

Analysis of school-age dropout in endurance sports: a systematic review

DANIEL MÚGICA CORRALES¹, JAVIER OLAYA-CUARTERO²

^{1,2}Faculty of Health Sciences, Isabel I University, SPAIN

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Abstract:

Problem Statement: The development of talent in endurance sports has been widely studied. However, parallel to this sport development, problems such as “burnout” or “dropout” appear as one of the main problems that arise in sports of lower categories. **Purpose:** The main purpose of this study was to analyse the triggering factors of dropout in endurance sports practised by school-age athletes and, due to its importance, to study the relationship between burnout syndrome and dropout. **Methods:** The present systematic review on dropout in endurance sports at school age is carried out with a search date of 31st January 2021, selecting and evaluating the most relevant research to reach valid and objective conclusions on what the scientific evidence indicates about this dropout and analyse a sample of both males and females in the nine articles included. **Results:** Nine articles related to sports dropout in young athletes who practice competitive sport were selected. The results are presented in three tables taking into account the main factors that can trigger this early dropout, intrinsic factors of the athlete, social factors and their relationship with the environment, and burnout. **Conclusions:** There is an evident dropout in young people in the 14-17 age group, which may be higher in the female category. Early specialisation and outstanding results at younger ages do not ensure future success. Favouring a close environment for the athlete and an empathic relationship with the coach are key factors to avoid dropout, as well as paying attention to factors such as physical and psychological exhaustion and a feeling of dissatisfaction towards sport are important to prevent burnout. Questionnaires such as ABQ, PSWQ or the PANAS scale could be a test to assess personal factors leading to dropout.

Key Words: talent, burnout, young athletes, competition, teenagers.

Introduction

Many authors have tried to define endurance sports. Thus, Siff & Verkhoshansky (2004) consider endurance sport to be that in which the athlete can withstand fatigue and performs efficient work of long duration. Over the years, a large number of school-age athletes abandon federated sports and even the practice of physical activity. Varo et al. (2003) confirm that sports practice is suffering a decline as young people get older, being the most serious problem facing any sports development plan in lower categories. Cervelló (1996) understands sport abandonment, that situation in which the subjects have ended their explicit commitment to a specific sports speciality. In 1992, Weiss & Chaumonton, considered sport abandonment as a continuous phenomenon ranging from the renunciation of a particular sport, either by switching to another sport or continuing to practice the same sport, but with a lesser degree of intensity, to those subjects who withdraw from the sport completely. Trepode (2001) considers sport abandonment as a process of a gradual change from a specific sport to a general abandonment. Sport abandonment can be caused by a specific cause as well as by a set of signs and symptoms. For Llanio Navarro & Perdomo González (2003), a syndrome is a group of symptoms and signs that form a clinical group that gives it individuality but may be due to multiple causes, being able to classify this resignation or abandonment of sports practice as a dropout syndrome. As indicated by Cervelló (1996), there is another syndrome closely related to this dropout: burnout syndrome. Prolonged exposure to this burnout syndrome will result in dropout syndrome if the sports plan and the people who carry it out do not provide a solution. This syndrome has already been defined by Cherniss & Cherniss (1980) as the psychological loss of the desire to work as a response to stress or dissatisfaction, producing a great decrease in motivation, pleasure, interest and responsibility to carry out this work.

Blázquez (1999) defined school sport as that activity that takes place in the local framework of the school, including in a more general way all types of physical activities which are carried out in addition to and complementary to compulsory Physical Education classes. The Sports Council of Spain, for its part, considers as school sport all activities that are carried out in an organised way in schools, clubs or associations, developed in addition to the subject of Physical Education (Terol, 2009). It is worth paying special attention to the sporting practice carried out during the free time of these subjects, as it is the basis of both their sporting training and their educational training, and young people should be offered activities that strike a balance between health, leisure and education, leaving aside the competitive model as the only model (Campos & Tomás, 2004). The benefits of practising sport are indisputable, and both competitions and training should be used to achieve an

ideal environment for the athlete to establish such strong links with the sport they are practising that they avoid abandonment (Campos & Tomás, 2004).

