

PSYCHOLOGICAL CONSEQUENCES OF SELF-ISOLATION AND ONLINE EDUCATION OF SPORTS STUDENTS DURING A PANDEMIC

Tatiana Iancheva

National Sports Academy "Vassil Levski" (Bulgaria)

Abstract. The pandemic COVID-19 constituted one of the greatest ordeals the world has seen in the last decades. Social isolation has changed students' lives completely and brought a number of consequences.

The aim of this study was to investigate the dominant psychic conditions and perfectionism and their relation to the preferred coping strategies during the pandemic COVID-19 among sports students from Bulgaria and to outline their specificity depending on their gender, kind of sport, and qualification.

The research was done among 99 sports students who practice 11 kinds of sport, aged between 19 and 32 years, divided into groups according to their gender, kind of sport, level of qualification. The research methods included: 1) Multidimensional Perfectionism Scale (FMPS, Frost, Marten, Lahart & Rosenblate, 1990), adapted for Bulgarian conditions by T. Iancheva, 2009; 3) Profile of Mood States (McNair, Lorr, & Droppleman, 1971); 4) Approach to Coping in Sport Questionnaire (ACSQ-1; Kim 1999; Kim & Duda, 1997).

There are significant differences depending on gender, kind of sport, and qualification. The specific role of adaptive and maladaptive perfectionism was viewed in relation to the dominant psychic conditions during social isolation and the preferred coping strategies.

Keywords: sports students; perfectionism; mood states; coping strategies; COVID-19

Introduction

The pandemic COVID-19 posed a serious ordeal to the world and changed people's usual rhythm of life, including that of sports-students around the globe. Having a lifestyle full of high physical activity, numerous travels, competitions, and strong emotions characteristic of their sports-competitive and educational activities, they had to adapt to living in isolation without being able to practice their usual activities, with vague prospects and fear of getting infected. While the importance of preventive and medical actions is quite obvious at present, the necessity

of adaptation and pre-emptive actions as regards education and sports education in particular is becoming much more critical in the conditions of COVID-19.

Sport is facing extremely serious challenges – sports-technical, educational, psychological. The pandemic COVID-19 led to cancellation of the entire sports calendar, including the most significant sports event – the Summer Olympic Games in Tokyo, 2020. Each part of the chain of sports activities has been affected – athletes, teams, coaches, sports-technical teams, media, business, sports education.

Self-isolation, being a consequence of the imposed lockdown, on the one hand, is crucial, related to preserving people's health and life, but on the other hand, it can influence one's psyche significantly, especially if it lasts for a longer period of time (Brooks et al., 2020) and leads to a number of negative psychological effects – depression, increased anxiety, aggressive reactions, risky behavior, etc. (Pan, 2020).

How do students react, how do they live, how do they cope with this situation – these are questions which are looking for solutions on the basis of objective empirical data.

The analysis of the scientific publications on the psychological consequences of self-isolation in conditions of pandemic are still sporadic. Part of the surveys are related to the analysis of the psychological aspects of athletes' behavior in the conditions of self-isolation – regulation of emotions, overcoming of stress, stability, psychic health and wellbeing, the responsibility of athletes being role models and motivators of behavior during the pandemic (MacIntyre et al., 2020). Others emphasize on the knowledge regarding the perception of risk and uncertainty related to pandemic, the role of social influence, behavior, emotions, stress, overcoming, well-being and social trust, emotional reactions to communication (Sokolowska, Ayton and Brandstätter, 2020). Jesus de la Fuente et al., (2020) direct the attention to different behavior changes in the organization of our personal, family, and academic life during COVID-19 and teachers, students, and family members' need to adapt. Wang, Wang, Yang (2020) point out that COVID-19 not only affects the physical health of Chinese people, but also their psychological health. Van Bavel et al. (2020) pay attention to the significance of the research and unification of efforts in studying the consequences from the pandemic on people's behavior. Schinke, Papaioannou, Henriksen, Si, Zhang, & Haberl (2020) note that COVID-19 has changed our life as citizens and posed a number of problems and opportunities to sports psychologists related to sports indicators, physical activity and health. Some authors (Zhou, et al., 2020) analyze the emotions and coping strategies which people use in the conditions of pandemic.

