Article

Sports Training during COVID-19 First Lockdown—A Romanian Coaches' Experience

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Abstract: COVID-19 restrictions impacted sports training and its human resources. The purpose of this study was to highlight the difficulties faced by Romanian coaches while carrying out online training during the first lockdown. It was assumed that the training coordinates were significantly influenced by distance coaching and that the coaches' self-perceived efficacy was related to their digital skills. The study involved 407 coaches (62.16% men, 37.84% women), with a mean age of 41.7 ± 10.01 years, who completed an online questionnaire with 16 items. The statistics analysis was both quantitative and qualitative, with a significance level of 95%. *T* test was used for the training duration and for the differences between the coaches' seniority. Chi-squared test was applied between sports branches and Anova for the non-parametric data. Correlations and regression model were performed to estimate the relationship between variables. It was revealed that 87.22% of the coaches adjusted their initial objectives and that the IT tools were provided through coaches' own financial resources for 83.05% of them. Overall, 51.84% of the coaches failed to engage all athletes in online training; for the rest of them, an association with their professional experience and sports branches was demonstrated ($\chi^2(8) = 34.688, p = 0.001$). ANOVA confirmed that the ability to use IT tools influenced online training efficiency at $p < 0.005$. The results emphasized that Romanian coaches encountered difficulties related to training programming, IT use, with consequences on their professional self-efficacy.

Keywords: sports performance; online training; efficiency; difficulties

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1. Introduction

COVID-19 restriction measures recommended by the World Health Organization and imposed at global level were applied in different countries by the governments and local authorities [1], impacting all categories of populations and socio-economic areas. Regarding professional sport, this activity has been considered a main concern for the officials [2,3] even though 2020 was supposed to be an Olympic year. In Romania, public-law and private-law sports clubs complied with the global mandatory sanitary measures and proceeded with conducting the training sessions in the virtual environment, a fact widely recognized as challenging for both coaches and athletes.

Studies highlighted the multifaceted implications of the pandemic [4], especially in the case of this unique segment of population—elite athletes. Lockdown and social distancing have been acutely felt by professional athletes [5] for whom training interruption meant the loss of specific adaptations, decreased performance capacity, and disruption of future

competitive goals. Even if most of the athletes used alternative training options, their practical skills and physical capabilities were the most affected [6].

Along with the closure of sports facilities, gyms, training centers for national teams, etc., the postponement of sporting events was considered by the authorities an imperative measure to counteract the global spread of the virus [7,8]. Moreover, the continuation of competitions was identified as a risk factor for the contamination of athletes and for potential injuries, almost impossible to properly treat in overcrowded hospitals [9]. All these possibly led to negative mental states and a loss of motivation for high performance [10] revealed in athletes of all ages. Under these circumstances, the coach is the central pivot in activating an athlete's resilience mechanisms throughout the training process, although their own professional activity was also subject to a number of constraints. This unprecedented crisis led to important changes in the practical field of professional sport [11], such as many athletes attending the training sessions via the Internet for several months. The culture of e-learning is not equally spread among different countries, with important disparities being reported between, for example, Canada and USA which already implemented training online in asynchronous and synchronous formats, and other countries, like Portugal [12] or Romania which faced some difficulties in using IT tools. The COVID-19 crisis found Romania rather unprepared for online education, including sports training without adequate protocols and support for the teachers, statistics showing that in the first month of the lockdown, only six out of ten students were engaged in online learning [13]. By comparison, in other countries, advanced technologies were already used for identifying the most efficient online strategies, including video feed-back with pedagogical activity or control, in order to provide cues for technical preparation and correcting execution errors [14]. In Norway, a study on boxing emphasized that during the lockdown, the athletes and their coaches used three categories of digital tools: live-streamed and unsynchronized online sessions, virtual resources available via digital registration, and free or paying online training sequences [15].

In the area of artistic sports, surveys were completed by coaches regarding the training variables during confinement, namely means used for preparation, quantitative loading cues, as well as aspects related to the control and monitoring of the athletes [16].

Traditional educational practices were replaced with distance learning, a fact which raised questions about the way virtual environment affected the professional self-efficacy related to cognitive (ease of IT use) and noncognitive factors (self-confidence) [17]. In this context, research addressed some shortcomings of the distance learning, mainly linked to the lack of interaction with a teacher, a lack of socializing colleagues, as well as the technical problems experienced during the connection [18,19]. Other studies demonstrated different changes in social dynamics when involving the athletes in online training during the lockdown [20].

Some authors approached the relation between the coaches' professional efficiency and their perceived stress, emphasizing that elite specialists seemed to be more in control in managing specific tasks than non-experienced trainers [21]. Trust and empathy between coach and athletes is a key element and an incentive for boosting the intrinsic motivation to continue training process during the lockdown [22]. The coach will serve as an anchor in the athletes' mindset so that effective coping mechanisms can be developed during the whole pandemic [23,24]. As overwhelming this pandemic might have been, it surely accessed unrevealed coaches' resources so that the complex challenges of online training possibly reinforced or created transformational leadership skills, addressing the athletes in a holistic approach [25]. Authors underlined the relationship between transformational coaching and sports performance mostly at junior athletes' level, who are more perceptive to raise their emotional intelligence, build new strategies, be intellectually stimulated, and inspired by their mentors [26,27].

Provided that the education and sports sectors have been deeply affected during 2020 lockdown, up to the point of literally closing schools, sports clubs, fitness centers, etc., the European Commission (EU) has proposed the European Digital Education action plan

2021–2027 in order to offer a long-term strategy based on the use of technology in teaching and learning activities. Digitalization has to embed new pedagogical approaches and provide necessary infrastructure for all ages and professional categories [28]. Thus, the two priority areas settled in this plan, transposed within the sports field, relate to creating a digital education/coaching ecosystem and developing digital skills and competences for the e-users. In Romania, this European Plan led to a national strategy SMART-Edu [29] which includes, among other entities, the school sports clubs, addressing athletes under 18 years old and their coaches.

Given this context, the purpose of this paper was to highlight the difficulties faced by Romanian coaches while carrying out online specific professional activities during the first lockdown of the SARS-CoV-2 pandemic. Considering that coaches' experience would influence their efficiency in this unprecedented medical crisis, this study outlined the following research questions: what were the consequences of the first COVID-19 lockdown on training preparation/programming via online sessions?; how difficult was it for the coaches to shift from face-to-face training, to IT means?; how did coaches perceive their self-efficiency during the professional activities delivered online?

Two primary hypotheses were established:

1. Major training process coordinates were significantly impacted by distance coaching, according to sports specificity and coaches' seniority.
2. The coaches self-perceived professional efficacy is assumed to be related to their digital skills.

In order to refine the above-mentioned assumptions, a secondary hypothesis was set up for each research specific aspect which will be statistically analyzed within the results section.

This study was conceived as an evidence-based analysis, on multiple variables, addressing the Romanian sport system and its professionals in order to mitigate the impact of COVID-19 on the training process in an Olympic year and prepare the infrastructure and the human resources for possible similar crisis.

2. Materials and Methods

2.1. Participants

The study involved 407 Romanian coaches from all regions and sports who trained athletes of different levels. The participants were divided in two sub-groups according to their seniority, respectively, under 15 years and over 15 years of experience. This threshold was settled given that in the Romanian legislation the education staff is able to reach the highest professional classification within 12–15 years. This group was asked to complete an online questionnaire containing items related to both consequences of the first COVID-19 lockdown on the delivery of online training sessions and coaches' perceived self-efficacy. There were no exclusion criteria for participating in the survey because this tool was freely accessed by all those interested in expressing their opinions on this topic. Sports professional networks were accessed via Facebook, Yahoo, and Google to recruit participants through the snowball sampling technique directed towards coaches' groups connected to continuous education providers in this area. In the preamble of the questionnaire, the purpose and the consent procedure were explained. All ethical requirements were met, including anonymized data, informed consent, and the possibility to withdraw at any time. The research protocol was approved by the Local Research Ethics Committee (945/21.05.2020), according to the Helsinki Declaration on Research Involving Human Subjects.

2.2. Procedure

This paper embeds a cross-sectional study on the first COVID-19 lockdown period imposed between 13 March and 15 May 2020, by the Romanian authorities. The questionnaire was constructed based on several analytical categories, essential for the research purpose: socio-demographic data, training programming (6 items; I1–I3, I10, I13, I14), IT use (6 items;

I4–I9) and perception of self-efficiency (4 items; I11, I12, I15, I16). These 16 items required single- (4 items), multiple-choice (5 items), and open responses (2 items; I4, I16), the last ones being optional. In order to grade the level of perception avoiding bias questions, a Likert scale from 1 to 5 was used for 4 items. Leading questions were also avoided by applying an unsynchronized online questionnaire instead of interacting in real time with the respondents and by keeping neutral the description of the survey and the invitation to participate. The questionnaire was created and distributed via Google forms and took no more than 15 min to complete. Each questionnaire was sent from a single e-mail address. All participants completed the whole questionnaire. The document can be accessed in Appendix A. For a detailed analysis, the participants were divided in two groups according to their coaching experience (seniority), respectively less than 15 years and over 15 years.

2.3. Statistics

All data were collected in Excel files and then analyzed by means of SPSS v20 software (IBM, Armonk, NY, USA). Before processing the statistical indicators, the normality of data distribution was assessed using the Skewness and Kurtosis coefficients. The absolute value for Skewness was <1 , the symmetry (Skewness) and flatness (Kurtosis) values did not exceed 3 for Skewness and 8 for Kurtosis, which was considered within normal limits [30]. In order to assess the internal consistency of the questionnaire a Cronbach alfa coefficient was computed. Consequently, the value of this coefficient was 0.668, which, according to the reliability scale, was proved to be acceptable (0.6–0.79). The descriptive statistics are presented in Appendix B.

A Chi-squared test was applied to determine whether different variables were associated or independent, taking into account the standard values (−2, 2). If they were independent, the tabulation was insignificant, but if there was a relationship between them, the tabulation results were significant [31]. For this study, the Chi-squared test was applied between sports branches (divided into ten categories: athletics, gymnastics, swimming, dancing, team sports, fencing, combat sports, winter sports, racquet sports, other) and training experience (divided into two categories: under 15 years and over 15 years). Furthermore, correlational analysis was applied using either Spearman or Pearson coefficients; the Pearson correlation was used to assess the strengths of the association between nominal variables, while Spearman correlation was used to assess the strengths of the association between ordinal variables. In both coefficients, the reference values were: very strong ($r > 0.8$), moderate ($r = 0.6–0.8$), fair ($r = 0.3–0.6$), and poor ($r = 0.1–0.2$). Levene's test was used in order to test the homogeneity of the variances. When this condition was not met, the ANOVA test was applied. Turkey test was also applied for identifying the differences between two means which are greater than the standard error anticipated. Additionally, a regression analysis was used to estimate the relationship between the online training efficacy, as a dependent variable and other independent variables described in the results section. The Durbin–Watson test assessed the autocorrelation in the data sets had values between 0 and 4 [32].

