



## RISK FACTORS IN HUNGARIAN ELITE RHYTHMIC GYMNASTIC FROM PSYCHOLOGICAL ASPECT THE RELATION AMONG BODY IMAGE, MOTIVATION, BURN-OUT AND PERCEIVED COACH AND PARENT-AUTONOMY SUPPORT

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### Анотація

Що стосується естетичних видів спорту, то ритмічна гімнастика є одним із найскладніших видів спорту та передбачає найбільший ризик порушення харчування та вигоряння. У випадку молодіжного спорту мотиваційний клімат та сприйняття підтримки автономії вважаються важливими факторами психологічного розвитку.

*Мета* – дослідити зв'язок образу тіла, мотивації та вигоряння художніх гімнасток із рівнем сприйняття підтримки автономії тренерами та батьками.

*Методи.* Вибірка складається з елітних спортсменів з художньої гімнастики ( $N=26$ ; середній вік= $16,34$ ;  $SD=2,00$ ). Застосовані такі затверджені анкети: опитувальник спортивного клімату; шкала сприйняття підтримки автономії для підбору вправ; опитувальник завдання та его орієнтації у спорти; опитувальник на вигоряння спортсмена; тест ставлення до тіла.

*Результати.* Встановлено значну, негативну, середню асоціацію між рівнем сприйняття підтримки автономії та шкалою девальвації, тоді як взаємозв'язок між рівнем сприйняття підтримки самостійності (з боку тренерів та батьків) та ставленням до тіла був значним, позитивним.

*Висновки.* Позитивне співвідношення рівня сприйняття підтримки самостійності та ставлення до тіла може означати амбівалентну якість відносин спортсмен-батько та спортсмен-тренер. Негативне співвідношення рівня сприйняття самостійності та девальвації виявляє важливість комунікації та зворотного зв'язку в самооцінці спортсмена.

**Ключові слова:** художня гімнастика, мотивація, прийняття самостійної підтримки, вигоряння, поведінка тіла.

### Introduction

Rhythmic gymnastics is considered as one of the womanish olympic sport. Due to the artistic background of this sport (quality of presentation, gracefulness and lightness) the real difficulties, problems and sacrifices are almost unremarked for an outsider, although they can influence the whole lifestyle and lifespan of the athlete. Rhythmic gymnastics recommends outstanding coordinational and motoric abilities as well as refined sport-specific skills because of it's highly complex and diverse collection of movements. Early specialization begins at the age of 3-4 and the sportcarrier terminates in young adulthood, however the early training load and exaggerated efforts in this sport can cause

harmful effects from psychological, physical and social aspects [7]. Furthermore, this sport can be characterized by a certain level of disproportion between relatively low number of competitions and huge amount of training/pratice hours [22].

In case of youth sport, the concept of autonomy mostly emerges in connection to self-determination theory. According to this theory [19], in order to experience motivation, the individual needs to feel competent (competency), have the opportunity to make own decisions (autonomy) and to be able to attach to peers and coaches (need for attachment). Regarding youth sport, the satisfaction of the need for autonomy helps to develop the self-determined attitude to sport, in which the direct environment has



an especially important role. According to earlier studies, autonomy support promotes motivation [9] and performance [2].

In our research we have studied the motivation of athletes through goal orientation theory. Mastery goals refer to the effort to acquire new skills and develop competency [8]. They can lead to higher level of joy, interest, commitment, intrinsic motivation, satisfaction and competitive performance, as well as they provide a prevention from the fear of failure [27]. Performance goal however refer to the effort to overfulfill others and express individual abilities and they can be characterized by low level of perceived competence and low or maladaptive performance and behavioral samples [8]. Mastery goals are considered to have a certain preventive effect against formation of eating disorders [20], however performance goals can be connected to manifestation of eating disorders [3].