Proneness to risky behavior and its consequences make researchers look for their relation to different coping strategies.

The application of adequate psychological interventions aiding athletes requires an objective analysis, based on real experimental data – what are the real consequences for athletes with different level of qualification, how do they cope

with the current situation? This requires research aimed at different groups (Arden, & Chilcot, 2020).

The aim of this study was to investigate the dominant Mood States and Perfectionism and their relation to the preferred coping strategies during the pandemic COVID-19 among sports students from Bulgaria and to outline their specificity depending on gender, kind of sport, and level of qualification.

Materials and methods

Participants

The research was done among 99 sports students aged between 19 and 32 years. For the purposes of the research the participants were divided into groups according to their gender (40 men and 59 women), kind of sport (rhythmic gymnastics, athletics, football, tennis, taekwondo, basketball, volleyball, wrestling, sports shooting, skiing, equestrian), level of qualification (competing in: university and regional competitions, national championships, international competitions, qualified for the Olympic Games in Tokyo, 2020).

The survey was carried out online in Bulgaria over the period 13 – 30 April, 2020 in conditions of emergency situation in relation to the pandemic COVID-19. All subjects were studying online in this period. At the beginning of the research all participants were informed about the aim of the survey and their consent was obtained.

This research was part of an international survey initiated by Alejandro García-Mas, Department of Psychology, University of the Balearic Islands, Spain and Aurelio Olmedilla Department of Personality, Evaluation and Psychological Treatment, Faculty of Psychology, University of Murcia, Spain.

Instruments

In order to fulfil the aim of the research we used complex methods including:

Multidimensional Perfectionism Scale (FMPS, Frost, Marten, Lahart & Rosenblate, 1990), adapted for Bulgarian conditions by T. Iancheva, 2009. This scale provides six subscales: *Personal Standards (PS)*, *Concern over Mistakes (CM)*, *Parental Expectations (PE)*, *Parental criticism*, *Doubts about actions (DA)*, and *Organization (O)*.

Profile of Mood States (McNair, Lorr, & Droppleman, 1971) was used in its Spanish adapted and validated version by Fuentes, Balaguer, Meliá and García-Merita (1995). The scale contains 29 items answered on a 5-point scale. The scale reports five moods: *tension*, *anger*, *vigor*, *fatigue* and *depression*.

Approach to Coping in Sport Questionnaire (ACSQ-1; Kim 1999; Kim & Duda, 1997) was used in its Spanish version (Kim, Duda, Tomás, & Balaguer, 2003). This scale contains 28 items answered in Likert type from 1 (never) to 5 (always). The five dimensions of coping assessed are: *emotional calming*, *active planning/cognitive restructuring*, *mental withdrawal*, *seeking social support*, and *behavioral risk*.

Statistical Analysis

In order to process the initial data from the research we used the statistical program SPSS 21, and did an alternative analysis, correlation analysis, comparative analysis (U-criterion of Mann-Whitney and Criterion of Kruskal-Wallis), and step regression analysis.

Results and analysis

The results from our research on the dominant Mood States during the last week (during the emergency situation because of the pandemic COVID-19) revealed (Table 1) that the pandemic and social isolation did not have a strong negative impact on the mental state of the studied athletes. The highest values were received for *Vigor* (M=3.62). Despite the imposed lockdown and the related isolation, the researched athletes felt quite energetic, alert and motivated. Next subscale was *Tension* (M=2.20), i.e. despite being relatively vital and energetic, the researched sports students experienced nervousness, anxiety, excitement. The fact that *Anger* (M=1.62) and *Depression* (M=1.67) received the lowest values is favorable.

The analysis of the results from our survey revealed that the Adaptive Perfectionism is domineering among the students we researched (Table 1). The subscales *Organization* (M=4.26) and *Personal Standards* (M=3.39) received the highest results, and the subscales of Maladaptive Perfectionism *Parental criticism* (M=1.85) and *Concern over Mistakes* (M=2.29) – the lowest.

One of the tasks of our research was to investigate how the researched individuals coped with the current situation of self-isolation and lack of normal sports-competitive and educational activities.