3. Results

3.1. Socio-Demographic Analysis

Out of the whole group of 407 respondents, 62.16% were male coaches and 37.84% were female coaches, with a mean age of 41.7 ± 10.01 years (Skewness 0.299 (std. error 0.129) and Kurtosis 0.103 (std. error 0.257)). Their experience in sports training was 15.09 ± 9.59 years on average (Skewness 0.790 (std. error 0.121) and Kurtosis 0.227 (std. error 0.242)). For rational purposes, the group was divided into two subgroups: coaches with less than 15 years of professional experience (59.95%) and coaches with more than 15 years of professional experience (40.05%). Their distribution by sports was: gymnastics—53 coaches, dancing—23 coaches, athletics—30 coaches, teams sports—200 coaches (basketball, football, handball, ice hockey, rugby, volleyball), swimming—21 coaches, fencing—14 coaches,

combat sports—18 coaches, winter sports—29 coaches, racquet sports—8 coaches, other sports—11 coaches. All the variables discussed in this study had a normal distribution.

3.2. Training Programming Analysis

When asked about the need to change their training objectives for the 2020 competitive year because of the COVID-19 lockdown (item 1—*During the COVID-19 pandemic did you consider necessary to change the initial performance objectives?*), 87.22% of the coaches said they had to change their initial objectives, while 12.78% maintained the same objectives. For example, 100% of the coaches involved in racquet sports changed the initial objectives, 96.23% of the gymnastics coaches opted for the same measure, as well as 94.44% of the combat sports coaches. Regarding the training components (item 2—*Which are the sports training components you approached during this period?*), 91.40% of the coaches acknowledged physical preparation as the most important aspect addressed during lockdown, unlike the technical and tactical preparation which were seen as less prevalent within this period (Figure 1).

Figure 1. The prevalence of the training components during online training (%).

The Romanian coaches also paid attention to the psychological preparation in the online sessions, even though this aspect was not managed by a specialized psychologist. In this respect, the fencing coaches addressed this issue in the highest percentage—85.71%, while the lowest percentage was found in the racquet sports coaches—37.50%. During lockdown, the coaches also chose to provide theoretical preparation means, taking advantage of home training environment—in an overall percentage of 51.11%.

In opposition, the technical component was most impacted by the online training, only 20.75% of the gymnastics coaches, 13.33% of the athletics coaches, 19.05% of the swimming coaches, and 21.43% of the fencing coaches applying specific contents in this respect. None of the coaches in racquet sports addressed technical preparation in online sessions. Gymnastics and dancing coaches also chose to train the artistic abilities of their athletes, in a percentage of 52.83% and 43.48%, respectively.

According to the findings the most deprived component was definitely the tactical preparation which was addressed only by 13.51% of the coaches overall, specifically 15.50% of the team sports coaches, and 11.11% of the combat sports coaches. None of the coaches in racquet sports considered tactical preparation as part of the lesson in this specific situation.

Another item addressed the number of hours of training sessions delivered per week before and during the lockdown (items 3a and 3b—*How many hours per week did you usually*

train your athletes, before and during the lockdown?). Comparative data prior and during the lockdown showed an overall decrease in the total number of hours: the coaches training less than 10 h prior the pandemic were in a percentage of 23.34%, while no percentage was reported during the lockdown; a ratio of 43.49% of those who trained 10–15 h before the lockdown increased to 78.62% during the lockdown; 21.13% of the coaches used to train 15–20 h while during the lockdown, this percentage decreased to 17.44%; 10.32% of the coaches who trained more than 20 h per week, were constraints to train less, only 2.95% of them keeping this amount of time during the online training.

Fulfilling the training objectives (item 10—*Do you consider you reached the sports preparation objectives with your athletes, during the pandemic?*) was viewed differently by the surveyed coaches: 25.06% considered they had met the training objectives, 42.26% claimed they had managed to fulfil the training objectives at medium level, 22.36% said they had poorly achieved the training objectives, and 10.32% stated they had failed to fulfil this task. Regarding the comparison between coaches with less than 15 years of professional experience and coaches with more than 15 years of working in the field, *T* test revealed significant differences regarding the duration of the training sessions and the level of achieving their goals (Table 1).

Table 1. *T* test for comparative analysis between coaches with less than 15 years of experience and coaches with more than 15 years.

Levene's Test for Equality of Variances				<i>T</i> Test for Equality of Means			Mean Dif.	Std. Error Dif.	95% Conf. Int. Dif.	
		F	Sig.	<i>t</i>	Df	Sig. (2-Tailed)			Lower	Upper
Training duration before pandemic (h)	Eq. var. ass.	2.02	0.156	3.51	405	0.000	0.36	0.10	0.16	0.55
	Eq. var. not ass.			3.49	381.20	0.001	0.36	0.10	0.16	0.56
Training duration during pandemic (h)	Eq. var. ass.	30.77	0.000	3.22	405	0.001	0.18	5.51×10^{-2}	6.94×10^{-2}	0.29
	Eq. var. not ass.			3.13	327.10	0.002	0.18	5.67×10^{-2}	6.60×10^{-2}	0.29
Achievement of training goals	Eq. var. ass.	6.66	0.010	−2.06	405	0.040	−0.21	9.98×10^{-2}	−0.40	$−9.46 \times 10^{-3}$
	Eq. var. not ass.			−2.04	368.40	0.042	−0.21	0.10	−0.40	$−7.13 \times 10^{-3}$

The *T* test confirmed that the difference between the average values for the above three items was significant—sig. < 0.005, this meaning a very low error probability. Prior to the pandemic the majority of the coaches, no matter their seniority, scheduled 10–15 h of training, while during the lockdown the prevalent number of hours was less than 10. Nonetheless, one can notice that the experienced coaches were more dedicated both prior and during the lockdown compared to those less experienced. Additionally, the Chi-squared test showed that there was a statistically significant association between coaching experience and the degree of fulfilling the training objectives ($\chi^2(4 = 13.55, p = 0.009)$). Taking into account the adjusted residuals from crosstabulation (−3.4 for coaches with less than 15 years of experience and 3.4 for coaches with over 15 years of experience), a statistically significant association was identified between professional experience and failure to fulfil the training objectives, the mentioned values exceeding the range (−2, 2).

When asked about the most challenging component to recuperate after the lockdown (item 13—*What do you think it will be most difficult for your athletes to regain, after restarting normal training?*), 67.08% of the coaches stated that the athletes' emotional state will be the toughest to recover and 61.67% of the coaches were concerned about the athletes' mental state. At the same time, although the physical preparation was the most accessible during online training and thus prioritized by most of the specialists, 44.96% of the respondents acknowledged that physical fitness would also be consequently affected. Furthermore,

44.72% of the coaches mentioned the difficulty to recover the technical skills of their athletes after the lockdown.

Regarding the disadvantages of banning competitions (item 14—*Which disadvantages do you identify in postponing the competitions?*), 76.17% of the respondents acknowledged that the loss of training specific adaptations and sports peak performance were the most common effects anticipated. This negative effect of the lockdown was identified in 100% of the fencing coaching. Diminishing the athletes' motivation was another lockdown triggered effect for 72.73% of the coaches overall. This risk was mentioned by 79.31% of the winter sports coaches, 78.26% of the dancing coaches and 90.91% of other sports coaches. The risk of financial losses was mentioned by 20.16% of the Romanian coaches overall. Most of the coaches who had this opinion were involved in winter sports (34.48%) and fencing (28.57%). Some of the coaches (35.87%) drew the attention to the possibility for the seniors to withdraw from sports practice due to these multiple circumstances. Specifically, 50% of the racquet sports coaches and 42.86% of the fencing coaches acknowledged this potential risk.

T test did not reveal statistically significant differences between the coaches, with various seniority in terms of the toughest component to recover post lockdown and the drawbacks of cancelling the competitions.

3.3. IT Use

The IT tools used by the coaches (item 5—*Did you benefit from the use of IT tools in coaching from home?*) during the lockdown were provided through their own financial resources according to 83.05% of the responses. On the contrary, 10.32% had no IT tools available to deliver training lessons. The rest of them (6.63%) received IT tools from their sports clubs. The greatest support in terms of IT available logistics was received by 20.69% of the winter sports coaches and by 18.18% of the coaches in other sports branches. In opposition, gymnastics, dancing, fencing, combat and racquets sports coaches did not receive any device from their clubs to connect via internet with their athletes.

Regarding the difficulties encountered by the coaches in managing technical devices (item 6—*How difficult was it for you to use the IT tools for coaching?*), 53.07% did not experience such problems, 21.13% experienced some problems, and 8.85% mentioned major difficulties in managing online training. The rest of the participants experienced medium difficulties in this respect (16.95%). A ratio of 17.39% of the dancing coaches expressed their high difficulties in handling the IT, while 72.22% of the combat sports coaches and 72.73% of the other sports coaches experienced no difficulty in fulfilling this task.

The item regarding the capability to engage all athletes in online sessions (item 7—*Did you succeed in engaging in online coaching all your athletes from distance?*) revealed that 51.84% of the coaches failed to accomplish this task, while 48.16% managed to achieve this objective. The dancing coaches in a proportion of 86.96% faced the toughest challenges in engaging the athletes in online training, while 75% of the racquet sports trainers had the same difficulties. On the opposite side, 60.38% of the gymnastics trainers managed to involve most of the athletes in virtual lessons.

The degree of association between variables, namely the sports branches, training experience, and the ability to engage all athletes in online sessions, was proven by the Chi-squared test. For coaches who managed to engage all their athletes, the association was statistically significant ($\chi^2(8) = 34.688, p = 0.001$). For coaches who failed to keep all their athletes connected to the training process during the lockdown, there was no statistically significant association between variables ($\chi^2(8) = 8.729, p = 0.366$). Taking into account the adjusted residuals from crosstabulation (Appendix C), for athletics, combat sports, and other sports, the corresponding values exceeded the range $(-2, 2)$, which demonstrated that there was a significant association between training experience and the ability to engage all athletes in online sessions.

As for the item regarding the continuity of the training process during the lockdown (item 8—*After the beginning of this pandemic, coaching your athletes took place: . . .*), all partici-

pants stated that the sessions were delivered in several ways as follows: 45.95% delivered the training sessions without interruption, with online coaching; 57.74% delivered the training sessions without interruption, following a written program delivered by the coach; 96.56% also recommended individual training sessions, without online live guidance. The dancing coaches reported they had no disruption of the training process by delivering online coaching, in a ratio of 8.70%, while racquet sports coaches had the same approach in a percentage of 75%. Generally speaking, one can notice that the Romanian coaches surveyed delivered the training sessions in a blended learning approach according to the type of sports. At the same time, the item referring to the most frequently used online applications (item 4—*Specify the solutions you have found for coaching the athletes during this period*), emphasized that Zoom, Microsoft Teams, Skype, YouTube, and WhatsApp were particularly mentioned by the coaches.