Goal orientation of parents can be associated with their children's goal orientation, thus the motivational climate or goal structure created by parents can have a significant influence on children's goal orientation [1]. The mastery motivational climate created by parents (in opposite to performance goal structure) anticipates the high level of autonomy regulation [16]. The opinions about the influence of parents and coaches in youth sport are controversial. Some researches [16, 21] consider the role of parents more important, they highlight the influence of parents outside the sport and their undivided attention regarding the developmental possibilities, however coaches concentrate only on athletic improvement and their activities are limited to sport. On the other hand, it has been shown in case of gymnasts, that the attitude of coaches has a greater impact, than parental influence; youth athletes expect to be secured and coordinated through their athletic carrier by their coaches [13].

In those sports, where the physical appearance provides esthetic advantage, athletes are highly pressured to attain the most minimal body fat percentage [23, 14]. The psychological background of body image disorders and eating disorders involves the fear from biological maturity, the feeling of vanity, lack of interoceptive consciousness, as well as maladaptive perfectionism, that enhances cognitive and somatic anxiety and diminish self-esteem [12]. All of the sport-environment related difficulties, such as conflicts with coaches,

exaggerated expectations and perfectionism are considered to be risk factors [25]. According to a study [15] 12 coaches (of 18) think, that the sport environment causes eating disorders, however other research [23] revealed, that 75% of athletes are on a diet because of the coaches. This can be related to the attitude of coaches, as they provide more attention to athletes with ideal body shape and body composition [24].

Burnout is a psychological syndrome, which is characterized by physical and emotional exhaustion, the feeling of decreased performance and depersonalization [10]. Female gymnasts with the experience of the symptoms of burnout reported that the exaggerated expectations of the sport highly limit the time and energy for private life, for those things, that matters outside sport [5]. The status of being an elite athletes force them to choose the process of pain dissociation instead of medical treatment, recreation and regeneration in case of injury [26].

The objective- to discover the association of perceived autonomy support, goal orientation, burnout and body image among hungarian elite rhythmic gymnasts. Along with this aim, our hypothesis focus on the connection of perceived autonomy support (by coaches and parents), goal-orientations, the quality of body image and the level of burnout. We assume, that perceived autonomy support (by coaches and parents) is positively correlated with task orientation, and negatively correlated with burnout and negative body image.

## Methods

**Participants:** Twenty-six hungarian elite (first-class), rhythmic gymnasts ( $N=26$ ), older than 14 years (mean=16,23 sd=2,00) have taken part in the research. The quantity of sample determinative, while the number of currently active athletes of this category is twenty-nine. The mean of weekly training hours is 22,77 (SD: 12, 87, Min: 5, Max: 46). Considering the presence of sport injuries, only 11,5% of athletes (3 persons) have never been injured before. This percentage is relatively high, considering the age of athletes. Furthermore, we have investigated the frequency of weight control by coaches: 77% of athletes have weight test daily or weekly.

**Applied methods:** We have applied the following five psychological questionnaires: Sport Climate Questionnaire (SCQ-H) [4] measures the



level of perceived autonomy support behaviour from the coach (Cronbach  $\alpha=,93$ ). The Perceived Autonomy Support Scale for Exercise Settings (PASSES-H) [11] assess the level of perceived autonomy support behavior by parents (Cronbach  $\alpha=,94$ ). The Task and Ego Orientation in Sport Questionnaire (TEOSQ) [6] determines motivation with two subscales: task-orientation (Cronbach  $\alpha=,67$ ) and goal-orientation (Cronbach  $\alpha=,87$ ). The Athlete Burnout Questionnaire (ABQ) [18] consists of three subscales: perceived sense of personal accomplishment (Cronbach  $\alpha=,84$ ); emotional/physical exhaustion (Cronbach  $\alpha=,89$ ) and devaluation (Cronbach  $\alpha=,89$ ). The Body Attitudes

Test (BAT) [17] focuses on negative body image (Cronbach  $\alpha=,93$ ).

