ANNALS OF PSYCHOLOGY/ROCZNIKI PSYCHOLOGICZNE
online first
DOI: https://doi.org/10.18290/rpsych2024.0016

EFFECTS OF INDIVIDUAL AND ORGANIZATIONAL FACTORS ON DYNAMIC OF BURNOUT IN YOUTH SPORT

Aneta Cichosz-Dziadura, Małgorzata Siekańska, and Jan Blecharz

University of Physical Education in Kraków

The last decade has shown that burnout in sport does not only concern adults, but it can also affect young athletes and adolescents. The following study focuses on effects of individual and organizational factors on dynamics of burnout in youth sports. Our research was conducted twice at a 8-month interval (at the beginning and at the end of a school year). The first round involved 495 participants, but 379 took part in the second measurement. Participants were aged 14 to 18 years, doing both individual and team sports. The research was conducted in sports clubs, schools of athletic championship, and in sports classes in southern Poland. The following tools were used: the Athlete Burnout Questionnaire (ABQ) and a self-constructed questionnaire. Based on the results obtained, we propose that the burnout syndrome may affect junior athletes, the most susceptible in this age group being girls and those practicing individual disciplines. Furthermore, we observed that the sports burnout syndrome tends to increase during the school year. It was also found that some individual (e.g., internship) and organizational (e.g., time available during the day) factors were associated with higher levels of burnout among young players. Proper education in this area might contribute to increased awareness of the burnout issue, not only among coaches and athletes' immediate environment, but also in athletes themselves, regardless of their age or sports practiced.

Keywords: burnout in sports; youth sports; individual and team disciplines

Burnout in sports has currently received much attention in research around the world. There has been an increasing number of reports in the literature on

ANETA CICHOSZ-DZIADURA, https://orcid.org/0000-0001-5721-9319; MAŁGORZATA SIEKAŃSKA, https://orcid.org/0000-0003-2044-1164, and JAN BLECHARZ, https://orcid.org/0000-0003-4065-8782. Correspondence concerning this article should be addressed to Aneta Cichosz-Dziadura, Akademia Kultury Fizycznej w Krakowie, al. Jana Pawła II 78, 31-471 Kraków, Poland; e-mail: aneta.cichosz @awf.krakow.pl. The data that support the findings of this study are available from the corresponding author upon reasonable request.

Guest editors: MICHAŁ KĘDRA, John Paul II Catholic University of Lublin, and DAGMARA BUDNIK-PRZYBYLSKA, University of Gdańsk. Received 24 May 2023. Received in revised form 31 May 2024, 12 Dec. 2024. Accepted 4 Feb. 2025. Published online 24 March 2025.

the new conceptualizations of this syndrome. In-depth research has been conducted to understand the structure, image, causes and effects of this phenomenon (Eklund & Cresswell, 2007; Raedeke & Smith, 2001, 2004, 2009). However, recent years have also shown that burnout does not only affect adults, but can also occur in the youth and adolescents (Black & Smith, 2007; Butt & Molnar, 2009; Cresswell, 2009; Hariss & Watson, 2011; Hill et al., 2010; Morano et al., 2020; Sorkkila et al., 2018, 2020). Therefore, it seems imperative to obtain an in-depth understanding of the burnout in youth sports. When examining burnout in this area, it also seems important to pay attention to the developmental changes that characterize this stage, such as identity crisis, internal conflicts, adolescent idealism or emotional lability, and rejection of adult authority in favor of one's peer group (Trempała, 2020). Literature abounds in definitions of burnout in sports. Different concepts and models are used to explain and study burnout.

Researchers also believe that the structure of burnout may vary depending on the type of sport practiced (Cresswell & Eklund, 2006a, 2006b, 2007a). In general, burnout in sports is defined as a physical and emotional exhaustion, a reduced sense of athletic accomplishment, and sport devaluation (Raedeke & Smith, 2001, 2004, 2009). It can be also understood as a state of physical, mental and emotional exhaustion. Sometimes, characteristically for burnout syndrome, is that individuals are in an objectively good physical form, but feel subjectively tired, discouraged and unmotivated. Additionally, a lack of commitment might occur resulting in poorer-than-expected sports performance, greater susceptibility to injury and trauma, or even withdrawal from sport activities (Cresswell & Eklund, 2006b, 2007a, 2007b).

Numerous sources of burnout in sport have been identified. They are attributed to environmental, organizational as well as individual, internal factors (e.g., Gagné, 2008, 2010, 2016; Siekańska 2013; Strachan et al., 2009).