Regarding the perceived self-efficacy in online settings (item 9—*On a scale from 1 to 5, how efficient do you consider your training process was during the pandemic?*), we hypothesized that not all the trainers considered distance learning effective (there were differences between the means of the groups). ANOVA tested the differences between 5 groups means (1 very inefficient—5 very efficient). The ANOVA confirmed that the differences between the means of groups analyzed were significant, since $\text{sig} < 0.005$, so the likelihood of error was very small. We can thus extrapolate our statements on the entire statistical population (coaches from Romania). Therefore, the hypothesis was confirmed/accepted. Turkey test showed that the biggest difference was between 1 (the coaches that considered distance training very inefficient) and 5 (the coaches that considered distance training efficient) = 0.99.

Almost half of the respondents (48.16%) acknowledged that their professional efficiency was at medium level, while only 6.14% perceived themselves as effective; a small percentage 7.62% confirmed that they were not at all efficient in online training. Specifically, 15.09% of the gymnastics coaches and 18.18% of the other sports coaches reported a maximal level of productiveness, while 16.67% of the athletics coaches, 14.29% of the swimming coaches and 12.50% of the racquet sports coaches admitted that they were not productive at all.

The degree of association between coaches' training experience and their perceived efficiency in online sessions was proven by the Chi-squared test. No statistically significant association was found between groups with less than 15 and over 15 years of training experience and perceived efficiency. Furthermore, we hypothesized that the ability to use IT tools positively influenced online training efficiency (there were differences between the means of the groups). ANOVA tested the difference between 5 group means (1 very inefficient—5 very efficient).

ANOVA confirmed that the differences between the means of groups analyzed were significant, since $\text{sig} < 0.005$, so the likelihood of error was very small (Table 2). We can extrapolate our statements on the entire statistical population (Romanian coaches). Thus, the hypothesis was confirmed/accepted, namely the coaches' ability to use IT means was a positive premise for the training efficiency. Turkey test showed that the biggest difference was between 3 (42% of coaches—maximum) and 5 (5% of coaches—minimum). These two groups were very different. The coaches that considered distance training inefficient also had difficulties in IT use (10% group 1 and 22% group 2) (Figure 2).

Table 2. ANOVA statistical indicators for items 6, 10, 11.

		Sum of Squares	df	Mean Square	F	Sig.
6. How difficult was it for you to use IT equipment to carry out your professional activity?	Between Groups	13.74	4	3.43	2.69	0.031
	Within Groups	513.08	402	1.27		
	Total	526.83	407			
10. To what extent have you achieved the goals set for your athletes during this period?	Between Groups	184.28	4	46.07	81.74	0.000
	Within Groups	226.55	402	0.56		
	Total	410.83	407			
11. How satisfied are you with the way you carry out your professional activity during this period?	Between Groups	200.97	4	50.24	55.87	0.000
	Within Groups	361.47	402	0.89		
	Total	562.44	407			

DV: 9. How effective do you think distance training has been for your athletes?

Figure 2. Differences between group means regarding the items 6 and 9.

We also assumed that the coaches achieving their goals set for the athletes considered distance training effective (there were differences between group means). ANOVA confirmed that the difference between the means of the groups analyzed were significant, since $\text{sig} < 0.005$, so the likelihood of error was very small (Table 2). Thus, the hypothesis was confirmed/accepted, namely that the coaches strongly associated goal achievement with the efficiency of the online training. Turkey test showed that the biggest difference was between 1 (the coaches that considered distance learning very inefficient) and 5 (the coaches that considered distance learning efficient) = 2.77 (Figure 3). The extent to which trainers achieved their goals during this period was proportional to the extent to which they considered online activity effective.

Figure 3. Differences between group means regarding the items 10 and 9.

3.4. Perception of Professional Self-Efficacy during Lockdown

Regarding the perceived level of satisfaction during the lockdown (item 11—*How satisfied you are of your way of working during the pandemic?*), the data indicated that 39.08% of the coaches were little or completely unsatisfied, 31.20% were moderately satisfied, 18.92% were largely satisfied, while 10.07% were fully satisfied with their professional performance. The Chi-squared test revealed a statistically significant association between the level of satisfaction and professional experience ($\chi^2(4) = 20.51, p = 0.001$). Crosstabulation demonstrated adjusted residuals exceeding the range $(-2, 2)$, which emphasized statistically significant associations between the above-mentioned variables (Table 3).

Table 3. Crosstabulation between the level of satisfaction with professional activity and seniority.

		Under 15 Years	Over 15 Years	Total
Moderately satisfied	Count	86	41	127
	% satisfaction	67.70%	32.30%	100%
	% training experience	35.20%	25.30%	31.30%
	% total	21.20%	10.10%	31.30%
	Adjusted Residual	2.1	−2.1	
Largely satisfied	Count	57	20	77
	% satisfaction	74%	26%	100%
	% training experience	23.40%	12.30%	19%
	% total	14%	4.90%	19%
	Adjusted Residual	2.8	−2.8	
Fully satisfied	Count	16	25	41
	% satisfaction	39%	61%	100%
	% training experience	6.60%	15.40%	10.10%
	% total	3.90%	6.20%	10.10%
	Adjusted Residual	−2.9	2.9	

We hypothesized that during the lockdown coaches felt (item 12—*During the pandemic, you felt that you were . . .*): useless for their athletes (item 12a); without support from their superiors (item 12b); dissatisfied with the banned training in normal conditions (item 12c); satisfied for not going to work (item 12d); dissatisfied that they no longer achieved their performance goals (item 12e). The participants were divided into 2 groups according to their answers to item 12 (1 = YES, 2 = No). The *T* test was applied for assessing the differences between the means of the two groups. The *T* test confirmed that the differences between group means analyzed according to the 5 criteria mentioned above were significant, since $\text{sig} < 0.005$, so the likelihood of error was very small. The 5 hypotheses were confirmed, thus the results being generalizable to all Romanian coaches.

The swimming coaches felt in a proportion of 14.29% that they were useless in their interactions with the athletes throughout the lockdown, while the racquet sports coaches experienced the same feeling in a proportion of 12.50%. At the same time, 49.06% of the gymnastics coaches, 61.11% of the combat sports coaches, and 48.28% of the winter sports coaches confirmed that they felt no uselessness during the online sessions.

A ratio of 30.47% of the respondents benefited from their sports clubs support in conducting online training, while 26.78% did not receive any such support during lockdown. The best managerial support perceived was indicated for 57.14% of the swimming coaches, 50% of the combat coaches, and 50% of the racquet sports coaches. The fencing specialists (71.43%) and the winter sports trainers (44.83%) received the least support.

Concerning the general restrictions imposed by the authorities, 46.68% of the total respondents expressed their disagreement for not accessing sports facilities. The highest percentage of discontent, 56.52%, was mentioned in dancing coaches' responses; 55.56% of the combat coaches, 52.38% of the swimming coaches, 51% of the team sports coaches, and 50% of the athletics and fencing coaching acknowledged the same dissatisfaction.

Overall, working from home and the lack of time-consuming travel to sports facilities were appreciated by 65.85% of the coaches, but the swimming coaches for example were dissatisfied with these circumstances in a proportion of 85.71%. The failure to achieve the performance objectives brought the discontent of 66.09% of the total number of respondents. The highest dissatisfaction in this respect was registered in fencing coaches' responses and in combat sports, with 78.57% and 77.78%, respectively.

We hypothesized that the coaches that considered online training effective were also satisfied with their professional activity in this period. ANOVA confirmed that the differences between the group means were significant, since $\text{sig} < 0.005$, so the likelihood of error was very small (Table 2). Thus, the hypothesis was confirmed/accepted. Specifically, 1/3 of the coaches were neutral (neither satisfied, neither unsatisfied = 3) with their professional activity, more than 1/3 were unsatisfied, while the rest were satisfied and considered distance training efficient (Figure 4).

Turkey test showed that the biggest difference was between 1 (the coaches that considered distance learning very inefficient) and 5 (the coaches that considered distance learning efficient) = 2.80. The extent to which coaches were satisfied with the work carried out during this period was proportional to the extent to which they considered online activity effective.

Coaches were also asked to mention the advantages of working from home during the lockdown (item 15—*In case you identify any benefits of this period of working from home, choose one or more, from the answers below . . .*). On one side, 40.54% of the coaches acknowledged the benefit of spending more time with their families. Most responses in this regard were reported in combat sports (38.89%) and team sports coaches (47.50%). On the other side, the extra time spent at home was considered as beneficial for professional training (39.31%), as well as for personal development (37.35%) and leisure time activities (68.55%). The most interested in their own professional training during lockdown were the winter sports coaches (51.72%), the dancing (47.83%), and the athletics coaches (46.67%). The most interested in personal development during the same period were the racquet sports coaches (50%), dancing (47.83%), and winter sports coaches (48.28%). The leisure time

activities were mostly preferred by the fencing coaches (78.57%), team (75.50%), and other sports coaches (72.73%).

Figure 4. Differences between group means regarding the items 11 and 9.

Correlations among Variables

Moderate positive correlations were statistically proven between the level of professional satisfaction and the level of fulfilling the training objectives during the lockdown ($r = 0.647, p < 0.001$). A fair positive correlation ($r = 0.593, p < 0.001$) was statistically proven between the level of professional satisfaction during the lockdown and coaches' perceived efficiency. A fair negative correlation ($r = -0.389, p < 0.001$) was identified between the level of professional efficiency and the feeling of uselessness experienced by coaches during the lockdown. A fair negative correlation was found between the level of content and the feeling of uselessness experienced by coaches during the lockdown ($r = -0.502, p < 0.001$). At the same time, the dissatisfaction regarding the training conditions was negatively correlated with a fair level of efficiency ($r = -0.391, p < 0.001$) and positively correlated with the impossibility to achieve the training objectives ($r = 0.340, p < 0.001$). A fair negative correlation was statistically proven between the level of achieving the training objectives and the feeling of uselessness perceived by coaches ($r = -0.389, p < 0.001$).

3.5. Regression Model

Following the analysis of the correlations between variables, we designed a model of linear regression. We analyzed the extent to which the efficiency of distance training (dependent variable = Distance_efficiency) was influenced by different factors (independent variables) such as: the experience of the coach in the field (years_training), the difficulty of using IT means (IT_difficult), number of training hours in the virtual environment during the pandemic (H_during), the degree of meeting the objectives (met_obj), and the satisfaction of the coaches during online training.

R represented the correlation coefficient between the variables analyzed. The correlation was overall large and positive (0.70). R² Adjusted measured the variance proportion (49%) of the dependent variable (Distance_efficiency) that was explained by the variance of independent variables (Years_training, IT_difficult, H_during, met_obj, content). Sig F confirmed that the probability of errors in the above statement was less than 0.01. In order to test the validity of the regression model, the Durbin–Watson test assessed the self-correlation of errors. In this study, the value of Durbin–Watson (1.95) was approaching

the value 2, so there was no autocorrelation between errors. Therefore, the linear regression model was designed/implemented correctly.

Regression equation: $\text{Distance}_{\text{efficiency}} = 0.74 + 1.283 \times 10^{-3} \text{Years}_{\text{training}} + 8.839 \times 10^{-3} \text{H}_{\text{during}} + 3.355 \times 10^{-2} \text{IT}_{\text{difficult}} + 0.453 \text{Met}_{\text{obj}} + 0.236 \text{Content}$.

