,012	1,004

At the last stage of audit a list of possible ways of team's performing skills perfection is formulated. These ways may include activities for development of athletes' definite qualities, performance enhancement of separate routine fragments, routine geometry and music corrections, etc.

Competitive analysis of tournament activity allows to determine strong and weak points of main rivals, to define the degree of lead and lag with the closest competitors according to separate indices (Figure 4). It gives the opportunity to focus one's attention on improvement of indices, which have lower level, to find the vector of performing routine quality rise, as well as to determine the ways of a more vivid expression of one's competitive advantages.

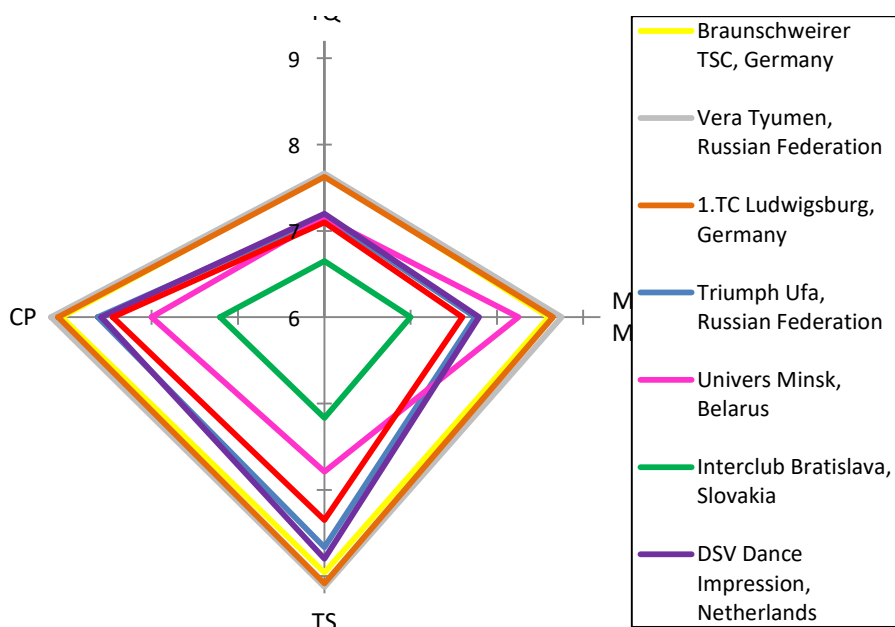


Figure 4. Competitive profiles of teams (example of semi-final results at the World Championship, 2017)

Correlating the results of score analysis with the team's preparation tasks, considering the tasks' priority at the current preparation phase, and estimating the chances of their fulfillment within the competition schedule, the coach is able to build up a formation team's preparation system which effectively corresponds to the current LCFR stage and outer influences. It is important to understand that sport team's success components which are considered for competition score may have different reaction speed to the management influence (Figure 5).

