

# Effects of SARS-CoV-2 on psychological well-being of Portuguese and Czech basketball athletes

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## Keywords

COVID-19 effects; sports; athletes; emotions; coping strategies.

## ABSTRACT:

The coronavirus pandemic affected the whole sports world, including young athletes who were prevented from actively participating in training and competitions. The purpose of this paper is to understand, from the athlete's perspective, the effects of government restrictions in sports due to the SARS-CoV-2 pandemic on athletes' psychological well-being in two different contexts: Portugal and the Czech Republic. This study used a qualitative approach to interview eight basketball athletes from Portugal and eight from the Czech Republic aged 13 to 19 years old, with at least one boy and one girl from each age group. The interviewed athletes referred to changes in their daily routines, identified different emotions in each stage of the development of the pandemic situation, and described some coping strategies that they were able to use to face this situation. The practical implications of this research include recommendations for specific coping strategies in emergencies to improve psychological well-being in young athletes.

## Palavras-Chave

Efeitos COVID-19; desporto; atletas; emoções; estratégias de coping.

## Efeitos do SARS-CoV-2 no bem-estar psicológico de atletas de basquetebol portugueses e checos

### RESUMO:

A pandemia provocada pelo coronavírus afetou todo o mundo desportivo, incluindo os jovens atletas que foram impedidos de participar ativamente em treinos e competições. O objetivo deste artigo é compreender, na perspetiva do atleta, os efeitos das restrições governamentais no desporto devido à pandemia provocada pelo SARS-CoV-2 no bem-estar psicológico dos atletas em dois contextos diferentes: Portugal e República Checa. Este estudo recorreu a uma abordagem qualitativa com a realização de entrevistas a oito atletas de basquetebol de Portugal e oito atletas da República Checa, com idades compreendidas entre os 13 e os 19 anos, sendo contemplado pelo menos um rapaz e uma rapariga de cada grupo etário. Os atletas entrevistados referiram alterações nas suas rotinas diárias, identificaram diferentes emoções em cada fase do desenvolvimento da situação pandémica e descreveram algumas estratégias de coping que foram capazes de utilizar para enfrentar esta situação. As implicações práticas desta investigação incluem recomendações de estratégias de coping específicas em situações de emergência para melhorar o bem-estar psicológico dos jovens atletas.

### Effects of SARS-CoV-2 on psychological well-being of Portuguese and Czech basketball athletes

The SARS-CoV-2 pandemic has imposed severe restrictions on people's behavior worldwide (Hale et al., 2020), including sports.

In Czech Republic (CZ), sports stopped due to government regulations in March 2020 and were banned until May 2020. The 2019/2020 season was not completed, and the results for the season were determined according to the ranking at the stoppage time. This applied to all age and performance categories in CZ basketball. The opportunity to practice was again provided in May 2020. In September 2020, athletes could also play matches. However, in mid-October 2020, sports were suspended again due to the second pandemic wave. The difference from the spring ban during the first wave of the pandemic is that professional adult athletes could practice and compete during the fall/winter but under strict hygiene conditions and regular testing for the presence of SARS-CoV-2. From mid-October 2020 to March 2021, youth categories in CZ have been unable to practice or compete.

In Portugal, as in CZ, sports activities closed on 11 March 2020; however, the situation with positive developments at the national level allowed the gradual re-opening plan established in April 2020 to allow the resumption of collective sporting activities played indoors (including basketball) to be allowed from June 2020 by classifying sports according to risk levels (high, medium, and low) and by presenting contingency and mitigation plans prepared by each sports entity. The resumption of sports activities in Portugal between June 2020 and January 2021 allowed athletes to recover from some training routines; however, the sports season that began in September (20/21 season) no time resembled those in previous years: some competitions were resumed in the women's and men's divisions at the level of the senior teams, but the competition was vetoed at the training levels for prevention reasons. The federations of the collective modalities (basketball, volleyball, handball, roller hockey) contributed to a joint effort to negotiate an urgent return to training and competitions (even if under specific conditions), identifying a set of physical and emotional health situations that involved athletes at different ages and levels (DGS, 2020).

In a concerted action between the World Health Organization (WHO), the United Nations (UN), and different international sports entities (e.g., the Olympic Committee), all sports activity (e.g., tournaments, competitions), as we have already described in the case of both countries, has been suspended or severely limited, leading to significant changes in athletes' daily routines and physical and

emotional health, making them more susceptible to stress, anxiety, and depression.

Some studies have already reported that these abrupt changes in daily routines, together with the social and environmental constraints that inhibited the practice of physical exercise and the uncertainty about the return to sport and competition, had a negative impact on the mental health of athletes (Mehrsafar et al., 2020; Szczypinska et al., 2021). Indeed, the consequences of these measures have prompted the need to explore how athletes feel, what strategies they use to cope with their emotions, and how this subjective experience affects their psychological well-being.

### Psychological well-being, emotions, and coping strategies

Psychological well-being is related to the development of human potentialities and the search for self-realization and purpose in life (Delle Fave et al., 2013). It combines feelings of personal satisfaction and the ability to pursue individual values and goals with an executive function that allows the individual to be the agent of the process between idealizing and realizing (Vansteenkiste & Ryan, 2013).

Ryff's multidimensional model (1989) was developed based on two pillars: (i) the awareness that well-being cannot merely be described by medical or biological indicators and (ii) the fact that no psychological theory at its development was sufficiently comprehensive and representative to assess well-being globally. This model differs from previous models due to its multidimensionality and it consists of six categories/dimensions: self-acceptance, personal growth, positive relationships with others, mastery over the environment, autonomy, and purpose in life. It provides a powerful framework for analysing and organising one's life and generates ideas about how to live better.