Environmental/organizational factors include logistic factors (e.g., organizational problems) or socio-interpersonal factors (e.g., problems with others). Environmental factors also include excessive stress as well as monotonous and unvaried workouts. Individual, internal factors, on the other hand, include overtraining, injuries, high expectations, lack of assertiveness, lack of rest/play, perfectionism, low interpersonal skills, inadequate stress coping strategies, and lack of personal control in training (Blecharz, 2008; Coakley, 1992, 2009; Gould et al., 1996; Gould & Whitley, 2009; Henschen, 2001; Raedeke, 1997; Raedeke & Smith, 2009; Silva, 1990; Smith et al., 2010).

Burnout in youth sports can result in many negative consequences, such as premature resignation, dropping out of sport activities. Some athletes would finish their sport career before achieving any success. More successful athletes would persevere longer (Butt & Molnar, 2009; Crane & Temple, 2014; Eime et al., 2019; Łuszczyńska, 2011; Petitpas, 2009). Some athletic careers can end at the stage of trying to get involved in a new sport (sampler drop-out), when transferring to another sport (transfer drop-out), during an initial period of athletic performance, or when specializing in a narrow area of a sport (participant drop-out; Butt & Molnar, 2009). Such an end to a sport career is known as "drop out" of professional sports. The main reasons for this include reaching the limit of one's abilities and lack of further progress, rare opportunities to compete, and factors related to the organization in sport (Butt & Molnar, 2009). Researchers have attributed the primary cause of "dropping out" of sports to the selection processes of athletes, as these are very often associated with negative emotions, mainly anger and depression in young athletes (Butt & Molnar, 2009; Petitpas, 2009). Other risk factors for dropping out of sports prematurely include the athlete's anxiety and the coach's excessive involvement (Łuszczyńska, 2011). Other factors may also contribute to an athlete's decision to drop out of sports (Gould & Whitley, 2009). According to Gould and Whitle (2009) there are many reasons for withdrawing from sport activities, and burnout has been identified as one of them.

Purpose of the Study and Research Questions

The purpose of this research was to refine the characteristics and dynamics of burnout in adolescents aged 14–18 years and to examine the individual and organizational (situational) determinants involved in the formation of burnout among young athletes from individual and team sports.

The following research questions were posed: (1) What is the characteristic of burnout in the sample? (2) What is the dynamics of burnout during the school year? (3) What is the relationship between burnout in sports and selected individual and organizational factors related to frequency and the course of performed workout?

METHOD

Participants

This study involved adolescents who attended middle schools and secondary schools with sports profiles. The first measurement (T1) covered 495 students, and 379 participated in the second measurement (T2) (with 116 fewer participants). Due to the fact that the survey was re-applied, the results of only those participants who completed the battery of tests twice were included in the interpretation of the results—in total 379 students (122 girls and 257 boys) aged 14–18, who performed in individual sports (75, 19.8% of all athletes) and team sports (304, 80.2% of all athletes). In the case of individual sports, the respondents practiced speed skating (0.5%), alpine skiing (2.4%) and swimming (16.9%). Team sports were better represented, the surveyed students trained football (26.4%), basketball (16.9%), volleyball (22.2%) and handball (14.8%).

Procedure

The surveys were administered in two separate measurements, at an 8-month interval, at the beginning and end of the school year. The research was conducted in sports clubs, sports championship schools and sports classes in southern Poland. Participation in the surveys was voluntary, and no one refused to participate. The respondents were informed about the purpose of the research, and that the anonymity of the research was guaranteed. Participants gave their written consent.

Measures

The Athlete Burnout Questionnaire (ABQ) by Raedek and Smith (2009) in a Polish adaptation by Cichosz-Dziadura et al. (2019) consists of 15 self-descriptive statements whose relevance to the self is assessed on a five-point scale from 1 = *I hardly ever felt/feel this way* to 5 = *I feel this way most of the time.* It is designed to examine athletes of different ages, in particular adolescents, who participated in both individual and team sports. The statements relate to feelings about sports and address three burnout dimensions: emo-

tional and physical exhaustion, reduced sense of accomplishment, and sport devaluation. All ABQ scales consist of five items (Cichosz-Dziadura et al., 2019). The ABQ scale has satisfactory reliability. Internal compliance indicators of internal data meet the standards required for the purpose of conducting collective research and intergroup comparisons (Cronbach's α ranges from .84 to .91). For individual new subscales obtained by Raedeke and Smith (2009) Cronbach's α totals: Emotional and physical exhaustion: from .88 to .91; Reduced sense of athletic achievement: from .84 to .85; and Sports devaluation: from .87 to .90.