Defining the priority tasks of preparation at the current stage

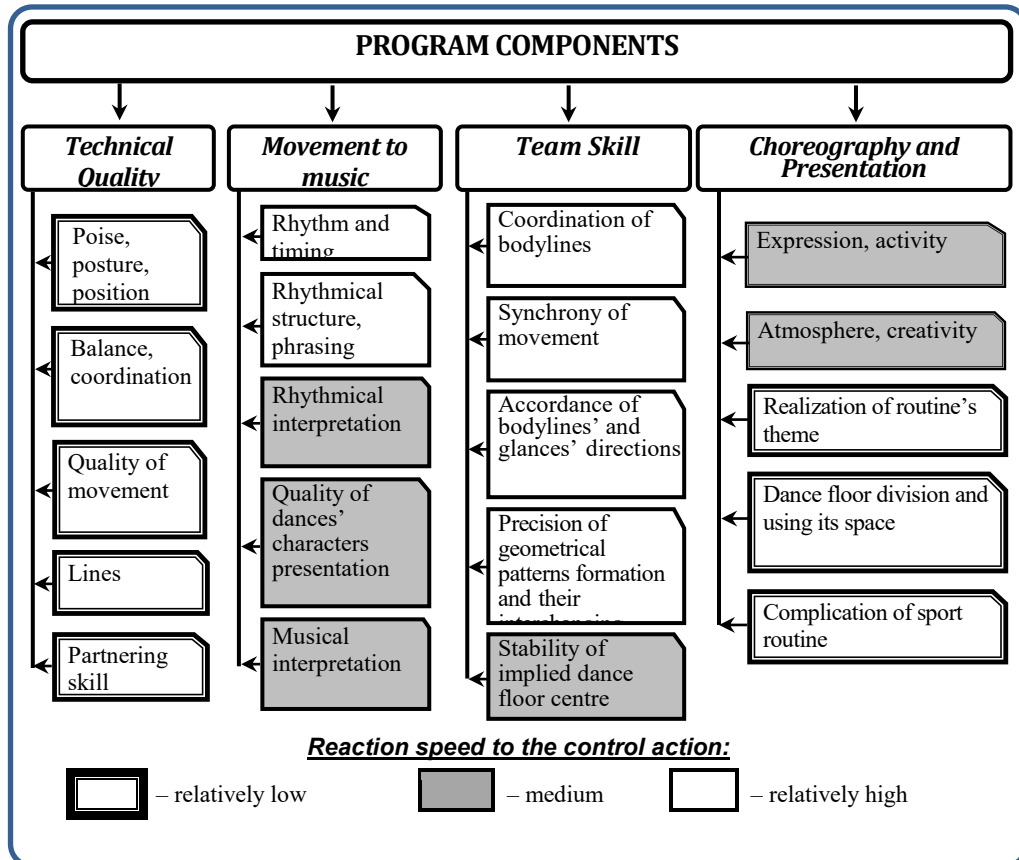


Figure 5. Graph of the method for defining the priority of formation team's preparation tasks

At the same time, the speed of increasing the level of team's performance components considered for adjudicator's score depends not only on the character of the influence, but on the development level of athletes' physical qualities as well.

Questionnaires of coaches and athletes from Belarus, Slovakia, Lithuania, Russia, Germany, China, etc. collected in 2005-2006 and in 2015-2016 helped to define and range the priority qualities of dancers. Coordination abilities and specific endurance are the key qualities of a sport dancer. A large time gap between the researches allows to state that the main combination of a dancer's priority qualities is constant. Exploring the experts' opinions as well as the long experience of the author make it

possible to affirm that formation team dancers' priority qualities must be of a higher development level than those of individual couples [9].

Conclusions

The information base for formulating the key demands for physical preparation of individual dancers and formation teams consists of the author's research of essential peculiarities of formation as a kind of dance sport and analysis of formation functioning models in the world. It includes the analysis of state regulation structure, financing mechanisms of formation in Belarus, and the study of regulatory framework of world and national federations of dance sport. These key demands cover the following issues:

1) the development level of coordination abilities must give the opportunity to adapt quickly to the rhythm, character and tempo of dances which successively change one another, not neglecting the high quality performance of the geometrical pattern of formation routine. Formation routine's duration (6 minutes) and the necessity to perform it several times on the competition day make additional demands to the development level of specific endurance of team athletes. As soon as the adjudicator board who estimate the component of "Choreography and Presentation" is located significantly far from the athletes, it requires a high level of speed-strength abilities;

2) formation is not involved in the system of state providing for sport preparation which results in training in private clubs, absence of state financing for professional sport activity of the national team, and the necessity of combining the training and working (academic) schedules of athletes. These peculiarities require a highly-effective methods of SPP which would allow to organize all kinds of sport preparation within one and the only possible evening training regarding the time limitations and natural tiredness of athletes after a working day;

3) as there is no preparation system of sport reserve in formation the SPP system must provide a quick alignment in physical preparedness level for all the team members;

4) the diversity of physical preparation means must as well provide for the necessary motivation to trainings in conditions of low national and high international competition;

5) as formation teams' schedule is very irregular the SPP methods must assure "accumulative" effect and exact achieving the peak of team's preparedness by the moment of competition.

As a result, a two-cycle planning of preparation with a chance of quick transferring it into a three-cycle one must be used in Belarusian formation dance sport. The offered approach to the periodization must

consider the specificity of formation and it requires further detailing, considering meso- and micro-cycles which are realized in the preparation process. Speaking of the countries that realize oligopolistic model of competition in formation development, it is necessary to use a special SPP method which will provide not only development of unique skills of a formation dancer, but will help the team to accurately achieve the peak of their sport shape as well, as the system of formation is specifically organized and the competition schedule within a year cycle is very irregular.