Several studies have established a relationship between sports and psychological well-being, reporting a fundamental connection between physical activity, physical well-being, and psychological well-being (e.g., Lawton et al., 2017; Snyder & Spreitzer, 1974). The practice of sports, if performed regularly and focused, can lead to an improvement in the quality of life. In the case of young athletes, the motivational climate of sports (or the lack of it) is a significant factor in their psychological well-being. This climate is characterized by autonomy, a focus on mastery, intrinsic life goals, motivation, and an ability to deal with adverse contexts by developing a positive view of oneself. This leads to psychological well-being, understood as vitality levels and positive affect (Ryan & Deci, 2000).

Lazarus's cognitive-motivational-relational theory of emotion (CMRT; 1991, 2000) has been one of the main approaches used in research on the theme of emotions in a sports context. This theory highlights

that emotions reflect a relationship between the characteristics of individuals (i.e., cognition), their motivations, and the relationship of these two components to the environment. It allows a better understanding of emotional phenomena, as it allows relatively simple access to the processes of meaning that the athlete attributes to the different encounters that take place between the individual and the environment (Dias et al., 2012; Hanin, 2007; Jones, 2003; Lazarus, 1991, 2000; Martinent et al., 2015; Neil et al., 2011).

For Lazarus (1991, 2000), there are two processes of cognitive assessment: primary cognitive evaluation and secondary cognitive evaluation.

Primary cognitive evaluation is an assessment of a personal nature that always presupposes an analysis of the damage and benefits that the context may present (Dias et al., 2012). The CMRT highlights three components of primary cognitive evaluation: (a) relevance of objectives, (b) congruence of objectives, and (c) type of ego involvement. This process develops in the individual perception of threat or challenge, depending on the approximation or departure of the relational meaning with his well-being.

Secondary cognitive evaluation takes place after the athlete assesses the situation as a threat, trying to manage the situation and analyze whether he or she presents competencies to be successful in the specific environmental situation (Dias et al., 2012). Lazarus (2000) highlighted three components of secondary evaluation: a) guilt/credit, b) coping potential, and c) future expectations regarding mastery.

Some studies presented consistent results on the relationship between primary and secondary cognitive evaluations and the discrete emotions experienced by athletes (Martinent et al., 2015). They sought to relate the six components of cognitive assessment and emotions such as anger, anxiety, guilt, happiness, pride, hope, sadness, and shame.

To understand which resources subjects could use to change the relational meaning of a situation or which resources could be available for a well-being approach, the CMRT suggests two types of coping: (1) problem-centered, where the person seeks to alter a particular relational meaning and (2) emotion-centered, where the person tries to find resources to deal with emotions (Dias et al., 2012; Lazarus, 2000; Tamminen, 2013).

After several suggestions on the categorization of coping processes (e.g., Folkman, 1984; Nicholls and Polman, 2007; Roth & Cohen, 1986,) identified five coping dimensions: 1. problem-centered; 2. emotion-centered; 3. avoidance coping; 4. approximation coping; and 5. evaluative coping.

Some studies suggested that athletes with greater mental strength more frequently use problem-centered coping strategies and less frequently use avoidance coping (Carver & Scheier, 1998; Lazarus, 1991; Nicholls et al., 2012).

The COVID-19 pandemic has hit all substrates of society hard, and team sports have been no exception. Even though most teams tried to remain active in some way even during the ban due to the pandemic (Peña et al., 2021), in this study we will try to find out what effects the pandemic had on the psychological well-being and emotions of the athletes and what coping strategies were used strategies for athletes to cope with possible changes in well-being and emotions. As stated in the study by Jukic et al. (2020) this period can be considered an ideal situation to reevaluate and reorganize personal life and value system.

## Method

This study employed qualitative research methods using a multicase study approach to achieve the greatest possible understanding of a certain social object in its complete uniqueness and complexity (Hendl, 2005). The object of study was the emotional experiences of young basketball players who could not participate in their usual sports due to the pandemic. This study explored the possible causes, determinants, factors, processes, and experiences related to the event. The main research question was focused on what emotions young athletes experience when they cannot perform or compete in their usual sports due to a pandemic and how they deal with these emotions.

The use of qualitative methodologies, such as interviews, allows to focus on the process (Trickett, 2009), instead of the results, and “promotes the interaction and interdependence between scientific knowledge and non-scientific knowledge” (Santos, 2007, p. 26).

## Research objectives

Considering the literature review, the research objectives were to identify the most common and most experienced emotions in athletes banned from playing sports; explore coping strategies for these emotional experiences; and determine possible coping strategies.

Based on these primary goals, we defined the following research questions:

- How did athletes perceive their psychological wellbeing to be affected by the pandemic restrictions?
- How did the emotions of athletes change throughout the pandemic?
- How did young athletes deal with all these feelings?

## Instruments

The interviews included approximately five global, open-ended questions allowing participants to speak openly about their experiences and emotions. Secondary issues were defined for each global issue to guide the participants to deepen and critically

reflect on their experiences: (1) How do you perceive the whole situation regarding the pandemic? (e.g., What bothers you the most about the whole situation?); (2) How has the situation affected your sports practice? (e.g., How was your club organized during the pandemic?); (3) What do you miss most about your previous sports life? (e.g., Do you miss physical activity, personal contact, etc.?); (4) Do the restrictions on your sports life have any positive effects on you? (e.g., Do you devote more time to school?); (5) Would you like everything to return to its original state? (e.g., Is there something you would like to keep as a new habit you developed when you could not do sports?).