There are many studies whose objectives have been to determine the main reasons that school-age athletes give for dropping out of their sport. Thus, Howe & Ogilvie (1991) state that an athlete abandons his or her sport mainly due to three factors: the selection produced by the competition, the chronological age of the person and the injuries produced by the sports practice. According to the scientific literature, sport dropout will not be caused by just one of these factors. The confluence of several of these factors will be decisive in the choice to give up the sport. The situation of each person and the degree to which any of these factors occur will be decisive. The main causes that will lead young people of school age to dropout of sport are presented below (Granz et al., 2019). Referring to a specific age range, Chillón et al. (2009) showed that there is an age range in which school-age athletes dropout, especially between the ages of 12 and 18. In this way, sports dropout is palpable in this population range, but knowing the reasons for these dropouts will help to prevent them in the future. It is necessary to go a step further and analyse the reasons why young athletes decide to give up sport and competition. Many authors have researched the reasons for young athletes dropping out of endurance sports. For example, Enoksen (2011) shows the social and structural reasons why promising Norwegian long-distance athletes dropout of competitive practice. On the other hand, Larson et al. (2019) and Gustafsson et al. (2015) indicate how early specialisation in swimming may be another factor that triggers some of the syndromes mentioned above. In addition, it is worth noting the contributions of Gould et al. (1982) or Robinson & Carron (1982), who consider that the high level of sport dropout is related to a process of selection of the sport that each child chooses. In this connection, Durand (1988) states that the wide range of leisure time activities on offer is influencing children to practise and change activities every year, not being a determining factor, but making it a reason why they do not become attached to a particular sport.

Smith (1986) defined burnout as the continuous exposure to psychosocial stress, which can lead to the abandonment of an enjoyable activity due to the stress generated and the low satisfaction generated by performing it. Raedeke & Smith (2001) set out the three domains in which burnout can manifest itself. Firstly, physical and psychological exhaustion, caused by the uncontrolled nature of the sport, makes excessive demands on the athlete both physically and mentally. Another area can be felt towards sport, not liking sport, not being interested in it and neglecting anything to do with sport. Finally, a loss of motivation towards sporting achievement, not reaching the proposed goal or not giving importance to the achievement (Gustafsson et al., 2015). Many authors have explained the causes of burnout and the consequences of suffering from it. For Raedeke & Smith (2001), prolonged stress is often one of the most important antecedents. In addition, the authors also highlight excessive training without recovery, the competition itself, combining educational activity with sport, peer relationships, or pressure from family members. Appleton et al. (2009), for their part, indicate that the personality of the athlete will be a determining factor in the appearance of burnout. Factors such as emotional instability, guilt or perfectionism will be key. When the athlete values what he/she gives to sport and what he/she receives or when the costs are more important than the benefits, burnout tends to appear. An athlete whose personality does not tend to generate problems for him/herself and whose environment does not interfere in the athlete's learning will give rise to an athlete with a healthy mentality, which is fundamental to be able to carry out an adequate learning process (Marí, 2011). In addition, other authors have identified signs to try to predict burnout, such as the bad mood of the athlete due to exhaustion (Lemyre et al., 2006), decreased performance and stagnation, or frustration due to lack of results indicated by Cresswell (2009). For Gómez-Mármol & Sánchez-Alcaraz (2013), the consequences of burnout on the athlete include anguish, dissatisfaction, decreased performance, physical problems such as headaches, back or muscle pain, gastrointestinal problems and skin alterations, leading to sporting abandonment as the most serious consequence.

The personal factors that each individual has when it comes to giving up the sport are closely related to meeting their personal and social needs (Granz et al., 2019). In this way, some athletes begin to show interest in other activities, leaving aside the sport they were practising, as indicated by Ruiz-Juan & García-Montes (2002). The person shows attraction for other types of activities that he/she likes more and has a greater predisposition to carry them out. On the other hand, García-Ferrando (2001) refers to the lack of time and the incompatibility with their studies as one of the reasons why many athletes opt to abandon sport, with some subjects showing a demand for their academic future, leaving aside the possibility of making it compatible with their sporting life. Other authors show how the athlete does not carry out any activity that he/she likes, or as time goes by, he/she no longer likes to practice it. As time goes by, the athlete realises that what he/she does is not really what gives him/her personal satisfaction and this will lead him/her to reconsider where to invest his/her free time and moments of fun (Salguero et al., 2003).