The self-constructed survey included demographic questions (e.g., seniority), as well as questions on selected individual and organizational factors (e.g., time available during the day, free time, time for leisure, and time to commute to training sessions). The questions were open-ended, in which the respondents were asked to answer the question on their own. The respondents were asked about years of practice, number of workouts per week, time available during the day, time for rest during the day, and about round-trip travel time for training during the day.

Data Analyses

The statistical analysis was carried out using the statistical package Environment R-3.1.0 for Windows.

First, descriptive statistics were calculated, using the General Linear Model (GLM) for one variable—to examine intergroup differences at T1 and T2 (gender [women vs. men] × discipline [individual vs. team]); for repeated measurements, to examine the change in the studied variables over time (time [T1 vs. T2] × gender [women vs. men] × discipline [individual vs. team]).

When differences were indicated in more than two groups, the Bonferroni post hoc test was used. In order to determine the strength of the effect, partial eta squared (η^2_p) was calculated, whose values of > .01, .06 and .14 correspond to small, medium and large measures of the effect size (Miles & Shevlin, 2001; Cohen, 1988; Cohen et al., 2003). In order to determine the relationships between the ABQ scales and seniority, time available during the day, free time, time for rest, and travel time for training Pearson correlation was used.

RESULTS

The first research question concerns the characteristics of burnout in the study group. The results of the ABQ questionnaire are presented in Table 1.

Table 1

Descriptive Statistics of ABQ Scales

	Athlete Burnout Questionnaire ABQ	Individual sports				Team sports				Total	
		Girls (n = 33)		Boys (n = 42)		Girls (n = 88)		Boys (n = 215)		(n = 379)	
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
T1	Emotional and physical exhaustion	3.23	0.88	2.84	0.92	2.02	0.66	1.95	0.68	2.18	0.84
	Reduced sense of accomplishment	2.63	0.94	2.37	0.80	2.16	0.74	2.09	0.67	2.19	0.75
	Sport devaluation	2.59	1.03	2.38	0.97	1.82	0.71	1.87	0.69	1.98	0.80
T2	Emotional and physical exhaustion	3.55	0.93	2.87	1.01	2.27	0.79	2.15	0.78	2.38	0.93
	Reduced sense of Accomplishemnt	2.96	0.90	2.72	0.68	2.51	0.86	2.43	0.74	2.53	0.79
	Sport devaluation	2.84	0.98	2.59	0.96	2.06	0.91	2.17	0.81	2.25	0.90

Note. T1 = 1st measurement, T2 = 2nd measurement.

The results of the GLM analysis indicated that in terms of emotional exhaustion girls were characterized by statistically significant higher level of burnout compared to boys, $F(1, 378) = 5.80$, $p = .017$, $\eta^2_p = .02$. In addition, it was noted that athletes who participated in individual sports had higher levels of emotional and physical exhaustion than participants of team sports, $F(1, 378) = 62.68$, $p < .001$, $\eta^2_p = .24$. No statistically significant interaction of gender × discipline was found ($p > .05$). In the GLM test scores on the

reduced sense of sport accomplishment scale, a statistically significant difference was found in relation to the sport practiced, $F(1, 378) = 14.48$, $p < .001$, $\eta^2_p = .04$. Participants from individual sports scored higher on this scale, as compared to those from team sports. No significant differences were found in gender dimension and gender × discipline ($p > .05$). However, it is worth paying attention to the difference due to gender ($p < 0.10$), indicating higher values on this scale in the female group. Similar differences were identified on the sport devaluation scale whereby type of sport was found to be a differentiating factor, $F(1, 378) = 23.35$, $p < .001$, $\eta^2_p = .10$. Participants from individual sports scored higher on this scale than those from team sports. In contrast, there were no significant differences in the gender dimension or gender × discipline interaction ($p > .05$). Descriptive statistics of the ABQ questionnaire scales including gender and sport are presented in Tables 2 and 3.

Table 2

Descriptive Statistics of ABQ Scales Including Gender

		Girls (n = 122)		Boys (n = 257)	
		M	*SD*	*M*	*SD*
T1	Emotional and physical exhaustion	2.35	0.90	2.10	0.79
	Reduced sense of accomplishment	2.30	0.82	2.14	0.70
	Sport devaluation	2.03	0.88	1.96	0.76
T2	Emotional and physical exhaustion	2.62	1.00	2.27	0.86
	Reduced sense of Accomplishemnt	2.64	0.88	2.48	0.74
	Sport devaluation	2.27	0.99	2.24	0.85

Note. T1 = 1st measurement, T2 = 2nd measurement.