The interviews provided an overview of the internal experiences of respondents, specifically how they perceived individual situations and how they interpreted this unique perception, i.e., how specific events affected their thoughts and feelings. The structure of the interview was created by the authors anew, based on the research objectives.

**Participants**

The participants were 16 basketball athletes, with at least one girl and one boy for each year: under 15, under 17, and under 19. One-half of the participants were from Portugal, and the other half were from CZ. The sample was a convenience sample, which included athletes from three clubs in Portugal and three clubs in the Czech Republic in each age group. Only one selection criterion was considered together with the athletes: it was ensured that all athletes had participated in national competitions in their country before the pandemic and stopped playing sports because of the pandemic. Table 1 clearly shows participants from all categories and both countries. They are indicated by their initials, which we use to denote individual statements in the study results.

The age range of the participants was chosen for a more diverse range of the sample. We chose the designations U15, U17 and U19 for better clarity according to the international designation of the FIBA basketball federation.

**Data collection and ethical considerations**

The interviews were conducted between January and March 2021 by the authors of this manuscript in the same way in both countries. The participants from both countries conducted the interviews in their native language, which lasted about 30-40 minutes. The interviews were audio-recorded, transcribed, translated, and analyzed using the NVivo program. This study was approved by the faculty committee of ethics in both countries. Each participant provided informed consent. In both countries, parents authorized participation for every participant under 18.

Table 1.  
Study participants

Categories nationality	Portugal	Czech Republic
U15	PT, A.M., 13 YO, male PT, S.R., 14 YO, female	CZ, K.J., 14 YO, female CZ, J.Z., 14 YO, male
U17	PT, M.A., 16 YO, female PT, R.R., 15 YO, female PT, G. M., 16 YO, male	CZ, C.L., 16 YO, male CZ, O.H., 16 YO, male CZ, K.B., 16 YO, female
U19	PT, G.M., 17 YO, male PT, J. S., 18 YO, male PT, T.U., 17 YO, female	CZ, Š.F., 18 YO, female CZ, M.Š., 18 YO, male CZ, FS, 18 YO, male

**Data analysis**

To determine the psychological or emotional state of the participants, we used content analysis, adopting categories proposed by previous authors regarding well-being and emotions and being sensitive to emergent categories in the participants' discourses. Despite this sensitivity, no inductive category emerged in the end. We think this is because the interview was structured especially for the answers to the research objectives, i.e., all the categories that we created deductively.

The procedure's main idea was to define each category based on the theoretical background (Ryff's multidimensional model of psychological well-being and Lazarus's CMRT) and research questions. The category definitions and rules for distinguishing different categories were formulated based on the theory and material, completed step by step, and then were revised within a feedback loop in the analysis process; the categories were eventually reduced to main categories and checked for their reliability (Mayring, 2000; Saladana, 2012).

When analyzing the data using NVivo 12, we selected "strong statements" from participants representing the given categories. We classified these statements into the given categories and present selected ones in the results. The categorization is indicated in Table 2

Table 2.  
Categorization

Categories	Properties
<b>1. Athletes, Sports Adaptations and Restrictions</b>	Athletes refer to and reflect on the rules and measures taken in each country in the pandemic situation and some impacts on their lives.
<b>2. Effects on Psychological Well Being (based on Ryff, 1989)</b>	Athletes report social quality of life indicators, considering one or more dimensions.
2.1. Autonomy	Be self-determined and independent and evaluate personal experiences according to their own criteria.
2.2. Self-acceptance	Possess a positive attitude toward oneself and accept multiple aspects of one's personality.
2.3. Personal growth	Perceive continuous personal development and be open to new experiences.
2.4. Purpose in life	Have a sense of direction, purpose, and goals in life.
2.5. Positive relationships with others	Have warm, safe, intimate, and satisfying relationships with other people.
2.6. Environmental domain	Have competence in manipulating the environment to satisfy personal needs and values.
<b>3. Emotions</b>	
3.1. Positive	Emotions that athletes experienced because of the pandemic, positive or negative.
3.2. Negative	
<b>4. Coping Strategies</b>	Strategies that help athletes overcome or better cope with the emotions they experience during a pandemic.

## Results

Athletes perceived the pandemic differently between the spring of 2020 and when the global pandemic began to worsen. Throughout the description of the results, we will try to illustrate this evolution in the perceptions of athletes in all categories of analysis.

### Athletes, sports adaptations, and restrictions

The first lockdown was characterized by the absence of deliberate sports activities. This situation left athletes feeling impotence and injustice in the face of the total shutdown of sports. The total stoppage of in-person sports activities resulted in clubs needing to

adapt to the rules and maintain training and contact with athletes, although at a distance. From the participants' perspective, the club's adaptation to the rules was important during the first lockdown. This work allowed the team to maintain contact, allowing strong adherence to the programs implemented by coaches.

(PT, G.M., U19) The work of the coaches was very well developed. They played a very important role in this phase. They were the ones who tried to keep us connected (...) In general, everyone joined, and I think the result was positive.

The athletes reported that coaches developed distance training programs that they proposed for each athlete to stay active at home. These programs were focused on physical preparation and showed similar regularity and approximate duration as training in person.

(CZ, F.S., U19) We could not meet in person, but the coaches sent us a schedule of weekly practices, which we had to complete. Then, we had morning fitness three times a week with a normal camera. And then I think they called us once or twice and asked about the situation in general. So, there was some contact, but nothing personal.