## Results and discussion

Based on statistical analysis there was no significant connection between perceived autonomy support (by coaches) and task orientation. We found significant, negative and medium association between perceived autonomy support and the subscale of devaluation ( $\rho(26)=0,463$ ,  $p=0,017$ ). There is a significant, positive and medium association between perceived autonomy support and body attitudes ( $\rho(26)=0,631$ ,  $p<0,001$ ). Results of statistical analysis are presented in Table 1.

Table 1

### The association among perceived autonomy support by coaches, burnout, goal orientation and body attitudes

Spearman's rho		Goal	Task	Reduced sense of personal accomplishment	Emotional / physical exhaustion	Devaluation	Body attitudes
<i>Perceived autonomy support by coach</i>	Correlation Coefficient	0,106	0,323	-0,318	0,068	<b>-,463*</b>	<b>,631**</b>
	Sig. (2-tailed)	0,606	0,108	0,114	0,742	<b>0,017</b>	<b>0,001</b>
	N	26	26	26	26	26	26

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Based on statistical analysis there was no significant connection between perceived autonomy support (by parents) and task orientation. We found significant, negative and medium association between perceived autonomy support by parents

and the subscale of devaluation ( $\rho(26)=0,491$ ,  $p=0,011$ ). There is a significant, positive and medium association between perceived autonomy support and body attitudes ( $\rho(26)=0,432$ ,  $p=0,028$ ). Results of statistical analysis are presented in Table 2.

Table 2

### The association among perceived autonomy support by parents, burnout, goal orientation and body attitudes

Spearman's rho		Goal	Task	Reduced sense of personal accomplishment	Emotional / physical exhaustion	Devaluation	Body attitudes
<i>Perceived autonomy support by parents</i>	Correlation Coefficient	0,105	0,358	-0,024	-0,349	<b>-,491*</b>	<b>,432*</b>
	Sig. (2-tailed)	0,608	0,072	0,908	0,08	<b>0,011</b>	<b>0,028</b>
	N	26	26	26	26	26	26

\*. Correlation is significant at the 0.05 level (2-tailed).



The positive relation between perceived autonomy support by coaches and the body attitudes refers to the ambivalent quality of coach-athlete relationship, due to the sport-specific attitude to connect the performance with the physical appearance. Furthermore the negative relation between perceived autonomy support by coaches and devaluation reveals the importance of communication of coaches and the quality of their feedback in the aspect of athletic self-evaluation.

Our results raise the question of changing the attitude of this sport. Education of coaches and sport experts as well as the review of the current system (importance of youth sport) can be an innovative solution. Sport psychology and developmental psychology should be built into the system of education, in order to introduce those theories and models, that can establish and promote the approach of positive youth development. The practice of double-goal coaching can help to prevent early drop-out and serious physical and mental injuries.

Regarding eating disorders the first and most important step is the prevention. Psychoeducational approach can help coaches to be able to detect possible risks and take interventions. Furthermore, it would be beneficial to develop a realistic and „open-to-all” weight control procedure. In practice, it is highly important to avoid overcritical comments on body shape.

Regarding the prevention of burnout, regular monitoring of athletes (including mood state)

through the whole season can be an effective method. In case of negative feedback, the attachment and compulsion to conform toward the coach may lead to the devaluation of athletic performance (basis of burnout). From the aspect of the athlete, it is highly important to change attitude, develop more effective coping skills against possible failures, frustration, performance expectations and injuries.

However, the study is not without limitations. Although previous studies have provided evidence that autonomy support also has an important role in forming motivational climate and motivation in physical activity, the present research did not investigate the effect of autonomy support from parents and coaches over time. Future work is needed to explore how environments’ behavior influences the achievement and the longitudinal effect of autonomy support on goal orientation, body attitudes and burnout.

## Conclusions

The practical aim of our study was to demonstrate the importance of the need for psychological knowledge of coaches and raise the attention to the high level of vulnerability of rhythmic gymnasts. Furthermore we would like to highlight the significance of mitigation of risk factors in order to make this sport more popular among young athletes.

## Conflict of interest

The authors claim that there is no conflict of interest.

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