The athlete will be related to an environment that will influence his or her sporting life and will be more or less favourable for the person. Nuviala et al. (2003) indicate that only 4% of the population likes to compete, therefore, the objective of competing is a minority. About this statement, as the subjects grow older, the idea of being a sports star or winning decreases, which can be a significant factor in the abandonment of sports practice, therefore, the competitive sports model is going to be a determining factor. No less important is the figure of the coach. Snyder (1996) states that, if the figure of the coach is not correct, the relationship with the athlete is not adequate or what the athlete expects, the possibility of abandonment increases, it is the person on whom the

athlete relies all his frustrations and joys, the trust and relationship between the athlete and the coach must be full. For his part, Lindner et al. (1991) state that an environment that puts pressure on the athlete to win can be negative depending on the subject. The athlete will feel obliged to please the wishes of his or her closest environment and will feel ashamed if he or she is not able to achieve it, showing a feeling of guilt when not achieving the objective desired by the people around him or her (Lindner et al., 1991). As for the athlete's immediate environment, if family members are involved in sport, they will have a lower predisposition to give up the sport. In this way, a sporting family environment will make it easier for the person to continue practising sport as part of their daily life (Casimiro, 1999). Therefore, it is necessary to carry out a systematic review with the general objective of analysing the factors that trigger dropout in endurance sports practised by school-age athletes and, due to its importance, to study the existing relationship with the abandonment of burnout syndrome.

Research methods

To carry out the bibliographic search for this study, research was carried out in the Electronic Library of the Isabel I University through which access was gained to the PubMed, SportDiscus, Medline, Science Citation Index, Academic Search Complete, with a search date of 31st January 2021. The keywords for the development of the search were:

-In Spanish: “*abandono*”, “*agotamiento*”, “*joven triatleta*”, “*deporte en edad escolar*”.

-In English: “*dropout*”, “*burnout*”, “*youth athlete*”.

The lack of scientific articles on “dropout in young triathletes” has led to an extended search:

-In Spanish: “*joven atleta*”, “*resistencia*”, “*deportistas jóvenes*”.

-In English: “*youth athlete*”, “*endurance*”, “*youth sport*”.

Along with these keywords, logical connectors were added, as indicated by Benito-Peinado et al. (2007), to create meaningful search phrases.

-In Spanish: (*abandono*) AND (*deporte juvenil*), (*abandono deporte joven*) AND (*deportes de resistencia*) AND (*agotamiento*), (*chicos*) OR (*adolescentes*) OR (*jóvenes*) OR (*deporte juvenil*) AND (*abandono*) AND (*resistencia*).

-In English: (*dropout*) AND (*youth sport*), (*dropout youth sport*) AND (*endurance athletes*) AND (*burnout*) AND (*children*) OR (*adolescents*) OR (*youth*) OR (*child*) OR (*teenager*), (*youth sports*) AND (*dropout*) AND (*endurance*).

The articles included in the present systematic review met the following inclusion criteria: articles investigating dropout at an early age are included (1), scientific articles referring to original research are included (2), the search was limited to articles from the year 2000 to the present (3), the selected sample will be composed of young people in school sports categories, both male and female, and the selected articles have a sample of athletes with a national or international competitive level in endurance sports (4), articles published in English and Spanish are used (5).

Publications that do not match the inclusion criteria have been excluded from the search results. Among the reasons for the exclusion of some articles are articles whose sample does not specify the type of sport they practice and therefore it cannot be affirmed that they practice endurance sports. Articles whose sample is not defined and whose year of publication is before the year 2000 were also excluded. In addition, articles in which the subjects studied do not engage in competitive sport will not be taken into account.