Significance coefficient (Sig) was < 0.01 only for the items related to achieving the objectives and degree of satisfaction. Only for these variables could we be sure that the coefficient was calculated correctly. Quantitative evaluation of the parameters of the regression equation involved the fulfilment of the state of linear independence between independent variables. In order to verify that the independent variables did not have a high degree of relationships between them, the multicollinearity coefficient was calculated. In this case, VIF had appropriate values of 1, which meant that there was no multicollinearity identified. Thus, in order to obtain a better model, we have to include other factors.

4. Discussion

The novelty of this research consists of setting up a diagnosis of the training process and need for supporting the Romanian coaches during the COVID-19 lockdown. The integrated results of this study confirmed the research hypothesis.

The 407 coaches who responded to the questionnaire had a numerically unequal gender distribution and different professional experience in more than 30 sports branches. The collected data focused on three main aspects: Training programming, IT use, and Perception of professional efficiency, relevant for further strategies to implement in view to enhance the coaching competencies in coping with distance learning.

4.1. Training Programming

The results related to training programming confirmed the hypothesis assuming that the major training process coordinates were significantly impacted by distance coaching.

All restrictions imposed during the pandemic greatly affected the entire training process, starting with the need to change the training objectives (most of the surveyed coaches resorting to this measure) up to restructuring the training content according to improper practice conditions. Wasif et al. (2021) and Giradi et al. (2020) highlighted that interrupting training or changing the effort dynamics caused athletes to lose their sports skills [33,34]. For athletes, the lockdown became a detraining period, disrupting the established periodization, this being an important negative consequence of home isolation [35].

The detraining effects occurring within 2 to 4 weeks from the disruption of the continuity, along with the absence of specific devices and equipment, as well as practicing in a small or improper space, caused a decrease in physical fitness level [36]. Latella and Haf (2020) in their literature review revealed that the confinement conducted losses of muscle strength, power, and mass of the athletes [37]. Another study in adolescent athletes demonstrated that 3 weeks of detraining did not diminish the muscle thickness, strength, or sport performance [38]. However, the prolongment of a break in sports training, up to 4 weeks, would lead to a loss of strength and power [39]. Thus, when analyzing the first COVID-19 lockdown, with a duration of 8 weeks in Romania, the assessment of the detraining effects became less optimistic. One can assert that the various opinions regarding the most affected training capabilities during the lockdown were influenced by the specific sports demands, the coaches' experience, and the training level of their athletes. For team sports, for example, Eirale et al. (2020) underlined that it was mandatory to keep a high level of aerobic power and muscle strength during distance training [40]. Furthermore, Kalinowski, Myszkowski, and Marynowicz (2021) demonstrated that the COVID-19 restrictions had a negative effect on the cardio-respiratory capacity of football players [41].

Detraining affected all the training components, physical training being the basic pillar of technical, tactical, and other sports acquisitions. These findings also reflected the opinion of Romanian coaches, who acknowledged the difficulty to recover athletic capabilities,

hierarchically, for the following combinations: technical or technical/tactical level; physical fitness; physical fitness, technical or technical/tactical level; technical or technical/tactical level and motivation; physical fitness, body weight and technical/tactical level; physical fitness, body weight and technical/tactical level, mental state, emotional state, discipline and motivation. Moreover, besides the loss of physical fitness, a detraining period could trigger an increase of the body fat mass, even in individual training settings [42].

Romanian coaches' responses revealed that most of the athletes had also been emotionally challenged. Other studies addressing the mental health of the athletes emphasized that the COVID-19 crisis impacted the quality of sleep and generated depression symptoms [43,44]. The psychological state disturbances were registered as common mental health issues during the COVID-19 pandemic [45], no matter the profession of the individuals. Thus, during the online sessions, the Romanian coaches also stressed the importance of the psychological preparation, positively influencing mental toughness and motivational levels [46] as definitely helpful in this challenging curfew period.

In this context, it was necessary to rethink the training objectives, but reconfiguring the training periods was rather difficult, given the uncertainties related to the resumption of training and competitions in normal conditions, regardless of the sport [47]. Under these circumstances we found it necessary for the specialists to draw up alternatives of training periodization when online training was imposed by external factors. Even though coaches proved they had a good capacity to adapt themselves in online settings, imagining solutions to avoid the disruption of the training sessions and maintaining optimal effort load normally required specific guidelines, which were unfortunately lacking, at least in the Romanian sports system.

Regarding the comparative aspects between the number of training hours before and during the lockdown, the results showed that, if initially there were no Romanian coaches reporting less than 10 h per week, their percentage increased during the lockdown. Similar results were revealed in the United States, where a group of surveyed athletes who used to train 5,6 days per week reduced the training frequency in a proportion of 33.5% and diminished the time spent for improving different components of their performance capacity [48].

The Romanian coaches mentioned their worries concerning the potential risk to lose some senior athletes as a consequence of postponing the sports competitions. Further studies could address this topic by means of a comparative analysis of the matrix regarding the number of licensed athletes before and after the pandemic in order to mark the trend of this process. The economic loss caused by the pandemic restrictions could also be brought into discussion and confirmed by the specialists in this area. A European Parliament (2021) [49] briefing report underlined the financial impact on the sport sector and sporting services, pointing out several negative predictions in terms of uncertainty of competition events, difficulties in managing budgets, lost broadcast revenues, or limited commercial relationships and employment.

The training programming results confirmed the hypothesis.

4.2. IT Use

Given that teleworking has become the new professional standard worldwide [50], online training sessions have been one of the few options in most countries affected by the COVID-19 lockdown. In order to ensure the continuity of the training process, the surveyed coaches provided the athletes with several training methods, therefore most athletes attended online training under the coaches' direct guidance or using predefined programs, while a small part worked only individually. Taking into account that athletes experienced the phenomenon of detraining, the coaches' concern was to seek solutions allowing as much as possible interaction with the athlete during online lessons, thus avoiding also the risk of injury [47,51]. Related to this issue, most coaches did not encounter difficulties managing online interaction or had minor technical problems. These data have also been confirmed by other studies [52].

Another aspect of interest aimed at identifying the athletes' level of engagement in online classes. In this regard, the data indicated that half of the coaches failed to engage all their athletes in online training sessions. Engaging athletes in online trainings was rather difficult, for various reasons. One of them consisted of the school schedule of the athletes, which was often changed by the overall pandemic rules implemented in schools. In this respect, a UN policy brief (2020) [53] established some milestones to be implemented in the near future: create flexible education systems to respond to unexpected challenges, reshape and accelerate changes in online schooling by creating opportunities for resilience.

Additionally, the monotony of online training probably could explain the disengagement of the athletes, given the fact that physical preparation was the most prevalent theme trained during lockdown. In order to counteract these effects, the coach should develop and master IT means with a certain level of attractivity, interaction, and game orientation, so that the athletes could feel more driven to actively participate in online training sessions, as similar studies revealed [54]. Home training often lacked consistency due to the limited logistics available; either the location was inadequate for the exercises prescribed or the athletes had difficulties in connecting to the internet for technical or financial reasons. On a larger scale, this pandemic revealed a global need to invest in IT equipment and courses available to most of the athletes and coaches.

Evidence showed that the great powers in sports like China, USA, France, etc. already developed high-tech methodologies and virtual reality training equipment, so that the race to qualifying in the Olympic Games in Tokyo 2020 should not be hindered by the lockdown restrictions. Specifically, these technologies mostly address the technical skills—the most impacted by the lack of practice.

For the Romanian coaches, the specificity of each sports branches generated certain difficulties linked to IT use and online training, dancing coaches mentioning the highest obstacles in this sense, and, at the opposite end, gymnastics coaches succeeding better in this area. As already mentioned, in individual sports it was easier to find the most appropriate ways to train during the lockdown, by comparison with contact sports such as rugby [51].

Regardless of the sports branch, coaches with more experience managed to engage all their athletes in online activities; this aspect was strongly argued statistically for athletics, combat sports and other sports. Coaches who encountered difficulty using IT tools engaged their athletes in the training process to a lesser extent, as similar studies emphasized [15]. Other studies addressing sustainable education were conducted in the academic environment, pointing out almost the same aspects of interest: the availability of digital tools, the level of satisfaction, and the opinions of the teaching staff regarding the online teaching methods [55].

4.3. Perception of Professional Self-Efficacy

The difficulties faced by the coaches in carrying out their professional activities from home were identical to those experienced by the professionals in other fields. Besides the positive effects of working from home, several negative effects surfaced: diminishing regular physical activities and increased tendency towards a sedentary lifestyle [56], prolonged time spent in front of the computer [57], social isolation and lack of interactions with colleagues [58]. Additionally, online working was proved to increase the stress related to Internet connectivity and device functionality [59].

For some of the employees, the permanent presence of family members and the need to participate simultaneously in various online activities lead to conflicts and exhaustion [60]. The economic stressors, the isolation, and the uncertainties of the sanitary crisis, along with managing different activities in small living spaces with numerous members, engendered a multiplication of violence and domestic abuse cases [61]. Furthermore, authors like Svrek et al. (2021) emphasized that the COVID-19 first lockdown decreased the job satisfaction level for employees living with children [62].

In this survey, Romanian coaches emphasized an objective perception of their professional efficiency, in the sense that 83% of the responses reflected medium and unsatisfactory levels, which was specific to all the coaches, no matter their seniority. Data also revealed that coaches who were able to convey to athletes the desire to continue their training felt a high level of professional satisfaction.

The results related to IT use and professional efficacy confirmed the hypothesis, assuming that the coaches' self-perceived professional efficacy was related to their digital skills.

4.4. Correlations between Variables

Although numerous correlations were identified between socio-demographic, training programming, and IT use variables, positive correlations were highlighted between self-efficacy and fulfilment of the training objectives and the feeling of satisfaction, and goal achievement and the feeling of satisfaction. Based on these linear relationships it was confirmed that as long as the coaches succeeded in fulfilling their professional activity objectives, they perceived a higher level of self-efficacy and a feeling of satisfaction, and vice-versa.

Negative correlations were recorded between the coaches' feeling of satisfaction and feeling of uselessness as well as between the feelings of uselessness and perceived self-efficacy. The feeling of job satisfaction diminished in parallel with the increased feeling of uselessness. Additionally, the coaches perceived themselves as less efficient as they considered they were useless for their athletes, and vice-versa.

Coaches' age and experience had a statistically significant influence on training duration, both before and during the pandemic. Additionally, it could be noticed that the higher the training volume, the more athletes engaged in training lessons conducted in the virtual environment. However, changing the training objectives lead to a decrease in the engagement of all athletes in online training, which was emphasized by the fact that these variables followed opposite trends with the same magnitude.