Table 3

Descriptive Statistics of ABQ Scales Including Team and Individual Sports

Athlete Burnout Questionnaire ABQ		Individual sports (n = 75)		Team sports (n = 304)	
		M	*SD*	*M*	*SD*
T1	Emotional and physical exhaustion	3.01	0.92	1.98	0.68
	Reduced sense of accomplishment	2.49	0.87	2.13	0.69
	Sport devaluation	2.47	1.00	1.87	0.69
T2	Emotional and physical exhaustion	3.17	1.03	2.18	0.78
	Reduced sense of Accomplishemnt	2.83	0.79	2.46	0.78
	Sport devaluation	2.70	0.97	2.13	0.84

Note. T1 = 1st measurement, T2 = 2nd measurement.

The second research question concerned dynamics of burnout during the school year. The analysis of the dynamics of change in burnout levels over eight months showed an increase on all ABQ scales, i.e. emotional and physical exhaustion—by 9.2% (F[1, 351] = 5.23, p = .023, η^2_p = .02), a reduced sense of accomplishment—by 15.5%, (F[1, 351] = 24.883, η^2_p = .066, p < .001), and sport devaluation—by 13.6%, (F[1, 351] = 9.602, η^2_p = .027, p = .002). However, the type of sport and gender of the participants did not affect the change in the severity of burnout. Our analysis of the results (Table 1) of all participants revealed that the highest values at the end of the school year were obtained on the scale of reduced sense of accomplishment followed by the scale of emotional and physical exhaustion, and sport devaluation.

The third research question concerned the relationship between burnout in sports and selected individual and organizational factors related to frequency and the course of performed workout. Pearson's correlation (Table 4) was used to examine the relationships between the ABQ scales and: seniority, time available during the day, free time, time for rest, and travel time for training.

Table 4

Relationships Between ABQ Scales and Seniority, Time Available During the Day, Free Time, Time for Rest, and Travel Time for Training

	Athlete Burnout Questionnaire					
	Beginning of school year			End of school year		
	Emotional and physical exhaustion	Reduced sense of accomp-lishment	Sport devaluation	Emotional and physical exhaustion	Reduced sense of accomp-lishment	Sport devaluation
Years of practice (seniority)	.264***	.062	.198***	.286***	.064	.257***
Number of workouts per week	.434***	.138**	.233***	.397***	.170**	.267***
Time available during the day	–.263***	–.053	–.040	–.245***	–.115*	–.110*
Time for rest during the day	–.128*	–.075	–.047	–.099	–.076	–.039
Round-trip travel time for training during the day	–.046	–.013	–.076	.044	–.006	–.026

Note. *$p < .05$, **$p < .01$, ***$p < .001$. Pearson's r was performed.

In the case of years of practice (seniority), a positive correlation with burnout was indicated. However, in this case, only a relationship between seniority and emotional and physical exhaustion and sport devaluation was observed. In both cases the correlation was weak (correlation coefficient r values ranging from .198 to .286). A moderate correlation was also found for the weekly number of workout sessions and burnout in sports. An average correlation was noted between the ABQ scale of emotional and physical exhaustion and the

number of workouts, while the other scales (reduced sense of accomplishment and sport devaluation) were weakly correlated with the number of workouts. It was observed for the relation between burnout and time available during the day. At the start of the school year, a weak negative correlation was found between emotional and physical exhaustion and time available. At the end of the school year, a weak correlation was additionally observed between the available time and the other ABQ scales: Reduced sense of accomplishment and Sport devaluation. In the case of the relationship between time for rest during the day and burnout, only a weak negative correlation was found on the emotional and physical exhaustion scale at the beginning of the school year. Travel time to training sessions did not show any correlation with the ABQ scales ($p > .05$).

DISCUSSION

The main goal of this research was to refine the characteristics and dynamics of burnout in adolescents aged 14–18 years and examine the individual and organizational (situational) determinants involved in the formation of burnout among young athletes from individual and team sports.

The first research question concerns the characteristics of burnout in the study group. The results showed the highest values on the scale of reduced sense of accomplishment both at the beginning and at the end of the school year. The second highest values were obtained on the emotional and physical exhaustion scale, followed by sport devaluation. Raedeke's (1997) study of a group of 236 U.S. swimmers (boys and girls) aged 13 to 18 revealed slightly different characteristics of burnout. The highest scores were recorded on the emotional and physical exhaustion scale, followed by the reduced sense of accomplishment and sport devaluation. Raedeke and Smith (2001, 2004) obtained similar results from a study of 244 swimmers (females and males) aged 14 to 19, conducted in the U.S. (emotional and physical exhaustion; reduced sense of accomplishment; sport devaluation). Such characteristics of burnout (emotional and physical exhaustion; reduced sense of accomplishment; sport devaluation) was also found in another study of the same authors (Raedeke & Smith, 2001) which involved 208 young athletes aged 17 to 23 and playing various sports. The study conducted by Black and Smith (2007) revealed similar findings as far as the structure of burnout was concerned (emotional and physical exhaustion; reduced sense of accomplishment; devaluation of sport).