Over time, coaches organized themselves and exploited the online platforms' potential and the resources clubs provided. The training plans became more diversified and started considering other aspects of the athletes' preparation, such as strengthening teamwork, exchanging experiences with other clubs, training with reference sports agents, incorporating physical training sessions and yoga sessions, and attending workshops with psychologists or nutritionists.

However, the athletes reported feeling uncomfortable because the applied rules affected physical contact in sports practice, resulting in the absence of competition. Interestingly, this fact was associated with the abandonment of the sport.

### Effects on psychological well-being

One of the specific objectives of this study was to determine the influence of the constraints caused by the rules in force on the psychological well-being of the participants. In this section, we explore athletes' perceptions of their psychological well-being considering the six indicators proposed by Ryff's model.

#### Autonomy

During the lockdown, athletes referred to adapting routines and time management to the current context as essential factors for achieving well-being. Through the participants' narratives, it is perceived that these processes took place autonomously and consciously

and in different contexts of life, namely, in relation to school and sports practice.

(PT, G.M., U19) The quarantine also allowed me to organize. I didn't wait until the last minute to deliver the school papers, and it seemed that I gained more free time... it served me at home to gain some motivation to not be too stationary and to be more and more active.

In fact, in several narratives, the participants recognized they became more autonomous and independent in carrying out activities that were usually suggested or organized by close adults.

#### *Self-acceptance*

Athletes reported that, during the lockdown, they sought to have a positive attitude toward themselves and the pandemic situation, both in sports and in other aspects of their personal lives. They sought to accept the limitations imposed by the quarantine, also characterizing these limitations as a resource to deal with situations that have decreased their well-being.

(PT, G.M., U19) Yes, I'm not so frustrated in the end, but I will always remember when it went well, but it could have gone much better. But okay, that's what I say, I think it's going to serve me as a little motivation for now and then to always have this thing in my head that I must enjoy it while it lasts.

#### *Personal growth*

The lockdown allowed the participants to experience a different context, providing opportunities for personal growth. In this way, the participants referred to aspects such as time to take care of themselves, free time, organization, dedication to new interests (such as music and historical documentaries), new sports (contactless or individual sports), reflection and creativity and, essentially, responsibility for oneself and others.

At the same time, athletes referred to the difficulty they felt in self-assessment due to the absence of sports with competition.

(CZ, O.H., U17) I miss not getting better. When I think about it, it's hard. Just as I can't compete with anyone right now, I don't know how I'm doing. I don't know if I've improved or not.

#### *Purpose in life*

Regarding the purpose in life indicator, the participants seem to consider that during the pandemic, many of their goals were suspended in various domains of their life, including sports. Several athletes said that the objectives of the sport remained the same as in the previous season since they did not have (nor did they know if they would have) a training and competition routine that would allow them to evolve at the technical or tactical level. Although some athletes pointed out that this lack of

definition of sports objectives would result in giving up and being discouraged with sports, other athletes showed resilience and security in their options and considered they would resume their goals as soon as training and games resumed with some normality.

(PT, T.U., U19) I think these negative emotions won't hurt me in practice because I know what I want, and my focus is there. But I think overall, this is going to have horrible consequences. Quits and people without motivation.

#### *Positive relationships with others*

Relationships with the others were another indicator addressed during the interviews. The athletes indicated that having Zoom training and some outdoor activities in pairs promoted satisfaction and joy, giving some sense of normality.

(PT, S.R., U15) The girls who screwed up kept doing it in Zoom practice, and it made me feel good... at the end of practice, with the team friends, we took pictures to remember the day. That was a thrill!

The increased time at home also allowed participants to spend more time with family. This aspect was identified as positive, even though some tension was cited with different individuals, namely, younger or older brothers.

#### *Environmental domain*

Through the athletes' narratives, a representation of the "Environmental Domain" subcategory was perceived. Notably, the rules in force during lockdown caused a reduced perception of control over environmental characteristics, making it impossible to carry out tasks that promoted well-being and creating feelings of ambiguity and emotional instability in the different contexts of athletes' lives.

(PT, M.A., U17) For example, I used to go to my grandparents for lunch every week, and now I can't go. I don't see them that much anymore. I walk by the door sometimes to say hello or something. But it's not the same thing. I feel bad for myself, but especially for those who are alone and limited to the space of their home.

Clubs developed tasks adapted to the pandemic situation, such as online training, trying to fill some gaps from the point of view of social routines and physical activity; however, the athletes reported feelings of discomfort and uselessness.

#### **Emotions**

The emotions category includes the participants' discourses regarding the emotions generated during the lockdown. Emotions were considered to have a positive valence when the emotions expressed well-being at the internal or external level in each athlete;

alternatively, emotions were considered to have a negative valence when associated with a lack of well-being. The expression of emotions referred to moments and experiences when athletes were in proximity to each other, essentially referring to the sports context and variables associated with it, such as coaches, the organization of the clubs, and the team.

#### *Positive emotions*

Regarding emotions with a positive valence, we identified **happiness, pride, respect, and tranquility** during online team meetings. Nevertheless, the athletes said that despite the changes imposed by the restrictive measures, the moment of return to face-to-face training was one of the most memorable moments of the season, and **happiness** was the most verbalized emotion.

(PT, T.U., U19) I remember well what I felt. We hadn't seen each other for a long time directly; we just saw each other by Zoom or calls. When we saw each other, it was great happiness, and we wanted to hug each other, but we could not.

**Happiness and pride** also appeared to be associated with the sense of mission when working for the same purpose; here, the athletes referred to the importance of clubs and teams for lives and their well-being.