Similarly, correlational analysis studies were already performed, emphasizing linear relations between satisfaction of working from home, professional competencies, autonomy, and work ambiance, in the COVID-19 crisis, for different Romanian economic sectors [63]. The need to address this topic in the sports field as well, and to investigate the Romanian coaches' professional self-efficacy and job satisfaction remained less approached by comparison with other professional activities. Even if coaching profession relates to learning and teaching activities, being thus an educational process, digitalization in sports training was less implemented compared to school professionals from different specialties. A correlation analysis on English teachers in Turkey showed that the job satisfaction was related, to a certain extent, to the lifelong learning skills of the professionals, including digital ones [64]. In Finland, it was demonstrated that experienced self-efficacy generated throughout digital topics delivered during in-service training was considered a predictor for the teachers' digital information skills [65]. Thus, the findings of this study regarding the Romanian coaches could be relevant for the initial and continuous coaches' education (VET providers, such as universities, sports federations, coaching schools, etc.) by revealing the predictors of professional efficacy and performance in online sports training. Future in-service educational strategies for coaches should provide digitalization as a priority.

The regression analysis performed within this research emphasized that the perceived efficiency of online trainings during COVID-19 lockdown depended in a ratio of 49% on the seniority, the difficulty in using IT means, the duration of training sessions, and the attainment of the training objectives. Besides these factors, the efficiency of online training could be possibly influenced by other aspects like the type of the virtual platform used, the economic status of the athletes related to proper home training conditions, predictability in following the training programs, the availability of interactive activities applications or the variability of training contents, the psycho-emotional status, or the fear to get infected of

both coaches and athletes, etc. In this context, further regression analysis will bring new insights in order to predict all the variables impacting the online training efficiency.

The correlational analysis confirmed the assumptions that the training coordinates were changed depending on the sports specificity and coaches' seniority and that the professional self-efficacy was influenced by the new adjustments to the training settings.

5. Conclusions

In conclusion, our results showed the main challenges faced by Romanian coaches during the first COVID-19 lockdown while providing online training sessions (Table 4).

Table 4. Main challenges and findings regarding the Romanian coaches' experience during the first COVID-19 lockdown.

Main Challenges	Research Findings
Online training programming	<ul style="list-style-type: none"> - Change of the initial training objectives; - Goals fulfillment at a medium level; - Enhanced physical and psychological preparation; - Low technical and tactical preparation; - Decrease of training duration; - Concerns about athletes' emotional states; - Concerns about losses of physical fitness and technical skills; - Loss of specific adaptations, diminishing athletes' motivation, risk of withdrawal for senior athletes, economic losses due to banning competitions; - Differences between coaches depending on their seniority and sports specialty;
IT use	<ul style="list-style-type: none"> - Technologies provided by their own financial means; - No use of IT tools for a small percentage; - Difficulties in handling online training sessions for almost half of the coaches; - Failure in engaging all athletes in online sports training for almost half of the coaches; - Training sessions delivered with interruptions by almost half of the coaches; - Training sessions delivered in blended learning by most of the coaches; - Distance training efficacy not for all the coaches; - Online training efficiency positively influenced by the ability to use IT tools; - Goals achievement strongly associated with the efficiency of the online training; - Differences between coaches depending on their seniority and sports specialty;
Perception of professional self-efficacy	<ul style="list-style-type: none"> - Unsatisfaction regarding the way of working for less than a half of the coaches; - Lower job satisfaction level for coaches with more experience in the field; - More feelings of uselessness for their athletes, lack of support from their sports clubs, disagreement for not accessing sports facilities, satisfaction for not going to work, dissatisfaction for not achieving the performance goals for experienced coaches; - Advantages of working from home: the lack of time-consuming travel to sports facilities, more time spent with the family, more time for leisure, personal development, and professional training; - Differences between coaches depending on their sports specialty;

Table 4. Cont.

Main Challenges	Research Findings
Relations between outcomes	<ul style="list-style-type: none"> - Fulfilling the professional activity goals meant a higher self-perceived efficacy and a good feeling of satisfaction, and vice-versa; - The feeling of job satisfaction diminished in parallel with the increased feeling of uselessness; - The higher the training volume, the more athletes engaged in online training; - Changing the training objectives lead to a decrease in the engagement of all athletes in online training; - The online training self-efficacy depended in a significant extent on the seniority, the difficulty in using IT means, the duration of training sessions and the attainment of the training objectives.

The COVID-19 pandemic had negative effects on the training process due to home confinement, restrictions and banning of sports competitions for almost six months. Under these circumstances, coaches had to face multiple challenges regarding the need to adjust training objectives, establish certain priorities in terms of physical, technical, and tactical factors, manage IT tools for online sessions, all of these being influenced by professional experience and the specificity of sports branches. Data emphasizing a clear decrease in the number of training hours before and during the lockdown, regardless of the coaches' experience and online training options, definitively requires consequent strategies to recover the deficits accumulated in the analyzed period, once the face-to-face trainings are available.

The items regarding the coaches' perception of online training session's efficiency indicated a good level of professional maturity and exigency required by sports performance, as coaches acknowledged the weaknesses of the virtual distance preparation. The uncertainty of the future competition calendar acted as a barrier in boosting the motivation of senior athletes, with consequences on their determination to continue the training process.

Although one may consider that the coaches' opinions expressed in this survey are predictable to a certain extent, a closer look to each sport research findings facilitates insightful diagnosis regarding the professional competencies of the participants expressed in their capability to reframe the whole training process with its numerous coordinates. Thus, the added value of this study consists of displaying a wide range of data of great interest for the sports policy makers and managers from national and local levels, in charge with providing continuous educational programs for coaches. This approach is meant to raise awareness in terms of preparing alternative strategies regarding innovative professional support and sports-oriented training guidelines to be used in critical situations. To capture a full picture of the COVID-19 consequences on the field of sport, a follow-up study should also include the athletes' perceptions regarding the online training challenges.

6. Limitations and Future Research Suggestions

Although the questionnaire had an acceptable reliability value, it was not a validated tool. Follow-up research should address standard validation of this tool, including the perspective of the athletes as well. Additionally, a qualitative analysis through interviews addressing coaches from a psycho-sociological perspective would give information about the means imagined for maintaining a good level of performance, both during and post-lockdown.

The number of respondents per branch of sport was unequal due to the voluntary adherence of the participants, so further studies should focus on increasing and balancing this parameter by means of sampling techniques. Although the characteristics of the addressed professional groups ensured that the questionnaire would not be completed more than once by every single participant, additional control measures should be envisaged.

The established time frame of the study impeded analyzing subsequent consequences of the distance coaching for the post-lockdown sports competition results obtained by the athletes.

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Institutional Review Board Statement: The study was conducted according to the guidelines of the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of National University of Physical Education and Sports from Bucharest (protocol code 945/21.05.2020).

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Appendix A

Table A1. Questionnaire for coaches.

Socio-demographics:	
Country	
Age	
Gender	
Experience in sports training/seniority	
The sport you are coaching and the level of your athletes	
No.	Item
1.	During the COVID-19 pandemic did you consider necessary to change the initial performance objectives, established for 2020? (Yes/No)
2.	Which are the sports training components you approached during this period? (physical preparation, technical preparation, tactics, artistic, psychological preparation, theoretical preparation)
3.a.	How many hours per week did you usually train your athletes, before the lockdown? (less than 10 h, between 10 and 15 h, between 15 and 20 h, between 20 and 25 h, more than 25 h)
3.b.	How many hours per week did you usually train your athletes during the lockdown? (less than 10 h, between 10 and 15 h, between 15 and 20 h, between 20 and 25 h, more than 25 h)
4.	Specify the solutions you have found for coaching the athletes during this period?
5.	Did you benefit from the use of IT tools in coaching from home? (yes, provided by my sports club, yes, my own IT equipment, no)
6.	How difficult was it for you to use the IT tools for coaching? (1 not at all ... 5 very difficult)
7.	Did you succeed in engaging in online coaching all your athletes from distance? (Yes/No)
8.	After the beginning of this pandemic, coaching your athletes took place: (without interruption with online coaching; without interruption following a written program without the coach's presence; without interruption individually in the absence of the coach; other)
9.	On a scale from 1 to 5, how efficient do you consider your training process was during the pandemic? (1 completely inefficient ... 5 very efficient)
10.	Do you consider you reached the sports preparation objectives with your athletes, during the pandemic? (1 not at all ... 5 completely)
11.	How satisfied you are of your way of working during the pandemic? (1 not at all ... 5 very much)
12.	During the pandemic, you felt that you were:

Table A1. Cont.

Socio-demographics:	
Country	
Age	
Gender	
Experience in sports training/seniority	
The sport you are coaching and the level of your athletes	
No.	Item
12.a.	useless for your athletes (1 not at all . . . 5 very useless)
12.b.	without any support from your superiors (1 not supported . . . 5 completely supported)
12.c.	unsatisfied because of the interrupted coaching in usual sports settings (1 very satisfied . . . 5 very unsatisfied)
12.d.	satisfied for not going at work (1 not at all . . . 5 very satisfied)
12.e.	unsatisfied for not achieving your sports results (1 not all unsatisfied . . . 5 very unsatisfied)
13.	What do you think it will be most difficult for your athletes to regain, after restarting normal training? (physical condition, technical–tactical preparation, mental preparation, emotional state, discipline, motivation)
14.	Which disadvantages do you identify in postponing the competitions? (losing athletes' motivation, losing their pick performance, retirement of seniors, financial loss)
15.	In case you identify any benefits of this period of working from home, choose one or more, from the answers below: (more time spent with the family, more time for professional preparation, more time for personal development, more time for leisure activities)
16.	What would you do different in your professional activity, in case of other similar future crisis?

Appendix B

Table A2. Descriptive statistics for all items (%).

Gender	Gym	Dancing	Athletics	Other	Team Sports	Swimming	Fencing	Combat	Wintersports	Racquet	Total
Female	77.36	56.52	53.33	36.36	27.50	47.62	21.43	11.11	20.69	50.00	37.84
Male	22.64	43.48	46.67	63.64	72.50	52.38	78.57	88.89	79.31	50.00	62.16
Age	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
18–40	22.64	65.22	33.33	36.36	48.00	42.86	21.43	16.67	48.28	50.00	41.77
41–60	73.58	34.78	56.67	63.64	47.00	42.86	71.43	72.22	51.72	50.00	53.07
>60	3.00	0.00	10.00	0.00	5.00	14.29	7.14	11.11	0.00	0.00	5.16
seniority	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
<15	41.51	47.83	40.00	54.55	72.00	42.86	57.14	44.44	68.97	50.00	59.95
15–30	52.83	47.83	43.33	36.36	24.50	38.10	35.71	38.89	27.59	50.00	33.66
30–50	5.00	4.35	16.67	9.09	3.50	19.05	7.14	16.67	3.45	0.00	6.39
I1.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	3.77	8.70	6.67	9.09	18.00	14.29	21.43	5.56	6.90	0.00	12.78
Yes	96.23	91.30	93.33	90.91	82.00	85.71	78.57	94.44	93.10	100.00	87.22
I2.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
physical training	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	0.00	4.35	0.00	54.55	8.50	9.52	7.14	5.56	20.69	12.50	8.60
Yes	100.00	95.65	100.00	45.45	91.50	90.48	92.86	94.44	79.31	87.50	91.40
I2.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
psycho-logical training	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	28.30	43.48	26.67	45.45	35.50	33.33	14.29	50.00	27.59	62.50	34.40
Yes	71.70	56.52	73.33	54.55	64.50	66.67	85.71	50.00	72.41	37.50	65.60

Table A2. Cont.