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REVIEW PAPER

SPORTS - RIGHT OR PRIVILEGE? SOCIAL STRATIFICATION IN SPORT. CASE OF ROMANIA

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Abstract

The purpose of this article is to present from a historical perspective the way in which membership in a social class influences the access and participation in sport of people from Romania. The specific features of the social, political and cultural context of the two discussed periods, the communist and the democratic regime, highlight the practices encountered both in terms of sport for all, especially performance sport. The Communist political regime, established after the Second World War, but especially the one led by Ceausescu (1965-1989), approached a special policy towards sports, sportsmen, in particular, the results in international sports competitions bringing a superior social position and, implicitly, privileges. The Communist Party and its leaders have used sport as a resource in international politics, supporting and controlling the organization and participation in multi-level sports, using propaganda. People's interest in sports was as constituting one of the few alternative leisure, with consequences for social ascension. After the 1989 Revolution, the established democratic regime produces changes in all areas of activity, including sports. Professionalisation of sport depends on supply and demand in the market of sport. Sport remains an opportunity to climb on a social scale. Inequalities between individuals are more pronounced, preferences and access to certain sports branches are correlated with socio-professional status and cultural background.

Keywords: *social class, cultural capital, socio-economic status, Romania, communism, democracy, participation in sport*

Introduction

Broadly speaking, social stratification consists of any form of social differentiation capable of identifying groups in a partial or total order.

According to Giddens (2001, p. 26), social stratification is understood as "structural inequalities between different groups of people."

Regardless of the period and stage of development, society has always been divided into classes. Thus, regardless of professional qualification or occupation, the role it plays in the production, of economic criteria (income, wealth, etc.), level of education, the individual belongs to a social class, which gives it a certain status, prestige completed within the community to which it belongs. Bourdieu's perspective of analyzing the competition between social classes is also adapted to sport as human activity (1978a, p.24).

Many studies highlight the systematic relationship between belonging to a certain social class and practicing sport (Bourdieu, 1991, Gruneau, 1975, Loy, 1969, Scheerder et al., 2002, Wilson, 2002, quoted by Scheerder et al., 2005, Wilson, 2002, Mehraein, 2016, Moens & Scheerder 2004). Social class indicators are good predictors of sports participation. Higher classes practice sport more often. The social class is inversely correlated with engaging in physical engagement sports.

The current trends in social stratification in sport refer to:

- the democratic governance system has not canceled social inequality in sports: there is a tendency to practice inaccessible sports in disadvantaged classes.
- the middle class adopts positive attitudes towards sport, valorizing its beneficial social effects and the opportunity to join the top.
- the democratization of access to education tends to reduce the differences in sports participation (studies in England show that they are maintained, but in the US they see the diminishing of differences), but sometimes sport in schools and the lack of facilities strengthen them.
- the practice of sport by the working class is influenced on the one hand by the middle class, but, to a large extent, we find today the traditional sports values (victory, material gain, contempt for authority and norms, hardness etc.).

Two paradigms are distinguished to explain these trends. The *lifestyle paradigm* analyzes sport as a field of activity, a way of distinguishing, a prestigious source of the upper class compared to other social classes (the theory of the *loisir* class (Veblen, 1953).) In another approach, according to the theory of cultural capital (Bourdieu, 1978b), sport is regarded as any cultural activity that requires specific preferences

and tastes, but also skills and knowledge that are associated with social class. All these are forwarded through socialization and are markers and legitimators of social differences.

The second paradigm, the *economic* one, postulates that the practice of sport requires resources such as money and time, and upper classes hold them to a greater extent. High physical engagement sports are relatively not expensive, and therefore attractive to people with lower socio-economic status.

The practice of sports by adults is closely related to membership in a social class. Access to the practice of sport is therefore determined by the social class, but what is more interesting is that there is a link between the chosen discipline and the socio-economic environment (Thomas, 1983).

Lüschen (1969), studying the origin of a sample of 1,880 athletes, calculated for each sport branch a socioeconomic level index. Its variation is between 0 (if all the practitioners are in the lower class) and 300 (if all are in the upper class). Thus his studies show that on the built-up scale different branches of sport are as follows: tennis 209, hockey on grass 186, skiing 181, parachuting 141, athletics 139, swimming 136, riding 133, gymnastics 125, canoe-canoe 117, table tennis 116, badminton 103, handball 87, weightlifting 81, football 68.