Table 1 shows the process for the selection of articles included in the systematic review. The databases selected and the key words used for this search are included, as well as the articles found and the articles included in the review and, in brackets, the repeated articles.

Table 1. The selection process of articles included in the systematic review.

Databases	Key words	Found articles	Articles included
PubMed	Title/Abstract: “ <i>dropout</i> ” AND “ <i>youth sport</i> ”	13	1
	Title/Abstract: “ <i>dropout</i> ” AND “ <i>youth athletes</i> ”	2	1
Medline	Title/Abstract: “ <i>burnout</i> ” AND “ <i>children sport</i> ”	10	1(1)
	Title/Abstract: “ <i>dropout youth sport</i> ” AND “ <i>endurance athletes</i> ”	4	1
SportDiscus	Title/Abstract: “ <i>Children youth</i> ” AND “ <i>dropout</i> ”	6	1
	Title/Abstract: “ <i>dropout youth sport</i> ” AND “ <i>endurance athletes</i> ” AND “ <i>burnout</i> ” AND “ <i>children</i> ” OR “ <i>adolescents</i> ” OR “ <i>youth</i> ” OR “ <i>child</i> ” OR “ <i>teenager</i> ”	2	2 (2)

Science Citation Index	Title/Abstract: "burnout youth triathlete"	3	1
		1	1
		47	2(1)
		12	2(1)
Academic Search Complete	Title/Abstract: "dropout youth sport" AND "endurance athletes"	2	1

Figure 1 below shows the different phases of the search process. The keywords used in the searches, the databases and the inclusion and exclusion criteria.

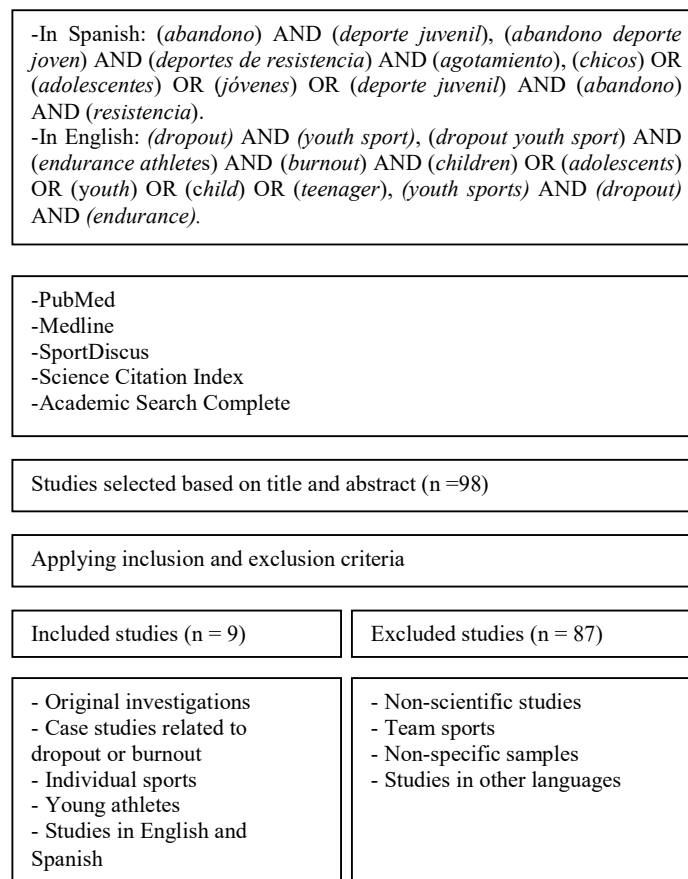


Figure 1. Flowchart of the search, selection and inclusion process.

Results

Once the systematic review process had been carried out, nine articles related to sports dropout in young athletes who practice competitive sport were selected.

The results are presented in three tables taking into account the main factors that can trigger this early dropout, intrinsic factors of the athlete (Table 2), social factors and their relationship with the environment (Table 3), and burnout (Table 4).

Table 2 develops some of the personal factors for which an athlete at an early age may consider abandoning his or her sport or sport in any sport (early specialisation, mindfulness).

Table 2. Intrinsic athlete factors.