Gender	Gym	Dancing	Athletics	Other	Team Sports	Swimming	Fencing	Combat	Wintersports	Racquet	Total
I2. technical training	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	79.25	56.52	86.67	54.55	74.50	80.95	78.57	77.78	62.07	100.00	74.69
Yes	20.75	43.48	13.33	45.45	25.50	19.05	21.43	22.22	37.93	0.00	25.31
I2. tactical training	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	96.23	95.65	96.67	63.64	84.50	80.95	85.71	88.89	72.41	100.00	86.49
Yes	3.77	4.35	3.33	36.36	15.50	19.05	14.29	11.11	27.59	0.00	13.51
I2. artistic training	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	47.17	56.52	100.00	100.00	97.50	95.24	100.00	94.44	93.10	100.00	88.45
Yes	52.83	43.48	0.00	0.00	2.50	4.76	0.00	5.56	6.90	0.00	11.55
I2. theoretical training	gym	dancing	athletics	other	team sports	swimming	scrima	combat	wintersports	racquet	Total
Yes	50.94	43.48	40.00	54.55	49.50	52.38	85.71	61.11	55.17	50.00	51.11
No	49.06	56.52	60.00	45.45	50.50	47.62	14.29	38.89	44.83	50.00	48.89
I3a.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
<10	9.43	17.39	23.33	27.27	30.00	14.29	7.14	5.56	37.93	0.00	23.34
10–15	20.75	60.87	40.00	45.45	47.50	28.57	71.43	61.11	27.59	62.50	43.49
15–20	22.64	21.74	33.33	27.27	19.00	23.81	7.14	16.67	24.14	25.00	21.13
20–25	30.19	0.00	0.00	0.00	0.00	9.52	14.29	11.11	10.34	12.50	6.39
>25	16.98	0.00	3.33	0.00	0.00	23.81	0.00	5.56	0.00	0.00	3.93
I3b.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
<10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10–15	39.62	91.30	66.67	63.64	91.00	57.14	85.71	77.78	82.76	87.50	78.62
15–20	37.74	8.70	30.00	36.36	9.00	28.57	14.29	22.22	17.24	12.50	17.44
20–25	15.09	0.00	3.33	0.00	0.00	14.29	0.00	0.00	0.00	0.00	2.95
I5.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Own	90.57	91.30	76.67	63.64	86.00	71.43	78.57	94.44	55.17	100.00	83.05
Org	0.00	0.00	13.33	18.18	7.00	4.76	0.00	0.00	20.69	0.00	6.63
None	9.43	8.70	10.00	18.18	7.00	23.81	21.43	5.56	24.14	0.00	10.32
I6.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	49.06	26.09	40.00	72.73	58.00	66.67	57.14	72.22	31.03	50.00	53.07
2	18.87	30.43	16.67	0.00	22.00	14.29	14.29	11.11	37.93	25.00	21.13
3	18.87	17.39	36.67	18.18	13.00	19.05	14.29	11.11	20.69	25.00	16.95
4	7.55	8.70	3.33	9.09	2.00	0.00	14.29	0.00	3.45	0.00	3.69
5	5.66	17.39	3.33	0.00	5.00	0.00	0.00	5.56	6.90	0.00	5.16
I7.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
No	35.85	86.96	46.67	72.73	51.50	42.86	57.14	66.67	41.38	75.00	51.84
Yes	60.38	8.70	43.33	27.27	44.00	57.14	21.43	27.78	51.72	25.00	48.16
I8.a	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	33.96	8.70	66.67	36.36	52.00	23.81	42.86	55.56	41.38	75.00	45.95
No	66.04	91.30	33.33	63.64	48.00	76.19	57.14	44.44	58.62	25.00	54.05
I8.b	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	73.58	69.57	40.00	63.64	52.50	61.90	64.29	72.22	55.17	62.50	57.74
No	26.42	30.43	60.00	36.36	47.50	38.10	35.71	27.78	44.83	37.50	42.26

Table A2. Cont.

Gender	Gym	Dancing	Athletics	Other	Team Sports	Swimming	Fencing	Combat	Wintersports	Racquet	Total
I8.c	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	98.11	91.30	100.00	90.91	97.00	95.24	92.86	100.00	93.10	100.00	96.56
No	1.89	8.70	0.00	9.09	3.00	4.76	7.14	0.00	6.90	0.00	3.44
I8.d	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	1.89	4.35	3.33	0.00	1.50	14.29	0.00	0.00	0.00	0.00	2.21
No	98.11	95.65	96.67	100.00	98.50	85.71	100.00	100.00	100.00	100.00	97.79
I9.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	1.89	8.70	16.67	0.00	8.50	14.29	7.14	5.56	0.00	12.50	7.62
2	30.19	39.13	13.33	27.27	25.50	33.33	21.43	27.78	34.48	25.00	27.03
3	47.17	43.48	56.67	18.18	52.00	38.10	57.14	44.44	37.93	37.50	48.16
4	5.66	8.70	10.00	36.36	9.00	9.52	7.14	11.11	27.59	25.00	11.06
5	15.09	0.00	3.33	18.18	5.00	4.76	7.14	11.11	0.00	0.00	6.14
I10.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	11.32	8.70	10.00	0.00	9.00	38.10	7.14	5.56	6.90	12.50	10.32
2	15.09	34.78	20.00	27.27	23.50	19.05	28.57	11.11	24.14	25.00	22.36
3	43.40	30.43	43.33	45.45	45.50	14.29	35.71	50.00	48.28	25.00	42.26
4	24.53	21.74	23.33	18.18	18.00	14.29	28.57	27.78	20.69	25.00	20.39
5	5.66	4.35	3.33	9.09	4.00	14.29	0.00	5.56	0.00	12.50	4.67
I11.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	13.21	34.78	10.00	0.00	13.50	38.10	0.00	5.56	3.45	12.50	13.76
2	22.64	17.39	13.33	9.09	26.00	28.57	50.00	38.89	41.38	12.50	26.04
3	24.53	34.78	53.33	45.45	35.00	9.52	28.57	11.11	13.79	37.50	31.20
4	22.64	13.04	16.67	36.36	16.50	19.05	21.43	38.89	17.24	12.50	18.92
5	16.98	0.00	6.67	9.09	9.00	4.76	0.00	5.56	24.14	25.00	10.07
I12a.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	49.06	13.04	23.33	45.45	23.00	28.57	7.14	61.11	48.28	25.00	29.73
2	16.98	21.74	20.00	45.45	20.00	9.52	35.71	5.56	17.24	25.00	19.66
3	22.64	39.13	36.67	0.00	36.50	33.33	42.86	16.67	17.24	25.00	31.45
4	11.32	21.74	20.00	9.09	11.00	14.29	7.14	11.11	17.24	12.50	12.78
5	0.00	4.35	0.00	0.00	9.50	14.29	7.14	5.56	0.00	12.50	6.39
I12b.	gym	dance	athletics	other	team sports	swimming	fencing	combat	wintersp	racquet	Total
1	32.08	34.78	30.00	36.36	18.50	14.29	71.43	27.78	44.83	37.50	26.78
2	7.55	8.70	10.00	9.09	10.50	14.29	14.29	0.00	17.24	0.00	10.07
3	9.43	21.74	23.33	0.00	24.00	14.29	0.00	16.67	24.14	12.50	19.41
4	20.75	17.39	6.67	36.36	14.50	0.00	7.14	5.56	6.90	0.00	13.27
5	30.19	17.39	30.00	18.18	32.50	57.14	7.14	50.00	6.90	50.00	30.47
I12c.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	3.77	8.70	6.67	27.27	3.50	0.00	21.43	5.56	6.90	12.50	5.65
2	15.09	8.70	0.00	0.00	2.00	0.00	14.29	0.00	10.34	0.00	4.67
3	24.53	8.70	20.00	54.55	22.50	19.05	7.14	16.67	27.59	37.50	22.36
4	16.98	17.39	23.33	9.09	21.00	28.57	7.14	22.22	27.59	25.00	20.64
5	39.62	56.52	50.00	9.09	51.00	52.38	50.00	55.56	27.59	25.00	46.68
I12d.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	52.83	60.87	63.33	27.27	73.50	85.71	57.14	77.78	41.38	62.50	65.85
2	15.09	13.04	16.67	18.18	11.00	0.00	0.00	11.11	24.14	12.50	12.29
3	13.21	21.74	13.33	36.36	11.50	9.52	35.71	5.56	10.34	12.50	13.51
4	9.43	4.35	0.00	9.09	1.00	0.00	0.00	0.00	0.00	0.00	2.21
5	9.43	0.00	6.67	9.09	3.00	4.76	7.14	5.56	24.14	12.50	6.14

Table A2. Cont.

Gender	Gym	Dancing	Athletics	Other	Team Sports	Swimming	Fencing	Combat	Wintersports	Racquet	Total
I12e.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
1	3.77	13.04	20.00	9.09	4.50	0.00	0.00	5.56	3.45	12.50	5.90
2	1.89	0.00	0.00	18.18	2.50	9.52	0.00	0.00	10.34	0.00	3.19
3	9.43	13.04	10.00	27.27	9.00	19.05	14.29	5.56	13.79	37.50	11.30
4	18.87	4.35	10.00	27.27	13.50	9.52	7.14	11.11	17.24	12.50	13.51
5	66.04	69.57	60.00	18.18	70.50	61.90	78.57	77.78	55.17	37.50	66.09
I13a.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	32.08	47.83	40.00	9.09	55.00	28.57	50.00	27.78	37.93	37.50	44.96
No	67.92	52.17	60.00	90.91	45.00	71.43	50.00	72.22	62.07	62.50	55.04
I13b.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	47.17	73.91	53.33	54.55	41.50	47.62	42.86	38.89	27.59	50.00	44.72
No	52.83	26.09	46.67	45.45	58.50	52.38	57.14	61.11	72.41	50.00	55.28
I13c.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	45.28	47.83	56.67	63.64	70.00	57.14	50.00	33.33	86.21	25.00	61.67
No	54.72	52.17	43.33	36.36	30.00	42.86	50.00	66.67	13.79	75.00	38.33
I13d.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	86.79	73.91	66.67	45.45	67.00	57.14	64.29	66.67	44.83	62.50	67.08
No	13.21	26.09	33.33	54.55	33.00	42.86	35.71	33.33	55.17	37.50	32.92
I13e.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	18.87	43.48	16.67	9.09	21.50	14.29	21.43	5.56	13.79	12.50	19.90
No	81.13	56.52	83.33	90.91	78.50	85.71	78.57	94.44	86.21	87.50	80.10
I13f.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	28.30	34.78	20.00	9.09	32.50	23.81	0.00	50.00	37.93	12.50	29.73
No	71.70	65.22	80.00	90.91	67.50	76.19	100.00	50.00	62.07	87.50	70.27
I13g.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	13.21	21.74	6.67	18.18	14.50	19.05	7.14	11.11	13.79	0.00	13.76
No	86.79	78.26	93.33	81.82	85.50	80.95	92.86	88.89	86.21	100.00	86.24
I14a.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	71.70	78.26	63.33	90.91	73.50	76.19	50.00	66.67	79.31	75.00	72.73
No	28.30	21.74	36.67	9.09	26.50	23.81	50.00	33.33	20.69	25.00	27.27
I14b.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	75.47	78.26	80.00	72.73	74.50	71.43	100.00	77.78	72.41	87.50	76.17
No	24.53	21.74	20.00	27.27	25.50	28.57	0.00	22.22	27.59	12.50	23.83
I14c.	gym	dancing	athletics	other	team sports	swimming	fencing	fight	wintersports	racquet	Total
Yes	30.19	30.43	30.00	45.45	39.00	38.10	42.86	22.22	31.03	50.00	35.87
No	69.81	69.57	70.00	54.55	61.00	61.90	57.14	77.78	68.97	50.00	64.13
I14d.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	15.09	21.74	20.00	9.09	21.00	14.29	28.57	16.67	34.48	0.00	20.15
No	84.91	78.26	80.00	90.91	79.00	85.71	71.43	83.33	65.52	100.00	79.85
I15a.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	32.08	30.43	43.33	36.36	47.50	28.57	28.57	38.89	27.59	50.00	40.54
No	67.92	69.57	56.67	63.64	52.50	71.43	71.43	61.11	72.41	50.00	59.46
I15b.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	28.30	47.83	46.67	27.27	41.00	33.33	35.71	33.33	51.72	25.00	39.31
No	71.70	52.17	53.33	72.73	59.00	66.67	64.29	66.67	48.28	75.00	60.69