Another classification of sports was developed by Renson (1976) who divided them as follows:

- prestigious sports - include skiing, tennis and golf; the practitioners of these sports disciplines come from the upper classes. They are considered elements of aristocratic fashion. The social values of this group are: softness, restraint, distance. Competition requires a certain distance between competitors.
- nature-related sports - including canoeing, rowing, deltaplanism, or climbing. They require complex equipment, and their followers cover their heads with a helmet - a symbol of risk. They are practiced by action men, entrepreneurs, whose ambition is to reach the highest peaks. Aggressive against impersonal obstacles, they seek to dominate the forces of nature. These disciplines are practiced by the great bourgeoisie.
- sports within which a precise objective is set, which does not coincide with that of the previous category. The presence of a balloon, net, basket or panel characterizes this type of discipline, which is practiced by the small bourgeoisie, the transient class.
- modest classes sports - body contact is tight; here are the wrestling, judo, boxing. The author speaks of a "corporal communism" in this respect.

Diem (1971) thought that the nature of sport changes while changing work and way of life. The author believes that industrialization and city development have had effects on the concept of sports.

Another approach is the sport orientation as a result of social change (Hasbrook 1986 Scheerder & al., 2005). For example, in its original form, the emergence of sport in England in the seventeenth century is linked to the formation of aristocracy, not linked to production and disposal of free time.

Sport and access to any form of physical activity is a human right, regardless of age, race, gender, ethnicity, language, religion, national identity, sexual orientation etc. It is a valuable reference, along with other ideals, of several international institutions and organizations, and is enshrined in several official documents: the Declaration of Human Rights, the Olympic Charter, the European Charter for Sport for All, etc. It is precisely these criteria of differentiation between individuals that are the source of social inequalities, even in sports (Jarvie, 2011).

Studies reveal other variables that can influence the level and forms of practicing sport and physical activities: marital status, the geography, education level, occupation (Scheerder & Vos, S., 2011 Greendorfer 1978, Washington, & Karen, 2001). van Tuykom and Scheerder (2008), Hartmann (2006), using data included in the 2005 Eurobarometer on recreational sports activities of 27 Member States, reveal that:

- in some states (Scandinavia - Finland, Sweden, Denmark) citizens are more physically active than others in other countries (Portugal, Romania);
- geographically, people in the northern part of the European Union practice more physical activities than those in southern countries; Western population is more sporting compared to those in Eastern countries;
- gender differences tend to balance men versus women;
- 15-24 year old practitioners give more time to sports activities than middle-aged (45-65);
- the level of involvement in sport is directly proportional to the level of education;
- the level of involvement in sport is directly proportional to the level of education;
- marital status influences the practice of sport: single people practice a higher percentage of sport than divorced and married or cohabiting relationships. Widows are the least physically active.
- students are much more active compared to retired people. Managers and office workers are involved more than self-employed and unemployed;

- the urban population is more active in sports than in rural areas. The number of practitioners is higher In large cities comparing to the smallest.

Social stratification in sport. Case of Romania

By discussing the social stratification in sport, the analysis of the subject in Romania can be done in correlation with the political regime.

Sport, golden key to regime and communist party leader

The Romanian communist political regime had a policy of privileging sports in relation to other areas of activity (the church, for example). The potential of the sport to make political propaganda to the party and its leaders has been maximized. The values and ideals of sport were on the same wavelength as the demands of the multilaterally developed socialist society, the development of the mass sports sport and the sports activity in schools being the solution.

The values and ideals of doctrine were promoted through the athletes, their success being, in fact, the success of communist ideology. In this way, Romania formed its own image of the nation, on the one hand, by identifying with the athletes (the athletes became a positive model for each citizen of the country, and the foreigners associated the success of the athletes with the success of the regime), and of the leading elite, on the other hand (the political leaders assimilated the success of the athletes, using their image in international political meetings) (Rusu, 2016).

According to communist ideology, sport and the results in competitions represented a high level of living, the prosperity of the economy, the viability of the political regime, and, at the same time, a weapon against capitalism, being used as an efficient propaganda tool (within sport associations, unions and party structures, sport had to contribute to the education of athletes in the spirit of love for the homeland and its defense).