It can also be verified that the cognitive evaluation processes associated with these emotions, which increased the participants' well-being, were associated with the activities performed in basketball during the lockdown and essentially to the moment of meeting with the team, even if in an online version.

**Respect** was an emotion with a very positive valence throughout the lockdown – the use of digital platforms and the consequent change in the pattern of social interactions made athletes unconditionally value the time together and the opinions and personalities of each team member.

(PT, R.R., U17) ... to be able to play various roles opens up the possibility for our colleagues to listen to our opinion and to be respected. It contributes to the respect within the team (...) I felt happy to know that we are being heard (...) I feel that my colleagues respect me, as I respect them and that's good.

Interestingly, **tranquility** was associated with an increase in leisure time caused by a decrease in contact with the sport modality.

#### *Negative emotions*

Emotions with a negative valence were more frequent than emotions with a positive valence, both in the periods of lockdown and throughout the year of the pandemic. The emotion with the most significant representation was **resistance**. This resistance is associated with the impossibility of training, the impossibility of competing, the impossibility of being

with friends, and essentially the **frustration** of perceiving the importance of contributing to the common good and yet having individualistic feelings.

(PT, T.U., U19) I felt angry because I wanted to be in the pavilion and couldn't. I just knew it was an evil that would contribute to the greater good. But of course, there was the feeling of wanting and not being able... and that made me feel pissed!

Although the frequency was lower, the athletes also felt **sadness and disappointment** during this phase of the pandemic. It appeared that the cognitive evaluation processes associated with these emotions, which decreased the participants' well-being, were predominantly associated with the constraints that made athletes unable to train, finish the championships, or have normal social relationships with the other members of the team, distorting even the concept of collective sports that these athletes practiced.

(CZ, C.L., U17) I'm sad that we can't play those matches, that we can't finish the competition and that everything is actually suspended. And we were looking forward to playing that season and to playing well...

Emotions with a negative valence were also associated with physical and relational contexts other than sports, as is the case of peers in school or close relatives, namely, grandparents or other individuals understood to be more fragile and isolated.

Other emotions were also mentioned, although with less frequency. This was the case for **anxiety, nostalgia, frustration, longing, discouragement, and fear**.

(CZ, J.Z., U15) So it honestly really sucks because I love basketball, and when my season is interrupted by such ... not futility ... but such a stupid thing and a piece of my career in those youth years, when I'm doing well... it's just stupid and annoying.

#### **Coping strategies**

To understand the way athletes dealt with the emotions arising from this pandemic period (with alternation between lockdown and restricted return to sports), an analysis of the interviews in this study was performed to identify coping strategies used by the athletes. There was a higher frequency of **problem-centered coping**, where participants sought to change the meaning of their relationships with a given situation, allowing increased well-being. Maintaining contact with colleagues on the team via video calls and messages through different social networks was a preferred strategy during this pandemic.

(PT, T.U., U19) Consciously, I don't think I thought of any strategy to appease my feelings. It

was felt that held on... only the calls I made to my colleagues, the meetings by Zoom, when we went to the street to throw some balls, these small moments made me feel that everything went by, and I felt better.

The most frequent strategy was searching for physical spaces that allowed contact with the basketball modality or sports activity. However, there were also many references to television (basketball series and games) and video games.

The participants also used **emotion-centered coping**, resorting to strategies of mental visualization and acceptance with associated positive thoughts.

(PT, J.S., U19) It reminded me several times of the moments we lived through at the time until the lockdown, memories of unity and team complicity and fun memories in moments of play.

Other times, emotion-centered coping involved just letting an emotion express itself.

(CZ, J.Z., U15) "Well, I try to keep those emotions inside me, but sometimes, I just explode and go to bed because I'm pretty pissed, and I don't want to vent it on anyone. So, I'd better go to bed and rest. But otherwise, I don't do anything with that anger, because I probably won't do anything with the situation; I won't help it in any way.

Although with low frequency, some athlete discourses suggested using **avoidance coping** to deal with potentially stressful events. For example, for emotions generated due to the absence of sports, the athletes sought to divert their thoughts to other situations to increase their well-being.

Regardless of the coping strategies adopted, athletes unanimously stated that physical exercise was the best strategy to overcome negative emotions and maintain psychological balance.

(CZ, Š.F., U19) "I do exercise to feel good and know that I am doing something for myself. It also helps my psyche, it's a partial relaxation. I go for walks to breathe fresh air; this is probably the best thing for my psyche. Otherwise, I cook, bake and try not to think about this crazy time. Basically, I turn off the television so that I don't hear the numbers of increases and deaths and the negatives that are around us."

### Discussion and Conclusion

The experience of the pandemic radically changed athletes' lives, by changing their school, family, and social routines and interfering with all the factors defined as fundamental to their psychological well-being (Delle Fave et al., 2013; Keyes & Shmotkin., 2002; Ryff & Keyes, 1995; Ryff & Singer, 2008). In both countries, we can see that uncertainty and the unknown established by the disease triggered fears

and instabilities while promoting a civic sense of responsibility for individual and collective health. Initially, athletes reported positive emotions – due to the diminishing rate of work and as they were able to adapt to a primarily technological school and social experience – as well as the hope of a rapid resolution of the pandemic by a combination of efforts by the general population in both countries. They also highlighted positive aspects, such as the approach to family and the experience of new leisure activities.

However, as the pandemic's restrictive measures were maintained, athletes experienced more negative feelings (such as tiredness, disbelief, and frustration), in their narratives. These narratives primarily referred to the lack of social contact with their peers, but they encompassed all areas of the athletes' lives – one of the complaints was related to school and academic achievement, and the athletes realized that the level of learning in online education did not correspond to that in face-to-face learning.