Authors	Purpose	Material & methods	Results	Conclusions
(Larson et al., 2019)	To find out the relationship between early specialisation and youth attrition or dropout in swimming	Three questionnaires were applied to the young swimmers and one of their parents: - ABQ questionnaire. - Parent questionnaire: youth sport participation. - Expert development trajectories, procedures adapted to swimming N = 137 swimmers (67% female; 33% male) aged 12 and 13 years	No evidence is found between early specialisation and increased attrition or dropout	It is not excluded that early specialisation may lead to injuries or psychological problems. More studies and a more empirical method are needed
(Sors et al., 2020)	To investigate three components of sports burnout in cyclists: emotional and physical exhaustion, reduced sense of achievement and sport devaluation	Three groups of cyclists have applied the ABQ questionnaire. The three groups consisted of: 1. Still involved in cycling. 2. Engaged in a different sport 3. Dropped out of the sport N=85 (40 female;45 male). The average age at which cyclists dropped out was 16.35 years	Athletes still involved in cycling showed lower levels of burnout than the other two groups in two components: physical and emotional exhaustion and devaluation of sport. No differences between groups were observed in the aspect of the sense of achievement	It is important to avoid emotions that lead to burnout and dropout to emotional and physical exacerbation. Positive and meaningful feelings towards sport as well as organisations and coaches play a key role in this goal
(Gustafsson et al., 2015)	Relating dispositional mindfulness and burnout. This relationship was measured using perceived stress, negative affect or positive affect in elite junior athletes	The subjects carried out these four tests: - Mindfulness Awareness Scale - ABQ questionnaire - The Perceived Stress Scale - The Positive and Negative Affect Scale (PANAS). N=232 athletes (133 male; 100 female). Athletes aged 15-19 years (17.50 years $\pm$ 1.08 years)	Mindfulness is directly related to burnout in athletes and they highlight the role of the positive affect of the athlete's environment on the athlete's practice	Future research should investigate the longitudinal effect of dispositional mindfulness on perceived stress and burnout

Note. Athlete Burnout Questionnaire (ABQ); Positive and Negative Affect Scale (PANAS).

The athlete's environment is a fundamental pillar for adequate development, and Table 3 shows how both social and family factors influence the athlete's decisions, as well as the group to which he or she belongs and the figure of the coach.

Table 3. Social factors: influence of the competitive sport model on young athletes dropping out of the sport.

Authors	Purpose	Material & methods	Results	Conclusions
(Pizzuto et al., 2017)	To analyse the finalists of the World Junior Championships (WJC) in the middle and long-distance track events who had dropped out of top-level competitions in the following years	Athletes who missed out on the IAAF rankings during the two consecutive years following WJC participation were evaluated. Since 2002, 8 male and female finalists participating in long and middle-distance events from six editions until 2015. N= 368 athletes (male and female)	Of the six editions before 2015, the WJC finalists who do not appear in IAAF rankings are: - 61% from 2002 - 54.8% from 2004 - 48.3% from 2006 - 37.5% from 2008 - 26.2% from 2010 - 29%. Of 2012 20.4% managed to reach an IAAF final	Participation in the WJC is not a prerequisite for success at a higher level, even though 23 of the lower level finalists were able to achieve a medal at the World Cup or Olympic Games
(Moen et al., 2015)	To relate work between coaches and athletes on	A group of Norwegian junior elite athletes were applied the following	The effects found in this study suggest that the coach-athlete	The coach helps athletes to develop their talent. Athletes

positive and negative affect, worry and burnout in a group of elite athletes	questionnaires: - WAI: coach-athlete relationship - PANAS: positive and negative affect - PSWQ: to measure worry - ABQ: athlete burnout N=358 athletes (54% male; 46% female)	working alliance contributes significantly to burnout in junior elite athletes	without motivation and experience show higher symptoms of burnout and do not develop their talent. It is essential to build affective relationships between coach and athlete
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Note. The Management of Athlete Health and Lifestyle (GOAL) Study; International Association of Athletics Federations (IAAF); World Junior Championships (WJC); Athlete Burnout Questionnaire (ABQ); Penn State Worry Questionnaire (PSWQ); Working Alliances Inventory (WAI); Positive and Negative Affect Schedule (PANAS).