The equalization of socio-economic conditions in the socialist countries has created prerequisites for reducing the contrasts in the level of sports performance in these countries. According to Maximenko (quoted by Ponomariov, 1977) superior performance athletes from socialist countries to major sporting events to those in capitalist countries is explained by the welfare society members due to socioeconomic factors, while under capitalism they reflect only the general status of the social -economic of the nation.

Romanian Communist Party also saw sport as a means of social control, aiming to attract different types of sports organizations in exercising a systematic social influences on youth. All these efforts had only a major final goal: to attract youth into the sport movement and, implicitly, into the

ranks of the Romanian Communist Party. The state has become the main financial supporter of sports activities: built (but also destroyed) a solid material basis - stadiums, sports centers, gyms - which made possible the holding of international competitions in Romania, created the premises for setting up sporting clubs and associations on the ideas of amateurism and the image of amateur athletes (Rusu, 2016). The latter was used, trying to suggest that sport is, in fact, an activity complementary to work.

If spectators have become advocates of this idea, the athletes had to cope with the professional athletes in the capitalist countries. A solution of semi-professionalism or masked professionalism, however, had to be found, even if it contravened the doctrine of the party. The solution was the following: the exemption of work athletes in factories/enterprises. Even if they were employees, remuneration was, in fact, for sports activity. Under the sign of false amateurism and social stratification in sport, the Communists not only deviated from ideology but had the interest to mask and use it in their favor. In fact, social stratification through sport was done in an apparent way, because social-scale ascension was done by studying the "dossier," and any form of dissent to the party automatically led to the cancellation of any chance of promotion.

Sport - market product in the democratic regime

After the Revolution of 1989, sporting phenomenon can be viewed from different perspectives: now important is the relationship sport - market economy - freedom of expression. Market economy recognizes the inequality of opportunities but at the same time competition (based on supply and demand regulated by the free market). The means of advertising in this type of economy differ from those of the socialist regime. Thus, the sport-economy relationship is achieved in other terms: many brands / firms appeal to athletes to advertise. Sport has become a business, pluralist patronage in this area being a consequence of this. The funds spent by companies are in a clear increase and the same can be said about the number of applicants. Sports organizations typically seek sponsorship to increase their financial resources to improve the standard of a team or competition to support a new activity or to improve internal administration and promotion. Sports sponsorship has become really big business.

Integrating, after 1989, into the once-labeled world of "capitalism," sport has become a good business, transition to a market economy and professionalism by contributing fully to this. Many young people have had and have the opportunity to earn relatively large amounts of money in a relatively short time, which can open new perspectives in many spheres, including professionally. Sports people have felt the effects of the market economy faster than others, taking advantage of the social impact of sport

and attracting those people who can contribute to the development and spread of sport.

The most profitable relationship that has been established was between television and sports: sport has steadily strengthened and increased its interest among spectators by granting broadcasting rights to televisions that have paid their fees. In exchange, the advertising time for sport has increased.

Thus, sport has become the material of mass communication and a consumer in the current information society. It has become part of a culture that focuses on tension, fun and performance, but can be threatened by consumer passivity and total dominance of the media.

If in socialist society, social stratification was only apparent, today society offers all its members the opportunity to make profits. Under such conditions, practicing large amounts of money (skiing, tennis, cycling, horseback riding, golf, yachting, etc.) became almost impossible for a large part of the population. Those who meet to do sports are often individuals with opportunities close to winning, sporting materials used by them as an indication of their belonging to a social class or another.

Changes in the Romanian democratic society have obviously produced major changes in terms of sport, whether for all, or for high performance. At the level of organization and structure, the activity has diversified - along with existing ones, private clubs have been set up in several sports sectors, some of the public were privatized, others have been abolished. Sports at the high level of performance are supported by non-governmental organizations (the Romanian Olympic and Sporting Committee), and for all by public authorities (through the Ministry of Internal Affairs, the Ministry of National Education, the Ministry of Sport and Youth). The problem is that it is underfunded, money is not enough to produce major successes in major international competitions. The establishment of professional leagues (football, boxing, handball) has led to the professionalization of sport and, obviously, the creation of differentiations, even inequities (for athletes evolving in the same league but at different sports clubs in the same sporting branch) concerns the financial rewards of athletes from different sports. All these changes have been accompanied by legislative changes that have facilitated the work in accordance with international and national regulations (here we are talking about transfers, change of citizenship, employment, remuneration etc.).