These authors examined a group of 182 U.S. swimmers, aged 13 to 22, females and males. In addition, the same characteristics of burnout emerged from a study by Pric and Weiss (2000) involving 193 U.S. female soccer players.

Other studies, however, reported slightly different characteristics of burnout as compared to the ones presented above. The highest levels of burnout were associated with a reduced sense of accomplishment, followed by emotional and physical exhaustion, and finally sport devaluation. Cresswell and Eklund (2004, 2005a, 2005b, 2005c) confirmed such aspects in studies involving a group of 199 professional rugby players from New Zeland, aged 19 to 32. Similar findings were obtained in a study of a group of 392 professional rugby players from New Zealand, aged 18 to 42, and a study conducted on a group of 102 professional rugby players from New Zealand, aged 19 to 32 (posttest).

The characteristics of burnout obtained from this study differ from Raedeke and Smith's (2009) model. Their findings indicated that emotional and physical exhaustion occurs first, and is followed by a reduced sense of accomplishment and then by sport devaluation. In contrast, this study revealed the following order: a reduced sense of accomplishment, emotional and physical exhaustion and sport devaluation. The difference lies in the first two dimensions of burnout. One explanation of the difference may relate to the fact that previous studies were cross-sectional ones. This study, however, was conducted in two stages with an 8-month interval. Another explanation could be attributed to cultural differences. Previous studies on burnout in sports were mostly conducted in the U.S. and New Zealand. Another reason the findings differ might be related to the very procedure of adapting the ABQ questionnaire to Polish conditions (Cichosz-Dziadura et al., 2019).

The second research question concerned the dynamics of burnout during the school year. Based on the results, it can be concluded that the level of burnout in sport increases during the school year. These findings are in line with the study of Cresswell and Eklund (2006b), which showed that the level of sport burnout changed during the sport season. However, these authors indicated that among athletes involved in team games (primarily rugby) the levels of emotional and physical exhaustion and reduced sense of accomplishment were the highest during the season, but the level of burnout significantly decreased toward the end of the season. That difference may be the result of the sample selection, the study type, or cultural differences. Another explanation pertains to training loads, which may decrease at the end of the sport season, and the prospect of a break from sports and training may affect ath-

lete's physical and emotional perception. It is worth noting that Cresswell and Eklund (2006b) included only male participants in their study, who comprised the group of 109 professional rugby players from New Zealand, aged 19 to 32.

The increase in burnout over a period of eight months observed in the sample of this study may be related to the very high intensity of training and competition. In addition, it may be associated with the fact that young athletes need to combine their sport activity with other non-sport activities (e.g., school work). Heightened levels of burnout may also be attributed to inadequate ways of coping with stress, inadequate ways of energy recovering, or poorly chosen forms of recreation. The causes can also be traced to an excessive stress accompanying athletes in different areas of their functioning (sports, school, etc.), as well as improper coach–athlete, parent–athlete, and athlete–peer relationships. Overtraining and stagnation are other possible reasons for elevated burnout (Silva, 1990).

The authors of this study also sought to determine which selected individual and organizational factors might contribute to burnout in youth sports. In particular, the study examined the relationship between selected variables related to frequency and the course of workout sessions such as the number of workout sessions a week, the amount of available time, time for rest, a round trip time to a workout session, and burnout in sport.

The findings confirmed that a large number of workout sessions during the week was associated with a higher level of burnout among young athletes. Interestingly, more free time and more time devoted to recreation were found to help protect athletes from burnout. Conversely, little free time or not enough time to meet others contributed to elevated levels of burnout in young athletes. Their other interests plus pleasure and satisfaction derived from sport, as well as the desire to play sports in the future, were all associated with lower levels of burnout in this age group.

There are factors that "protect" young athletes from burnout. One of them is the attitude of the coach. According to Wuerth et al. (2004), young athletes who are more committed, more strongly driven to succeed and motivated by their coach are less likely to drop out of competitive sports earlier in their careers. In contrast, research by Alfermann et al. (2005) revealed that "dropping out of" sports occurs later if athletes spend more time in one-on-one interactions with their coach and when they receive a lot of attention and interest from the coach. Furthermore, the supportive attitude of parents and their passion for sports they share with their children were found to be factors decreasing the risk of dropping out of sport prematurely (Alfermann & Stambulova,

2007). The atmosphere of the sport organization, focused on mastery and control were considered to be a factor preventing an early "dropout" from sports (Łuszczyńska, 2011).