The athletes expressed similar feelings about sports, although more intensely. At an early stage, the athletes reported the lack of training as a very negative consequence, not only from the physical activity aspect but also from the social aspect (being in a team and sharing an identity, a sense of belonging to sports venues, and a sense of mission in achieving goals for the sports season). They expressed feelings of frustration about the suspension of competitions and previous competition results. Considering the importance that sports have for psychological well-being, the pandemic situation had great importance for the psychological well-being of athletes due to the restrictions on practicing sports.

In the analysis of the indicators, proposed by Ryff's multidimensional model (1989), we can identify that the pandemic should positively impacted athletes' autonomy, self-acceptance, and personal growth. Autonomy and self-acceptance were referred to as achievements in different contexts of athletes' lives, such as sports (due to the willpower athletes developed in staying active in coach-led training as well as in individual training) and school (the ability to organize study and routines without close supervision by teachers). Like other studies (e.g., Sanchez et al., 2021), this study found that athletes who accepted measures imposed in the sports domain, to mitigate the pandemic, including social isolation measures, developed positive emotional states and were able to trigger interaction and solidarity between team members. Personal growth, on the other hand, has been positively associated with other life contexts, but not with the sports context – in the sports context, athletes believe they have not made progress or achieved their goals in this season. From the perspective of athletes, the purpose of life indicators was suspended. Effectively, all the goals they had set for their personal development and the team's development at the championship level remained unfulfilled. Regarding positive relations

with others, even though the participants referred to family relationships as positive, they considered this indicator to have affected them most negatively since they were inhibited from maintaining social relations with colleagues (especially teammates), at least in the way they had engaged in social relations until then. Relations of proximity and contact began to be mediated by social networks. The (non)environmental domain was another indicator of well-being that significantly interfered with athletes' lives given the constant changes to the rules in sports spaces. At the beginning of the 20/21 season, after a new lockdown, when the negative feelings of frustration and resistance intensified, and negative thoughts, physical and emotional tiredness, stress, anxiety, and depression levels also increased; some athletes started to show signs of burnout, as reported by other studies (Mehrsafar et al., 2020; Sanchez et al., 2021; Szczypinska et al., 2021). During the second lockdown, the narratives of the athletes clarified the importance of the clubs developing emotional regulation programs and having specialists who monitor the psychological well-being indicators of their athletes and help them maintain mental health during crises/emergencies. This result is closely aligned with other studies conducted during this pandemic with elite athletes, such as the study by Mehrsafar et al. (2020).

This study illustrated coaches' and clubs' attempts at adaptation during the pandemic. The organization of online training for physical preparation, socialization, or even the reinforcement of complementary areas, such as cognitive games, relaxation workouts, or awareness-raising actions with relevant people in the basketball world, was essential to maintain motivation and presence in the athletes' online workouts. Despite this effort, like other studies conducted with athletes (e.g., Sanchez et al., 2021), this study showed that the athletes with greater emotional resilience had access to equipment and/or sports spaces for physical activity. These athletes reported greater adaptation (conformity) and respect for the rules. In contrast, the results of our study showed that athletes who lacked motivation showed higher levels of stressful thoughts, more behavioral problems, and greater emotional upset (anger, fatigue, tension, and depression). Thus, the availability of some online sports equipment, along with the ability to continue practicing, appears to have been a protective factor against emotional stress, lack of motivation and behavioral problems, and greater respect for and adherence to anti-epidemic rules (e.g., Sanchez et al., 2021).

When considering the emotions that athletes expressed and the coping strategies they mobilized during the pandemic, according to Lazarus's CMRT (1991; 2000), it is possible to realize that, despite the sudden loss of sports in their lives, which imposed a threat to their mental well-being, the athletes were able to develop various strategies to protect their

mental well-being during the lockdown. The most represented coping strategy was problem-oriented, as in other studies conducted with athletes (Lazarus, 1991; Nicholls & Polman, 2007; Nicholls et al. 2012). With a positive attitude toward a stressful situation, such strategies were the main protective factors against the decline in mental well-being. In contrast, the results on the coping strategy of avoiding emotions were somewhat surprising, as this strategy was not reported as the most common but indeed was reported to a greater extent than we expected. This strategy is considered a risk factor for individual mental well-being (Babore et al., 2020), and we expected that it would not be used very frequently by young athletes. In general, however, the time when athletes could not play sports encouraged them to reflect on their sporting identity and to make life changes that protected their mental well-being for the rest of the lockdown and even after returning to sports (Woodford & Bussey, 2021).

The development of models of psychological intervention in the face of emergencies, such as a global pandemic, that emphasize individual intervention reinforces the need to address emotional/mental health and social support networks as essential for athletes. This study showed that training, support, and adherence to regular training routines appear to be valuable tools for preventing or reducing some of the harmful effects of isolation on an athlete's emotional well-being, as confirmed by other studies (e.g., Sanchez et al., 2021).