Professionalization of sport brings new perspectives to approach sport as a profession. New jobs have been created as a result of the diversification of the service offer, especially in the area of sport for all. Other jobs came from other fields, adjacent to sports - journalism, economics (management, marketing), legal science, psychology and

sociology, medicine, etc.

Preferences to certain sectors and the availability of practicing sports are correlated with socio-professional status and income. Highly qualified individuals, in leadership positions and financial options, opt for generally-costly, cost-related sports (for equipment, subscriptions, personal assistance, rental, travel, including exotic locations, etc.), in while for middle class people are hard to reach or inaccessible.

The socio-economic status of social classes in nowadays life in Romania influences preferences and participation in sport. The emergence of a social class with incomes, but not necessarily highly qualified, brings about a series of changes in behavior and attitude. Practicing certain branches of sports (golf, horse riding, sailing, extreme sports locations extreme, trainings with personal trainer in exclusive fitness centers, etc.) is, along with other factors (purchase expensive goods - houses, cars, clothes etc.) standards of belonging to this social category, promoting a certain lifestyle.

Acceding social scale through sport remains an opportunity and democratic regime. Also, the opportunity to use prestige, recognition, and income earned during sports careers are used to build another after, whether in sports or in other fields (politics, journalism, management etc.). There are several examples of athletes who, after completing their sports career, occupy or hold different leadership positions in national and international institutions (ministers, councilors and state secretaries, presidents of sports organizations - Romanian Olympic and Sporting Committee, federations, sports clubs and associations etc.) (public and private) have invested in various sports activities (sports academies, organizing national and international sports events, building leisure centers and hotels, etc.), became journalists to broadcasters (public and private), have invested in various ventures in sport (sports academies in different branches, organization of national and international sports events, construction of recreation and spa facilities and hotels etc.).

Conclusions

In essence, social stratification through sport in Romania until '89 is limited to the political position of the athlete, because the basis of any decision was the party's agreement, and the rank offered political power from a social, not only economic point of view. A privileged social position could be achieved by practicing sport, more precisely, sports results provided superior status.

The development in a relatively short time of the sport was based on the communist propaganda (there was a permanent and controlled balance

between the tasks of the Communist Party and the achievements in sport) and the effect materialized in the desire of the Romanians to practice sport because they were not offered leisure alternatives. Enjoying political support, sport knew rewarding helping by creating a positive image of Romania in the world, the most valuable results of the history of Romanian sport being achieved during this period.

The democratic regime established in Romania in the early 1990s brings profound changes, in organization, in legislation, but especially in the professionalization of everything that means sports, regardless of direction (sport for all, performance, for people with disabilities or in school) . The sport with everything it involves (athletes, coaches, mainly sporting events, equipment, working and organizational system, institutions etc.) becomes a product that sells and buys driven by the principles of market economy.

Social inequalities between athletes, coaches, clubs are visible, negative effects being felt at the highest level. Preferences to certain sports and accessibility practices are related to socio-professional and economic status. Acceding social scale through sport remains an opportunity in the democratic regime as well.

However, irrespective of the political regime, it should also be sought to identify opportunities to equalize the chances of individuals in any field of activity, including access to physical and sporting activities.

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CURRENT NEWS



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LASE 10th PhD and Master Students Conference
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April 8 – 12, 2019 LASE, Riga, Latvia

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January 25, 2019 Riga, Latvia

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Following artificial text shows different types of in-text citation:

Claessens (2010) found evidence that attention will be given to multi-compartment models, such as the 3-water, 3-mineral and 4-compartment models, to assess percentage of body fat.

However, Raslanas, Petkus and Griškonis (2010) noted that Aerobic physical load of low intensity got 35.1 % of total trainings time. Research on physical loading also focused on identifying the basis of many years' research of physical activity (Bytniewski et al. 2010). According to Ezerskis (2010), "... heavy physical loads had the undulating character depending on the dynamics of workloads..." (p. 71) yet girls are more ascertained that the Track & Field training helps to develop courage.

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