Limitations and Future Research

One of the limitations of the study seems to be the number of people who did not participate in the second measurement (116 fewer than in the first measurement). This may be related to the possibility of a potential error caused by some people quitting. Another limitation is related to the study of the dynamics of the burnout process in youth sports. The results cannot be generalized to the entire sample, therefore it seems important to conduct more measurements. Another important limitation seems to be the fact that not every Cronbach's alpha was satisfactory when it comes to reliability and generalization of the results of swimming and two winter sports to the sum of the individual sports, especially that winter sports accounted for only 3%. Therefore, it seems important in future research to carefully analyze the specificity of selected sports, differences concerning physical loads and preparation schedules.

Given the complexity of the topic addressed in the paper, we recommend to continue research in order to better know and understand burnout in sports. Future studies should include a different group of athletes, older athletes, for example, as well as other sports. It would also be necessary to consider a larger spectrum of psychological parameters of trainees, such as perfectionism, self-efficacy and self-esteem. It might also be interesting to examine the relationship between burnout in sport with overtraining and stagnation, or other reasons for "dropping out of sports."

Conclusions

The main goal of this research was to refine the characteristic and dynamics of burnout in youth sports, and examine the individual and organizational (situational) conditions involved in the formation of burnout among young athletes of individual and team sports. The authors, not only sought to better understand the phenomenon of burnout itself, but also aimed to distinguish it from other phenomena that seem similar in their nature such as: overtraining,

stagnation and "dropping out of sports." Another goal of this research was to draw attention to this problem of burnout in youth sports, as well as to provide knowledge that could be useful in the early detection and prevention of burnout and dropping out of sport, but also could be useful to athletes and all those around them (coaches, family members, medical staff, etc.). Although this research was basic, its results added to the knowledge and better understanding of burnout in youth sports. Another aim of the study was related to the idea of applying the knowledge to solve current problems or future problems related to burnout in youth sports.

The research has confirmed that burnout in sports can affect young athletes aged 14 to 18. Moreover, burnout has been found to be a process that builds up over time—it increases during the school year. Besides factors related to the frequency and course of workout sessions (e.g., number of workout sessions, travel time, etc.), can also be influenced by factors related to their non-sport activities (e.g., school duties, other interests, etc.). Therefore, it would be appropriate to focus on early detection of signs and symptoms of burnout. Moreover, it seems important to develop and implement various programs, and/or systems that could help young athletes better cope with stress, training loads, and help them effectively recover lost energy.

It should be highlighted that young athletes do numerous activities unrelated to sport—school, mainly. Therefore, in order to help them combine their sport careers with school duties, it would be necessary to establish "dual career" paths and spread knowledge about it in the sport communities—players, coaches, training staff, parents, etc. (Siekańska & Blecharz, 2014; Sorkkila et al., 2020). Proper education in this area might also contribute to the increase in the sensitivity not only of coaches and the athlete's immediate environment, but also in athletes themselves to problem of burnout, regardless of age or sport practiced.

CRediT Author Statement

ANETA CICHOSZ-DZIADURA (50%): conceptualization, methodology validation, data gathering, formal analysis, writing (original draft).

MAŁGORZATA SIEKAŃSKA (35%): conceptualization, methodology, formal analysis, writing (review and editing), supervision.

JAN BLECHARZ (15%): conceptualization, supervision, writing (review and editing).

REFERENCES

Alfermann, D., Lee, M. J., & Wuerth, S. (2005). Perceived leadership behavior and motivational climate as antecedents of adolescent skill development. *Athletic Insight: The Online Journal of Sport Psychology*, *7*(2), 14–36.

Alfermann, D., & Stambulova, N. (2007). Career transition and career termination. In G. Tenenbaum & R. E. Eklund (Eds.), *Handbook of sport psychology* (pp. 712–733). Wiley.

Blecharz, J. (2008). *Sportowiec w sytuacji urazu fizycznego* [Athlete in a situation of physical injury]. AWF Kraków.

Black, J. M., & Smith, A. L. (2007). An examination of Coakley's perspective on identity, control and burnout among adolescent athletes. *International Journal of Sport Psychology*, *38*, 417–436.