Table 4 develops the reasons that relate to burnout-triggered dropout and all the factors related to this syndrome.

Table 4. Triggering factors of burnout.

Authors	Purpose	Material & methods	Results	Conclusions
(Fraser-Thomas et al., 2008)	Examining youth sport dropout and prolonged engagement from a developmental perspective focusing on physical and psychosocial factors with burnout syndrome as a trigger	N = 50 adolescent swimmers (25 dropouts and 25 committed swimmers) participated in a retrospective interview	Athletes who dropped out participated in fewer extracurricular activities played fewer unstructured swim games and received less individual coaching throughout development. In addition, these athletes were the best in the club rather than committed. There is a greater likelihood of dropout in those who have parents who have been top athletes in youth, who have been the youngest in a training group and who do not have a best friend in swimming	A more concrete understanding of the specific behaviours of parents and coaches on adolescent athletes is needed as they are the support and pressure persons in different contexts
(Main & Landers, 2012)	To present data from a case study that challenges the popular conception that athlete burnout represents the result of overtraining	A young Triathlete (N = 1) completes a full training diary, an Athlete Burnout Questionnaire (ABQ) and the Multicomponent Training Distress Scale (MTDS) weekly from the start of pre-season training, until the end of the competition	The athlete appears to have simultaneously overtrained and developed Burnout as measured by the ABQ questionnaire	Athlete burnout must be correctly defined to ensure appropriate treatment. It is important that athletes, coaches and support staff are aware of the possible signs and symptoms of training stress syndromes and the interventions available to manage them
(Moseid et al., 2018)	To describe the prevalence and severity of health problems in a group of young elite athletes representing a variety of endurance versus team sports	It is divided into two parts: - Prospective cohort study. - Questionnaire with information on anthropometry, medical and sporting history, previous competitions, training loads and performance level. Included OSTRC A group of elite sports athletes (N = 260, 16.2 years) from different Sports Academy high schools in Norway and a group of their peers playing team sports (N = 60, 16.4 years)	Of all athletes analysed, 43% had some kind of health problem and 25% had substantial health problems. Endurance sports athletes reported more illnesses than team sport athletes	Prevention should focus not only on acute injuries but also on diseases arising from continued uncontrolled repetition. Tailored education for adolescents, with a general focus on nutrition, sleep and other lifestyle factors (stress management and non-sporting burdens), are key to proper development

(Granz et al., 2019)	To observe the characteristics of elite adolescent athletes with high and low burnout symptomatology	GOAL study data N= 1138 young (638 male; 500 female) elite athletes (16.33 ± 1.10 years). To find out if they suffered from burnout (ABQ) and several correlated characteristics. With the data analysed, the groups with extreme levels of burnout symptoms were identified	The results indicate different correlations combining high and low-risk characteristics <i>High risk:</i> Being involved in sports in which one is dependent on aesthetics or weight. Training with an autocratic coach, high external subjective stress of the sport, unwillingness to make psychological sacrifices, lack of sleep and being a woman <i>Low risk:</i> less training hours, low social pressure, low subjective stress outside sport, high willingness to make psychological sacrifices, good health, satisfaction with the activity performed	The results provide a necessary foundation for future hypothesis-testing studies in the field of adolescent burnout, as well as important insights for practitioners in the field, which can help create a basis for optimal athletic performance
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Note. Athlete Burnout Questionnaire (ABQ); Multicomponent Training Distress Scale (MTDS); Oslo Sports Trauma Research Centre questionnaire on health problems (OSTRC).

Discussion

This research aimed to analyse dropout in endurance sports at school age. To this end, a systematic review of the literature was carried out, including articles that met all the methodological criteria and differentiating mainly the personal factors that affect the athletes, the social factors, specifically the competitive model to which the athlete is subjected and the factors that trigger burnout. In the articles reviewed, the variables that can lead to young athletes dropping out have been analysed in the three dimensions mentioned above, and from a practical point of view, these articles have also analysed the variables to provide possible solutions to prevent this problem from arising.