Table A2. Cont.

Gender	Gym	Dancing	Athletics	Other	Team Sports	Swimming	Fencing	Combat	Wintersports	Racquet	Total
I15c.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	18.87	47.83	33.33	45.45	40.00	33.33	35.71	33.33	48.28	50.00	37.35
No	81.13	52.17	66.67	54.55	60.00	66.67	64.29	66.67	51.72	50.00	62.65
I15d.	gym	dancing	athletics	other	team sports	swimming	fencing	combat	wintersports	racquet	Total
Yes	60.38	52.17	60.00	72.73	75.50	57.14	78.57	50.00	72.41	62.50	68.55
No	39.62	47.83	40.00	27.27	24.50	42.86	21.43	50.00	27.59	37.50	31.45

Appendix C

Table A3. Crosstabulation for associations between sport group, the training experience and the capacity to engage all the athletes in online sessions.

I7. Did You Succeed in Coaching All Your Athletes from Distance?				Seniority		Total
				Under 15 Years	Over 15 Years	
no	Sport_group9	Gymnastics	Count	7	12	19
			% within Sport_group9	36.8%	63.2%	100.0%
			% within Seniority_group2	5.2%	13.5%	8.5%
			% of Total	3.1%	5.4%	8.5%
			Adjusted Residual	−2.2	2.2	
yes	Sport_group9	Other sports	Count	38	9	47
			% within Sport_group9	80.9%	19.1%	100.0%
			% within Seniority_group2	34.5%	12.3%	25.7%
			% of Total	20.8%	4.9%	25.7%
			Adjusted Residual	3.4	−3.4	
		Athletics	Count	3	11	14
			% within Sport_group9	21.4%	78.6%	100.0%
			% within Seniority_group2	2.7%	15.1%	7.7%
			% of Total	1.6%	6.0%	7.7%
			Adjusted Residual	−3.1	3.1	
		Combat	Count	0	5	5
			% within Sport_group9	0.0%	100.0%	100.0%
			% within Seniority_group2	0.0%	6.8%	2.7%
			% of Total	0.0%	2.7%	2.7%
			Adjusted Residual	−2.8	2.8	

References

- McIntosh, K.; Perlman, S. Coronaviruses, including Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS). In *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases*, 9th ed.; Elsevier BV: Amsterdam, The Netherlands, 2020; p. 2079.
- Carmody, S.; Murray, A.; Borodina, M.; Gouttebauge, V.; Massey, A. When can professional sport recommence safely during the COVID-19 pandemic? Risk assessment and factors to consider. *Br. J. Sports Med.* **2020**, *54*, 946–948. [[CrossRef](#)]
- Hoang, V.T.; Al-Tawfiq, J.A.; Gautret, P. The Tokyo Olympic Games and the risk of COVID-19. *Curr. Trop. Med. Rep.* **2020**, *7*, 126–132. [[CrossRef](#)]
- Yang, J.; Zheng, Y.; Gou, X.; Pu, K.; Chen, Z.; Guo, Q.; Ji, R.; Wang, H.; Wang, Y.; Zhou, Y. Prevalence of comorbidities and its effects in patients infected with SARS-CoV-2: A systematic review and meta-analysis. *Int. J. Infect. Dis.* **2020**, *94*, 91–95. [[CrossRef](#)] [[PubMed](#)]
- Gupta, S.; McCarthy, P.J. Sporting resilience during COVID-19: What is the nature of this adversity and how are competitive elite athletes adapting? *Front. Psychol.* **2021**, *12*, 611261. [[CrossRef](#)]
- Mehrsafar, A.H.; Gazerani, P.; Zadeh, A.M.; Sánchez, J.C.J. Addressing potential impact of COVID-19 pandemic on physical and mental health of elite athletes. *Brain Behav. Immun.* **2020**, *87*, 147–148. [[CrossRef](#)] [[PubMed](#)]
- Mann, R.H.; Clift, B.C.; Boykoff, J.; Bekker, S. Athletes as community; athletes in community: COVID-19, sporting mega-events and athlete health protection. *Br. J. Sports Med.* **2020**, *54*, 1071–1072. [[CrossRef](#)]

8. Domínguez-Salas, S.; Gómez-Salgado, J.; Andrés-Villas, M.; Díaz-Milanés, D.; Romero-Martín, M.; Ruiz-Frutos, C. Psycho-emotional approach to the psychological distress related to the COVID-19 pandemic in Spain: A cross-sectional observational study. *Healthcare* **2020**, *8*, 190. [CrossRef] [PubMed]
9. Corsini, A.; Bisciotti, G.N.; Eirale, C.; Volpi, P. Football cannot restart soon during the COVID-19 emergency! A critical perspective from the Italian experience and a call for action. *Br. J. Sports Med.* **2020**, *54*, 1186–1187. [CrossRef] [PubMed]
10. Elliott, S.; Drummond, M.J.; Prichard, I.; Eime, R.; Drummond, C.; Mason, R. Understanding the impact of COVID-19 on youth sport in Australia and consequences for future participation and retention. *BMC Public Health* **2021**, *21*, 1–16. [CrossRef] [PubMed]
11. Bratland-Sanda, S.; Giulianotti, R.; Støa, E.M.; Langseth, T.; Rosenbaum, S. Editorial: Sports and active living during the COVID-19 pandemic. *Front. Sports Act. Living* **2021**, *3*, 714986. [CrossRef]
12. Santos, F.; Cardoso, A.; Pereira, P.; Strachan, L. Coach training within the COVID-19 pandemic: Challenges and potential pathways. *Front. Psychol.* **2021**, *12*, 570706. [CrossRef] [PubMed]
13. Sava, A. Online Education during the Coronavirus (COVID-19) Pandemic in Romania—Statistics & Facts. Statista. 2021. Available online: <https://www.statista.com/topics/7653/online-education-in-romania/> (accessed on 18 August 2021).
14. Souissi, M.; Ammar, A.; Trabelsi, O.; Glenn, J.; Boukhris, O.; Trabelsi, K.; Bouaziz, B.; Zmijewski, P.; Souissi, H.; Chikha, A.; et al. Distance motor learning during the COVID-19 induced confinement: Video feedback with a pedagogical activity improves the snatch technique in young athletes. *Int. J. Environ. Res. Public Health* **2021**, *18*, 3069. [CrossRef] [PubMed]
15. Tjønnndal, A. #Quarantineworkout: The use of digital tools and online training among boxers and boxing coaches during the COVID-19 pandemic. *Front. Sports Act. Living* **2020**, *2*, 589483. [CrossRef]
16. Bobo-Arce, M.; Sierra-Palmeiro, E.; Fernández-Villarino, M.A.; Fink, H. Training in rhythmic gymnastics during the pandemic. *Front. Psychol.* **2021**, *12*, 658872. [CrossRef] [PubMed]
17. Malureanu, A.; Panisoara, G.; Lazar, I. The relationship between self-confidence, self-efficacy, grit, usefulness, and ease of use of e-learning platforms in corporate training during the COVID-19 pandemic. *Sustainability* **2021**, *13*, 6633. [CrossRef]
18. Gherheș, V.; Stoian, C.; Fărcașiu, M.; Stanici, M. E-learning vs. face-to-face learning: Analyzing students' preferences and behaviors. *Sustainability* **2021**, *13*, 4381. [CrossRef]
19. Adnan, M.; Anwar, K. Online learning amid the COVID-19 pandemic: Students' perspectives. *J. Pedagog. Sociol. Psychol.* **2020**, *2*, 45–51. [CrossRef]
20. Kelly, A.L.; Erickson, K.; Pierce, S.; Turnnidge, J. Youth sport and COVID-19: Contextual, methodological, and practical considerations. *Front. Sports Act. Living* **2020**, *2*, 584252. [CrossRef] [PubMed]
21. Santi, G.; Quartiroli, A.; Costa, S.; di Fronso, S.; Montesano, C.; di Gruttola, F.; Ciofi, E.G.; Morgilli, L.; Bertollo, M. The impact of the COVID-19 lockdown on coaches' perception of stress and emotion regulation strategies. *Front. Psychol.* **2021**, *11*, 601743. [CrossRef]
22. Philippe, R.A.; Schiavio, A.; Biasutti, M. Adaptation and destabilization of interpersonal relationships in sport and music during the COVID-19 lockdown. *Heliyon* **2020**, *6*, e05212. [CrossRef]
23. Samuel, R.D.; Tenenbaum, G.; Galily, Y. The 2020 coronavirus pandemic as a change-event in sport performers' careers: Conceptual and applied practice considerations. *Front. Psychol.* **2020**, *11*, 567966. [CrossRef] [PubMed]
24. Di Cagno, A.; Buonsenso, A.; Baralla, F.; Grazioli, E.; di Martino, G.; Lecce, E.; Calcagno, G.; Fiorilli, G. Psychological impact of the quarantine-induced stress during the coronavirus (COVID-19) outbreak among Italian athletes. *Int. J. Environ. Res. Public Health* **2020**, *17*, 8867. [CrossRef] [PubMed]
25. Lee, M.C.; Ding, A.Y. Comparing empowering, transformational, and transactional leadership on supervisory coaching and job performance: A multilevel perspective. *PsyCh J.* **2020**, *9*, 668–681. [CrossRef]
26. Álvarez, O.; Castillo, I.; Molina-García, V.; Tomás, I. Transformational leadership, task-involving climate, and their implications in male junior soccer players: A multilevel approach. *Int. J. Environ. Res. Public Health* **2019**, *16*, 3649. [CrossRef]
27. Murray, R.M.; Dugdale, J.H.; Habeeb, C.M.; Arthur, C.A. Transformational parenting and coaching on mental toughness and physical performance in adolescent soccer players: The moderating effect of athlete age. *Eur. J. Sport Sci.* **2021**, *21*, 580–589. [CrossRef] [PubMed]
28. European Commission. Digital Education Action Plan (2021–2027). Resetting Education and Training for the Digital Age. 2021. Available online: https://ec.europa.eu/education/education-in-the-eu/digital-education-action-plan_en (accessed on 13 July 2021).
29. Ministry of Education. Strategia Privind Digitalizarea Educației din România Smart-Edu. [The Strategy Regarding the Digitalization of the Education in Romania. Smart-Edu]. 2021. Available online: <https://www.edu.ro/sites/default/files/SMART.Edu%20-%20document%20consultare.pdf> (accessed on 13 July 2021).
30. Morgan, G.A.; Barrett, K.C.; Leech, N.L.; Gloeckner, G.W. Measurement and descriptive statistics. In *IBM SPSS for Introductory Statistics: Use and Interpretation*; Routledge: Abingdon, UK, 2019; pp. 47–63.
31. Field, A. Doing chi-square using SPSS statistics. In *Discovering Statistics Using IBM SPSS Statistics*, 5th ed.; Sage Publication Ltd.: London, UK, 2017.
32. Lu, K.-P.; Chang, S.-T. Robust algorithms for multiphase regression models. *Appl. Math. Model.* **2019**, *77*, 1643–1661. [CrossRef]
33. Washif, J.A.; Mohd Kassim, S.F.A.; Lew, P.C.F.; Chong, C.S.M.; James, C. Athlete's perceptions of a "Quarantine" training camp during the COVID-19 lockdown. *Front. Sports Act. Living* **2021**, *2*, 622858. [CrossRef] [PubMed]