Butt, J., & Molnar, G. (2009). Involuntary career termination in sport: a case study of the process of structurally induced failure. *Sport in Society*, *12*(2), 240–257. http://doi.org/10.1080/17430430802591027

Cichosz-Dziadura, A., Wrześniewski, K., & Siekańska, M. (2019). Polska adaptacja Kwestionariusza do Badania Wypalenia w Sporcie ABQ Raedeke'a i Smitha [Polish adaptation of the Raedeke and Smith ABQ Sports Burnout Questionnaire]. In M. Guszkowska, Z. Gazdowska, & N. Koperska (Eds.), *Narzędzia pomiaru w psychologii sportu* (pp. 160–175). AWF Warszawa.

Coakley, J. A. (1992). Burnout among adolescent athletes. A personal failure or social problem? *Sociology of Sport Journal*, *9*, 271–285.

Coakley, J. A. (2009). From the outside in: Burnout as an organizational issue. *Journal of Intercollegiate Sport*, *2*(1), 35–41. http://doi.org/10.1123/jis.2.1.35

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Erlbaum.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences*. Routledge.

Crane, J., & Temple, V. (2014). A systematic review of dropout from organized sport among children and youth. *European Physical Education Review*, *21*(1), 114–131. https://doi.org/10.1177/1356336X14555294

Cresswell, S. L. (2009). Possible early signs of athlete burnout – a prospective study. *Journal of Science and Medicine in Sport*, *12*(3), 393–398. https://doi.org/10.1016/j.jsams.2008.01.009

Cresswell, S. L., & Eklund, R. C. (2004). The athlete burnout syndrome: possible early signs. *Journal of Science and Medicine in Sport*, *7*(4), 481–487. https://doi.org/10.1016/s1440-2440(04)80267-6

Cresswell, S. L., & Eklund, R. C. (2005a). Changes in athlete burnout and motivation over a 12-week league tournament. *Medicine and Science in Sports and Exercise*, *37*(11), 1957–1966. https://doi.org/10.1249/01.mss.0000176304.14675.32

Cresswell, S. L., & Eklund, R. C. (2005b). Motivation and burnout among top amateur rugby players. *Medicine and Science in Sports and Exercise*, *37*(3), 469–477. https://doi.org/10.1249/01.mss.0000155398.71387.c2

Cresswell, S. L., & Eklund, R. C. (2005). Motivation and burnout in professional rugby players. *Research Quarterly for Exercise and Sport*, *76*(3), 370–376. https://doi.org/10.1080/02701367.2005.10599309

Cresswell, S. L., & Eklund, R. C. (2006a). Athlete burnout: Conceptual confusion, current research, and future research directions. In S. Hanton & S. S. Mellaleu (Eds.), *Literature reviews in sport psychology* (pp. 91–126). Nova Science.

Cresswell, S. L., & Eklund, R. C. (2006b). Changes in athlete burnout over a thirty-week "rugby year". *Journal of Science and Medicine in Sport*, *9*(1–2), 125–134. https://doi.org/10.1016/j.jsams.2006.03.017

Cresswell, S. L., & Eklund, R. C. (2007a). Athlete burnout: A longitudinal qualitative study. *The Sport Psychologist*, *21*(1), 1–20.

Cresswell, S. L., & Eklund, R. C. (2007b). Athlete burnout and organizational culture: English rugby replication. *International Journal of Sport Psychology*, *38*(4), 365–387.

Eime, R. M., Harvey, J., & Charity, M. J. (2019). Sport drop-out during adolescence: Is it real, or an artefact of sampling behaviour? *International Journal of Sport Policy and Politics*, *11*(4), 715–726. https://doi.org/10.1080/19406940.2019.1630468

Eklund, R. C., & Cresswell, S. L. (2007). Athlete burnout. In G. Tenenbaum & R. C. Eklund (Eds.), *Handbook of sport psychology* (pp. 621–641). John Wiley and Sons.

Gagné, F. (2008). *Building gifts into talents: Brief overview of the DMGT 2.0.*

Gagné, F. (2010). The DMGT 2.0. Overview with focus on the talent development process, ECHA Conference, Paris 07 – 10.07.2010.

Gagné, F. (2016). Od genów do talentu: z perspektywy modeli DMGT/CMTD [Trans.]. *Psychologia Wychowawcza*, *51*(9), 121–140. https://doi.org/10.5604/00332860.1211501

Gould, D., Udry, E., Tuffey, S., & Loehr, J. (1996). Burnout in competitive junior tennis players. *The Sport Psychologist*, *10*(4), 322–340.

Gould, D., & Whitley, M. A. (2009). Sources and consequences of athletic burnout among college athletes. *Journal of Intercollegiate Sport*, *2*(1), 16–30. https://doi.org/10.1123/jis.2.1.16

Hariss, B. S., & Watson, J. C. (2011). Assessing youth sport burnout: A self-determination and identity development perspective. *Journal of Clinical Sport Psychology*, *5*, 117–133.