The practical implications of this research include recommendations for specific emergency management strategies to improve the well-being of young athletes. As in other studies (Szczypinska et al., 2021), our participants often dealt with the pandemic's stress using cognitive and behavioral coping strategies. We conclude that it would be suitable for the psychological support of athletes to focus on developing their coping strategies. It could be argued that it would be ideal to introduce training regimes and practices of healthy behavior during the pandemic crisis as everyday habits for health and well-being (Di Fronso et al., 2020). Furthermore, psychological interventions should focus on encouraging athletes to find positive aspects of experiencing a pandemic and activate them during training interruptions. We also recommend future research to explore how sports psychologists can provide adequate psychological support through online platforms. This should be dealt with primarily by individual federations, sports associations, or a ministry designated for that purpose. The relevant ministry should consider future prevention strategies, like creating a specific working group. In short, in critical situations, health authorities and sports communities must set their priorities to maintain health and sporting activities. Of course, several aspects play an essential role in priority setting and

strategic planning, of which athletes' mental health is one (Mehrsafar et al., 2020).

This study provides preliminary evidence that lockdowns may have adversely affected the emotions, mental health, and life satisfaction of elite athletes, as well as the level of their training. Monitoring the psychological parameters of elite athletes and developing strategies to improve their mental health during a pandemic, or other crisis, should be further explored and given greater prominence (Mehrsafar et al., 2020). This research could potentially help sports organizations design support programs and plan to support athletes and coaches in future health crises.

### Limitations of the study

Despite assuming an exploratory nature, the study presents a limitation that the participants were a convenience sample, not guaranteeing geographical dispersion in each country and, consequently, more clubs covered.

Considering the reality of basketball in Portugal and the Czech Republic as a very expressive sport due to the number of athletes it mobilizes in more than 50 clubs in each country, a more significant number of clubs with dispersed locations in each of the countries could make visible (or not) different national realities, guaranteeing the (non) similarity of the two countries and, eventually, having perceived differences in terms of the performance of the clubs with implication in the way in which the athletes experienced this pandemic time.

### References

- Babore, A., Lombardi, L., Viceconti, M., L., Pignataro, S., Marino, V., Crudele, M., Candelori, C., Bramanti, S., M., & Trumello, C. (2020). Psychological effects of the COVID-2019 pandemic: Perceived stress and coping strategies among healthcare professionals. *Psychiatry Research*, 293, 113366, ISSN 0165-1781. <https://doi.org/10.1016/j.psychres.2020.113366>
- Carver, C. C., & Scheier, M. F. (1998). *On the self-regulation of behavior*. Cambridge University Press.
- Delle Fave, A., Wissing, M., Brdar, I., Vella-Brodrick, D., & Freire, T. (2013). Cross-cultural perceptions of meaning and goals in adulthood: Their roots and relations with happiness. In A. S. Waterman (Ed.), *The best within us: Positive psychology perspectives on eudaimonia* (pp. 227–247). American Psychological Association. <https://doi.org/10.1037/14092-012>
- DGS (2020), Orientação nº 30/2020 de 29/05/2020, atualizada a 17/08/2021 <https://covid19.min-saude.pt/orientacoes/> [in Portuguese]
- Di Fronso, S., Costa, S., Montesano, C., Di Gruttola, F., Ciofi, E. G., Morgilli, L., Robazza, C., & Bertollo, M. (2020). The effects of COVID-19 pandemic on perceived stress and psychobiosocial states in Italian athletes. *International Journal of Sport and Exercise Psychology*, 1-13. <https://doi.org/10.1080/1612197X.2020.1802612>
- Dias, C., Cruz, J. F., & Fonseca, A. M. (2012). The relationship between multidimensional competitive anxiety, cognitive threat appraisal, and coping strategies: A multi-sport study. *International Journal of Sport and Exercise Psychology*, 10(1), 52-65. <https://doi.org/10.1080/1612197X.2012.645131>
- Folkman, S. (1984). Personal control and stress and coping processes: A theoretical analysis. *Journal of Personality and Social Psychology*, 46, 839-852. <https://doi.org/10.1037/0022-3514.46.4.839>
- GOV (2020). Government of the Czech Republic. Available online at <https://www.vlada.cz/cz/media-centrum/aktualne/vyhlaseni-nouzoveho-stavu-180234/> [in Czech].
- Hale, T., Webster, S., Petherick, A., Phillips, T., & Kira, B. (2020). *Data From: Oxford COVID-19 Government Response Tracker, Blavatnik School of Government*. Available online at: <https://covidtracker.bsg.ox.ac.uk/>
- Hanin, Y. L. (2007). Emotions in sport: Current issues and perspectives. In G. Tenenbaum & R.C. Eklund (Eds.), *Handbook of sport psychology* (3rd ed., pp. 31-57). Wiley & Sons. <https://doi.org/10.1002/9781118270011.ch2>
- Hendl, J. (2005). *Kvalitativní výzkum: základní metody a aplikace*. Portál.
- Jones, M. V. (2003). Controlling emotions in sport. *The Sport Psychologist*, 17, 471-486. <https://doi.org/10.1123/tsp.17.4.471>
- Jukic, I., Calleja-González, J., Cos, F., Cuzzolin, F., Olmo, J., Terrados, N., Njaradi, N., Sassi, R., Requena, B., Milanovic, L., Krakan, I., Chatzichristos, K., & Alcaraz, P. E. (2020). Strategies and Solutions for Team Sports Athletes in Isolation due to COVID-19. *Sports*, 8(4), 56. <https://doi.org/10.3390/sports8040056>
- Keyes, C. L. M., & Shmotkin, D. (2002). Optimizing Well-Being: The empirical encounter of two traditions. *Journal of Personality and Social Psychology*, 82(6), 1007–1022. <https://doi.org/10.1037/0022-3514.82.6.1007>
- Lawton, E., Brymer, E., Clough, P., & Denovan, A. (2017). The relationship between the physical activity environment, nature relatedness, anxiety, and the psychological well-being benefits of