34. Girardi, M.; Casolo, A.; Nuccio, S.; Gattoni, C.; Capelli, C. Detraining effects prevention: A new rising challenge for athletes. *Front. Physiol.* **2020**, *11*, 588784. [CrossRef]
35. Jukic, I.; Calleja-González, J.; Cos, F.; Cuzzolin, F.; Olmo, J.; Terrados, N.; Njaradi, N.; Sassi, R.; Requena, B.; Milanovic, L.; et al. Strategies and solutions for team sports athletes in isolation due to COVID-19. *Sports* **2020**, *8*, 56. [CrossRef]
36. Barbosa, G.M.; Trajano, G.S.; Dantas, G.A.; Silva, B.R.; Vieira, W.H.B. Chronic effects of static and dynamic stretching on hamstrings eccentric strength and functional performance: A randomized controlled trial. *J. Strength Cond. Res.* **2020**, *34*, 2031–2039. [CrossRef] [PubMed]
37. Latella, C.; Haff, G.G. Global challenges of being a strength athlete during a pandemic: Impacts and sports-specific training considerations and recommendations. *Sports* **2020**, *8*, 100. [CrossRef]
38. Gavanda, S.; Geisler, S.; Quitmann, O.J.; Bauhaus, H.; Schiffer, T. Three weeks of detraining does not decrease muscle thickness, strength or sport performance in adolescent athletes. *Int. J. Exerc. Sci.* **2020**, *13*, 633–644.
39. Tran, T.T.; Lundgren, L.; Secomb, J.; Farley, O.R.; Haff, G.G.; Nimphius, S.; Newton, R.U.; Brown, L.E.; Sheppard, J.M. Effect of four weeks detraining on strength, power, and sensorimotor ability of adolescent surfers. *Open Sports Sci. J.* **2017**, *10*, 71–80. [CrossRef]
40. Eirale, C.; Bisciotti, G.; Corsini, A.; Baudot, C.; Saillant, G.; Chalabi, H. Medical recommendations for home-confined footballers' training during the COVID-19 pandemic: From evidence to practical application. *Biol. Sport* **2020**, *37*, 203–207. [CrossRef] [PubMed]
41. Kalinowski, P.; Myszkowski, J.; Marynowicz, J. Effect of online training during the COVID-19 quarantine on the aerobic capacity of youth soccer players. *Int. J. Environ. Res. Public Health* **2021**, *18*, 6195. [CrossRef]
42. Suarez-Arrones, L.; Lara-Lopez, P.; Maldonado, R.; Torreno, N.; de Hoyo, M.; Nakamura, F.Y.; di Salvo, V.; Mendez-Villanueva, A. The effects of detraining and retraining periods on fat-mass and fat-free mass in elite male soccer players. *PeerJ* **2019**, *7*, e7466. [CrossRef] [PubMed]
43. Pillay, L.; van Rensburg, D.C.C.J.; van Rensburg, A.J.; Ramagole, D.A.; Holtzhausen, L.; Dijkstra, H.P.; Cronje, T. Nowhere to hide: The significant impact of coronavirus disease 2019 (COVID-19) measures on elite and semi-elite South African athletes. *J. Sci. Med. Sport* **2020**, *23*, 670–679. [CrossRef]
44. Parm, Ü.; Aluoja, A.; Tomingas, T.; Tamm, A.L. Impact of the COVID-19 pandemic on Estonian elite athletes: Survey on mental health characteristics, training conditions, competition possibilities, and perception of supportiveness. *Int. J. Environ. Res. Public Health* **2021**, *18*, 4317. [CrossRef]
45. Rajkumar, R.P. COVID-19 and mental health: A review of the existing literature. *Asian J. Psychiatry* **2020**, *52*, 102066. [CrossRef]
46. Benítez-Sillero, J.; Martínez-Aranda, L.; Sanz-Matesanz, M.; Domínguez-Escribano, M. Determining factors of psychological performance and differences among age categories in youth football players. *Sustainability* **2021**, *13*, 7713. [CrossRef]
47. Aicale, R.; Tarantino, D.; Maffulli, N. Overuse injuries in sport: A comprehensive overview. *J. Orthop. Surg. Res.* **2018**, *13*, 1–11. [CrossRef] [PubMed]
48. Jagim, A.R.; Luedke, J.; Fitzpatrick, A.; Winkelman, G.; Erickson, J.L.; Askow, A.T.; Camic, C.L. The impact of COVID-19-related shutdown measures on the training habits and perceptions of athletes in the United States: A brief research report. *Front. Sports Act. Living* **2020**, *2*, 623068. [CrossRef] [PubMed]
49. Katsarova, I. Briefing: How Coronavirus Infected Sport. European Parliamentary Research Service. 2021. Available online: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/659449/EPRS_BRI\(2021\)659449_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/659449/EPRS_BRI(2021)659449_EN.pdf) (accessed on 18 July 2021).
50. Constandt, B.; Thibaut, E.; de Bosscher, V.; Scheerder, J.; Ricour, M.; Willem, A. Exercising in times of lockdown: An analysis of the impact of COVID-19 on levels and patterns of exercise among adults in Belgium. *Int. J. Environ. Res. Public Health* **2020**, *17*, 4144. [CrossRef] [PubMed]
51. Stokes, K.A.; Jones, B.; Bennett, M.; Close, G.L.; Gill, N.; Hull, J.H.; Kasper, A.M.; Kemp, S.P.; Mellalieu, S.D.; Peirce, N.; et al. Returning to play after prolonged training restrictions in professional collision sports. *Int. J. Sports Med.* **2020**, *41*, 895–911. [CrossRef]
52. Rapanta, C.; Botturi, L.; Goodyear, P.; Guàrdia, L.; Koole, M. Online university teaching during and after the COVID-19 crisis: Refocusing teacher presence and learning activity. *Postdigit. Sci. Educ.* **2020**, *2*, 923–945. [CrossRef]
53. United Nations Sustainable Development Group. Policy Brief: Education during COVID-19 and beyond/August 2020. Available online: https://www.un.org/development/desa/dspd/wp-content/uploads/sites/22/2020/08/sg_policy_brief_covid-19_and_education_august_2020.pdf (accessed on 21 December 2020).
54. Pokhrel, S.; Chhetri, R. A literature review on impact of COVID-19 pandemic on teaching and learning. *High. Educ. Future* **2021**, *8*, 133–141. [CrossRef]
55. Alonso-García, M.; Garrido-Letrán, T.; Sánchez-Alzola, A. Impact of COVID-19 on educational sustainability. Initial perceptions of the university community of the University of Cádiz. *Sustainability* **2021**, *13*, 5938. [CrossRef]
56. Tavares, A.I. Telework and health effects review. *Int. J. Healthc.* **2017**, *3*, 30. [CrossRef]
57. Majumdar, P.; Biswas, A.; Sahu, S. COVID-19 pandemic and lockdown: Cause of sleep disruption, depression, somatic pain, and increased screen exposure of office workers and students of India. *Chronobiol. Int.* **2020**, *37*, 1191–1200. [CrossRef]
58. Xiao, Y.; Becerik-Gerber, B.; Lucas, G.; Roll, S.C. Impacts of working from home during COVID-19 pandemic on physical and mental well-being of office workstation users. *J. Occup. Environ. Med.* **2021**, *63*, 181–190. [CrossRef]

-
59. Shareena, P.; Shahid, M. Work from home during COVID-19: Employees perception and experiences. *Glob. J. Res. Anal.* **2021**, *9*, 7–10. [[CrossRef](#)]
 60. Elst, T.V.; Verhoogen, R.; Sercu, M.; Broeck, A.V.D.; Baillien, E.; Godderis, L. Not extent of telecommuting, but job characteristics as proximal predictors of work-related well-being. *J. Occup. Environ. Med.* **2017**, *59*, e180–e186. [[CrossRef](#)]
 61. Usher, K.; Bhullar, N.; Durkin, J.; Gyamfi, N.; Jackson, D. Family violence and COVID-19: Increased vulnerability and reduced options for support. *Int. J. Ment. Health Nurs.* **2020**, *29*, 549–552. [[CrossRef](#)]
 62. Syrek, C.; Kühnel, J.; Vahle-Hinz, T.; de Bloom, J. Being an accountant, cook, entertainer and teacher—All at the same time: Changes in employees' work and work-related well-being during the coronavirus (COVID-19) pandemic. *Int. J. Psychol.* **2021**. [[CrossRef](#)]
 63. Petcu, M.A.; Sobolevski-David, M.I.; Anica-Popa, A.; Curea, S.C.; Motofei, C.; Popescu, A.-M. Multidimensional assessment of job satisfaction in telework conditions. Case study: Romania in the COVID-19 pandemic. *Sustainability* **2021**, *13*, 8965. [[CrossRef](#)]
 64. Yenen, E.T. An Examination of Relationship between ENGLISH Teachers' Job Satisfaction and Key Competences for Lifelong Learning. *Malays. Online J. Educ. Sci.* **2021**, *7*, 35–46.
 65. Saikkonen, L.; Kaarakainen, M.-T. Multivariate analysis of teachers' digital information skills—The importance of available resources. *Comput. Educ.* **2021**, *168*, 104206. [[CrossRef](#)]