Concerning personal factors affecting athletes, the included studies (Gustafsson et al., 2015; Larson et al., 2019; Sors et al., 2020) present a similar methodology using questionnaires such as the ABQ or the PANAS scale to assess these personal factors. Specifically, Larson et al. (2019), in their recent research carried out with swimmers, state that, if specialisation is carried out too early, it can lead to psychological problems or injuries in athletes who specialise, noting that the results are not conclusive and that it would be advisable to continue this line of research with more empirical methods. In addition, it is also necessary to take into account those athletes who have full attention towards their sport, which may affect them negatively, causing them to become exhausted when carrying out this activity (Larson et al., 2019). It is highlighted that positive affection from their environment is a fundamental role in avoiding this burnout of the athlete (Gustafsson et al., 2015). Current studies also analyse subjects who abandoned cycling, dividing them into three groups according to their relationship with the sport, observing how athletes who have devalued their sport less show less emotional and physical exhaustion, and continue to be linked in some way to cycling, while subjects with high levels of exhaustion have changed sport or even abandoned sport (Sors et al., 2020). The aforementioned studies have a common thread when it comes to visualising the problem that can arise in athletes. The personal involvement of these subjects in their sport at an early age, leaving aside other types of activities, can lead to this sporting burnout and subsequent abandonment (Larson et al., 2019).

About social factors and due to their importance, focusing attention on the competitive sports model, several studies have been found in which the problems arising from this model are exposed. This is then reflected in the young sporting talents who, at a lower age, are often lost along the way and do not reach the world elite level for which they were training. Success at a younger age is not synonymous with future success. In high-performance sport, for example, there is a high percentage of chances that a junior athlete who participates in a World Championships final in his or her category will not succeed and will disappear from the finals of the International Athletics Federation in the senior category (Pizzuto et al., 2017). Another aspect to be highlighted by Moen et al. (2015) is the importance of the figure of the coach and his relationship with the athlete. The authors show how athletes who are not motivated by their immediate environment are more likely to abandon the sport. Thus, families, coaches and sports policy bodies must gain greater knowledge and understand how relative age and competition affect young athletes by understanding the importance of the age at which sporting talent develops (Ferriz-Valero et al., 2020). In this way, the coach will be the manager of that athlete's talent, being a fundamental part of this development (Moen et al., 2015). Regarding the figure of the coach, a series of measures are presented to prevent abandonment, such as inductive pedagogical interventions in critical periods, the motivational climate of the athletes and organisational structures developed according to age (Enoksen, 2011).

An important step in understanding the reasons for this dropout is to observe the characteristics of the athletes according to their degree of possibility of dropout, whether high or low risk as indicated by Granz et al. (2019). Among the most notable characteristics that can be observed in an athlete to be considered high risk are

those athletes involved in sports in which they are dependent on aesthetics or weight, training with an autocratic coach, high subjective stress external to the sport, unwillingness to make psychological sacrifices, lack of sleep and being female. Whereas athletes who can be considered low risk have the following characteristics: fewer training hours, low social pressure, low subjective stress outside sport, a high willingness to make psychological sacrifices and good health. The continuous stress that athletes are often subjected to, often leading them to abandon the sport they enjoyed and to become dissatisfied with it, can lead to what Smith (1986) defined as burnout. The three aspects where symptoms related to burnout will appear are physical and psychological exhaustion, the negative feeling towards the sports activity or the failure to achieve the proposed goal (Raedeke & Smith, 2001).