- regular exercisers. *Frontiers in Psychology*, 8, 1058. <https://doi.org/10.3389/fpsyg.2017.01058>
- Lazarus, R. S. (1991). *Emotion and adaptation*. Oxford University Press.
- Lazarus, R. S. (2000). Cognitive-motivational-relational theory of emotion. In Y. L. Hanin (Ed.), *Emotions in sport*. Human Kinetics. <https://doi.org/10.5040/9781492596233.ch-002>
- Martinent, G., Ledos, S., Ferrand, C., Campo, M., & Nicolas, M. (2015). Athletes' regulation of emotions experienced during competition: A naturalistic video-assisted study. *Sport, Exercise, and Performance Psychology*, 4, 188–205. <https://doi.org/10.1037/spy0000037>
- Mayring, P. (2000). Qualitative content analysis. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* [On-line Journal], <http://qualitative-research.net/fqs/fqs-e/2-00inhalt-e.htm>
- Mehrsafar, A. H., Gazerani, P., Moghadam Zadeh, A., & Jaenes Sanchez, J. C. (2020). Addressing potential impact of COVID-19 pandemic on physical and mental health of elite athletes. *Brain Behav Immun*, 87, 147–148. <https://doi.org/10.1016/j.bbi.2020.05.011>
- Neil, R., Mellalieu, S.D., Hanton, S., & Fletcher, D. (2011). Competition stress and emotions in sport performers: The role of further appraisals. *Psychology of Sport and Exercise*, 12, 460–470. <https://doi.org/10.1016/j.psychsport.2011.02.001>
- Nicholls, A. R., & Polman R. C. J. (2007). Coping in sport: A systematic review. *Journal of Sports Sciences*, 25, 11–31. <https://doi.org/10.1080/02640410600630654>
- Nicholls, A. R., Polman, R. C. J., & Levy, A. R. (2012). A path analysis of stress appraisals, emotions, coping, and performance satisfaction among athletes. *Psychology of Sport and Exercise*, 13, 263–270. <https://doi.org/10.1016/j.psychsport.2011.12.003>
- Peña, J., Altarriba-Bartés, A., Vicens-Bordas, J., Gil-Puga, B., Piniés-Penadés, G., Alba-Jiménez, C., Merino-Tantiñà, J., Baena-Riera, A., Loscos-Fàbregas, E., & Casals, M. (2021). Sports in time of COVID-19: Impact of the lockdown on team activity. *Apunts Sports Medicine*, 56 (209). <https://doi.org/10.1016/j.apunsm.2020.100340>
- Roth, S., & Cohen, L. J. (1986). Approach, avoidance, and coping with stress. *American Psychologist*, 41(7), 813–819. <https://doi.org/10.1037/0003-066X.41.7.813>
- Ryan, R., & Deci, E. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, 11(4), 319–338. [https://doi.org/10.1207/S15327965PLI1104\\_03](https://doi.org/10.1207/S15327965PLI1104_03)
- Ryff, C. D. (1989). Happiness is everything, or is it? explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Ryff, C. D., & Keyes, C. L. M. (1995). The structure of psychological well-being revisited. *Journal of Personality and Social Psychology*, 69(4), 719–727. <https://doi.org/10.1037/0022-3514.69.4.719>
- Ryff, C. D., & Singer, B. H. (2008). Know thyself and become what you are: A eudaimonic approach to psychological well-being. *Journal of Happiness Studies*, 9, 13–39. <https://doi.org/10.1007/s10902-006-9019-0>
- Saladana, J. (2012). *The coding manual for qualitative researchers*. Sage.
- Sanchez, J., C., Alarcon Rubio, D., Trujillo, M., Penaloza Gomez, R., Mehrsafari, A., H., Chirico, A., Giancamilli, F., & Lucidi, F. (2021). Emotional reactions and adaptation to COVID-19 lockdown (or confinement) by Spanish competitive athletes: Some lesson for the future. *Frontiers in Psychology*, 12, 621606. <https://doi.org/10.3389/fpsyg.2021.621606>
- Santos, B. S. (2007). Para além do pensamento abissal: Das linhas globais a uma ecologia de saberes (Beyond abyssal thinking: From global lines to an ecology of knowledge). *Revista Crítica de Ciências Sociais*, 78(12), 3–46.
- Snyder, E. E., & Spreitzer, E. A. (1974). Involvement in sports and psychological well-being. *International Journal of Sport Psychology*, 5(1), 28–39.
- Szczyńska, M., Samełko, A., & Guskowska, M. (2021). Strategies for coping with stress in athletes during the COVID-19 pandemic and their predictors. *Frontiers in Psychology*, 12. <https://www.frontiersin.org/articles/10.3389/fpsyg.2021.624949/full>
- Tamminen, K., & Crocker, R. E. (2013). “I control my own emotions for the sake of the team”: Emotional self-regulation and interpersonal emotion regulation among female high-performance curlers. *Psychology of Sport and Exercise*, 14, 737–747. <https://doi.org/10.1016/j.psychsport.2013.05.002>
- Trickett, E.J. (2009). Community psychology: Individuals and interventions in community contexts. *Annual Review of Psychology*, 60(1), 395–419. <https://doi.org/10.1146/annurev.psych.60.110707.163517>

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23(3), 263-280. <https://doi.org/10.1037/a0032359>

Woodford, L., & Bussey, L. (2021). Exploring the perceived impact of the COVID-19 pandemic social distancing measures on athlete wellbeing: A qualitative study utilising photo-elicitation. *Front Psychol*, 12, 624023. <https://doi.org/10.3389/fpsyg.2021.624023>