Henschen, K. (2001). Athletic staleness and burnout: Diagnosis, prevention, and treatment. In J. M. Williams (Ed.), *Applied sport psychology* (pp. 445–455). Mayfield Publishing Company.

Hill, A. P., Hall, H. K., & Appleton, P. R. (2010). Perfectionism and athlete burnout in junior elite athletes: The mediating role of coping tendencies. *Anxiety, Stress, and Coping*, *23*(4), 415–430. https://doi.org/10.1080/10615800903330966

Łuszczyńska, A. (2011). *Psychologia sportu i aktywności fizycznej – zagadnienia kliniczne* [Psychology of sport and physical activity: Clinical issues]. Wydawnictwo Naukowe PWN.

Miles, J., & Shevlin, M. (2001). *Applying regression and correlation: A guide for students and researchers*. Sage.

Morano, M., Bortoli, L., Ruiz, M. C., & Robazza, C. (2020). Psychobiosocial states as mediators of the effects of basic psychological need satisfaction on burnout symptoms in youth sport. *International Journal of Environmental Research and Public Health*, *17*(12), Article 4447. https://doi.org/10.3390/ijerph17124447

Petitpas, A. J. (2009). Sport career termination. In G. Tenenbaum & R. E. Eklund (Eds.), *Handbook of sport psychology* (pp. 113–120). Wiley–Blackwell.

Raedeke, T. D. (1997). Is burnout more than stress? A sport commitment perspective. *Journal of Sport and Exercise Psychology*, *19*, 396–417.

Raedeke, T. D., & Smith, A. L. (2001). Development and preliminary validation of an athlete burnout measure. *Journal of Sport and Exercise Psychology*, *23*(4), 281–306. https://doi.org/10.1123/jsep.23.4.281

Raedeke, T. D., & Smith, A. L. (2004). Coping resources and athlete burnout: An examination of stress mediated and moderation hypotheses. *Journal of Sport and Exercise Psychology*, *26*(4), 525–541. http://doi.org/10.1123/jsep.26.4.525

Raedeke, T. D., & Smith, A. L. (2009). *The athlete burnout questionnaire manual*. West Virginia University.

Siekańska, M. (2013). *Talent sportowy. Psychologiczne i środowiskowe uwarunkowania rozwoju uzdolnionych zawodników* [Sports talent. Psychological and environmental conditions for the development of talented athletes]. AWF.

Siekańska, M., & Blecharz, J. (2014). Dual career pathways: Psychological and environmental determinants of professional athletes' development. *Studies in Sport Humanities*, *16*(16), 6–19.

Silva, J. M. (1990). An analysis of training stress syndrome in competitive athletics. *Journal of Applied Sport Psychology*, *2*(1), 5–20. https://psycnet.apa.org/doi/10.1080/10413209008406417

Smith, A. L., Gustafsson, H., & Hassmen, P. (2010). Peer motivational climate and burnout perceptions of adolescent athletes. *Psychology of Sport and Exercise*, *11*(6), 453–460. https://psycnet.apa.org/doi/10.1016/j.psychsport.2010.05.007

Sorkkila, M., Ryba, T. V., Selänne, H., & Aunola, K. (2018). Development of school and sport burnout in adolescent student-athletes: A longitudinal mixed-methods study. *Journal of Research on Adolescence*, *30*(Suppl. 1), 115–133. https://doi.org/10.1111/jora.12453

Sorkkila, M., Ryba, T. V., Aunola, K., Selänne, H., & Salmela-Aro, K. (2020). Sport burnout inventory–Dual career form for student-athletes: Assessing validity and reliability in a Finnish sample of adolescent athletes. *Journal of Sport and Health Science*, *9*(4), 358–366. https://doi.org/10.1016/j.jshs.2017.10.006

Strachan, L., Côté, J., & Deakin, J. (2009). An evaluation of personal and contextual factors in competitive youth sport. *Journal of Applied Sport Psychology*, *21*(3), 340–355. http://doi.org/10.1080/10413200903018667

Trempała, J. (Ed.) (2020). *Psychologia rozwoju człowieka* [Psychology of human development]. Wydawnictwo Naukowe PWN.

Wuerth, S., Lee, M. J., & Alfermann, D. (2004). Parental involvement and athlete's career in youth sport. *Psychology of Sport and Exercise*, *5*(1), 21–33. http://doi.org/10.1016/S1469-0292(02)00047-X