Referring to the triggering factors of burnout as a syndrome directly related to dropout, it is worth highlighting the conclusions provided by different researches, Fraser-Thomas et al. (2008) and Main & Landers (2012), who state the need for a concrete and more specific protocol to help both the environment and the athlete themselves to prevent burnout. Main & Landers (2012) with their case study with a triathlete indicate that after completing the ABQ questionnaire weekly, it can be observed how the athlete comes to suffer from burnout. For this reason, the importance of this type of questionnaire is highlighted. Among those that can be highlighted is the athlete burnout questionnaire (ABQ) which measures the athlete's burnout through 15 items and three dimensions: physical or emotional exhaustion, reduced sense of achievement and devaluation of sports practice. It also highlights the importance of the Penn State Worry Questionnaire (PSWQ) which, through 16 items, will assess the real tendency of the athlete to worry, relating to generalised anxiety disorder. Also the PANAS scale of positive and negative affect, which evaluates how the person feels at the time of the test. Between athletes who abandon an activity and those committed to their sport, there are some differentiating points that authors such as Fraser-Thomas et al. (2008) try to compare with two groups of swimmers, some who abandoned the activity and others committed to their activity. Through retrospective interviews, the authors establish some key points that can mark some characteristics of swimmers who dropout, such as not having a best friend in their sport, their parents having been elite athletes in swimming or standing out much earlier than their teammates. For their part, Moseid et al. (2018) show how the health of athletes can be a very important handicap and a trigger for burnout. The authors indicate that the environment should not only focus on recovery from major injuries but also minor ailments caused during sports practice. This problem is accentuated in endurance sports. Self-care education could be a proposal to improve the health of the athlete and to avoid this syndrome.

Focusing attention on the age at which dropout occurs, it can be observed in all the studies in the systematic review that show data in this regard, that the highest dropout rates in these endurance sports occur between the ages of 15 and 17 years. Sors et al. (2020) talk about dropouts in cycling at 16 and 35 years of age on average, while Gustafsson et al. (2015), Granz et al. (2019) and Enoksen (2011) indicate the dropout rate for athletes between 15 and 19 years of age. Some authors such as Larson et al. (2019) indicate that the age of dropout is even much earlier between 12 and 13 years old.

During the search process, a lack of studies was observed with the subject in question, for the gender variable. Granz et al. (2019) show that being a woman can be an important factor when it comes to abandoning sports practice, but it must be considered that the data are not so significant, so it would be relevant to include this variable in future research.

The scarcity of studies is one of the major limitations that have arisen in the development of this systematic review. In the scientific literature, both dropout and child burnout in endurance sport is not widely studied. The lack of longitudinal studies is a limitation to determine at what point these syndromes can occur in young athletes, analysing at what point in their sporting career the first symptoms of burnout occur and to be able to tackle them. For these reasons, new research paradigms are opening up concerning dropping out of endurance sports at school age, opening up a window of research in which we should work to create protocols for action that will help to reduce this percentage as much as possible. It is necessary to make proposals for multidisciplinary interventions to try to tackle this abandonment in time throughout the organisation that is close to the athlete. Many of the studies do not differentiate between males and females. Moreover, when the age range is present in the study, it is carried out in a general way in both sexes, closing a window of information and study such as the maturity level of each group and their dropout rate. Analysing the results obtained in the review, the motivational climate would be one of the pillars to be worked on in the future. A continuous evaluation of this motivational climate could help the athletes' immediate environment by obtaining immediate information to intervene appropriately when necessary. This could be useful for future coaches, clubs and sports structures that work with junior categories to implement an individualised sports model for each athlete, analysing the different personal situations of each individual and trying to avoid the dropout as the main failure in any development plan in lower categories.

Conclusions

The athlete's immediate environment and an empathetic relationship between coach and athlete are key factors in avoiding dropout.

An early specialisation, and obtaining outstanding results in competition in lower age group championships does not guarantee the continuity of that young athlete in the future.

Paying attention to factors such as the exhaustion to which the athlete is subjected both physically and psychologically, the feeling of dissatisfaction with the sport they practice or not achieving the desired objectives will be fundamental aspects when it comes to preventing burnout.

There is an evident dropout in young people in the 14-17 age group despite the importance of physical activity at this age, and it may be higher in the female category.

Questionnaires such as ABQ, Penn State Worry Questionnaire (PSWQ) or PANAS scale could be a test to evaluate the personal factors that lead to the abandonment of an athlete, being necessary future protocols more concrete.

Conflicts of interest - The authors declare no conflict of interest.

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