Table 1. Descriptive statistics of study variables

	N	Mean	SD	Min	Max
Concern over Mistakes (CM)	99	2.2876	.80652	1.00	4.70
Doubts about actions (DA)	99	2.5918	.72653	1.00	4.50
Parental Expectations (PE)	99	2.5835	.81595	1.00	4.50
Parental criticism (PK)	99	1.8464	.77191	1.00	5.00
Maladaptive perfectionism (MAP)	99	2.3351	.62966	1.00	4.10
Personal Standards (PS)	99	3.3866	.68884	1.60	5.00
Organization (O)	99	4.2577	.63506	1.70	5.00
Adaptive perfectionism (AP)	99	3.8278	.58000	1.80	5.00
Tension	99	2.2041	.90092	1.00	5.00
Depression	99	1.8237	.79212	1.00	5.00
Anger	99	1.6835	.72839	1.00	4.70
Vigor	99	3.6165	.81428	1.80	5.00

Fatigue	99	1.9237	.79238	1.00	4.80
Emotional calming (EC)	99	3.3134	.75327	1.00	5.00
Active planning/Cognitive restructuring (CR)	99	3.6515	.93029	1.00	5.00
Mental withdrawal (MW)	99	1.8237	.60738	1.00	3.50
Behavioral risk (BR)	99	2.0216	.86062	1.00	5.00
Seeking social support (SSS)	99	2.4320	1.13390	1.00	5.00

Active planning, Cognitive restructuring ($M=3.65$) and Emotional calming ($M= 3.31$) were dominant in the sample we researched (Table 1). Sports students tried to get the positive out of the situation, to learn something new, to restructure their goals. They tried to block the negative thoughts, to keep their positive emotional state so that they could counter the problem and concentrate on important things. They showed a weaker proneness to Seeking social support ($M=2.43$) from their coaches, psychologists, parents, friends to cope with the problem. *Mental withdrawal* ($M=1.82$) received the lowest score – they did not quit trying to achieve their goals, get reconciled with the situation nor did they refuse to be active.

The comparative analysis of the results along the factor qualification revealed significant differences as regards Organization, Emotional calming, and Cognitive restructuring. The researched Olympic competitors had the highest values on these indicators. They most often resort to Emotional calming, and Cognitive restructuring as a coping strategy. The students with the lowest level of qualification (competing in student and regional tournaments) had the lowest values for Organization and Cognitive restructuring.

Table 2. Results from comparative analysis along the factor qualification

	O	EC	CR
Chi-Square	7.444	8.472	8.016
df	3	3	3
Asymp. Sig.	.049	.037	.041

There were statistically significant differences along the factor sport (Table 3) in six of the researched indicators – Organization, Adaptive perfectionism, Anger, Cognitive restructuring, Mental withdrawal and Seeking social support.

Table 3. Results from the comparative analysis along the factor sport

	O	AP	Anger	CR	MR	SSS
Chi-Square	27.826	19.397	24.082	26.000	21.516	25.584
df	11	11	11	11	11	11
Asymp. Sig.	.003	.044	.012	.006	.028	.007

The comparative analysis revealed significant gender differences along six of the researched indicators (Table 4). Men had higher values for Parental Expectations, Anger, and Fatigue as a reaction to the current situation.

Table 4. Results from the comparative analysis along the factor gender

	PE	O	Ap	Anger	Fatigue	SSS
Mann-Whitney U	723.500	779.500	768.000	758.000	733.500	724.000
Wilcoxon W	3001.500	1244.500	1233.000	3036.000	3011.500	1189.000
Z	-2.204	-1.769	-1.855	-1.938	-2.132	-2.202
Asymp. Sig. (2-tailed)	.028	.047	.034	.043	.033	.028

The women from the researched sample had significantly higher values for Organization, Adaptive perfectionism, and Seeking social support. They are more organized and adaptable, more inclined to seek social support in a pandemic situation and the associated self-isolation.

One of the tasks of our study is to clarify the role of perfectionism in terms of how a situation of threat, uncertainty and risk is experienced, in the case of COVID-19, as well as the coping strategies used to deal with the situation.

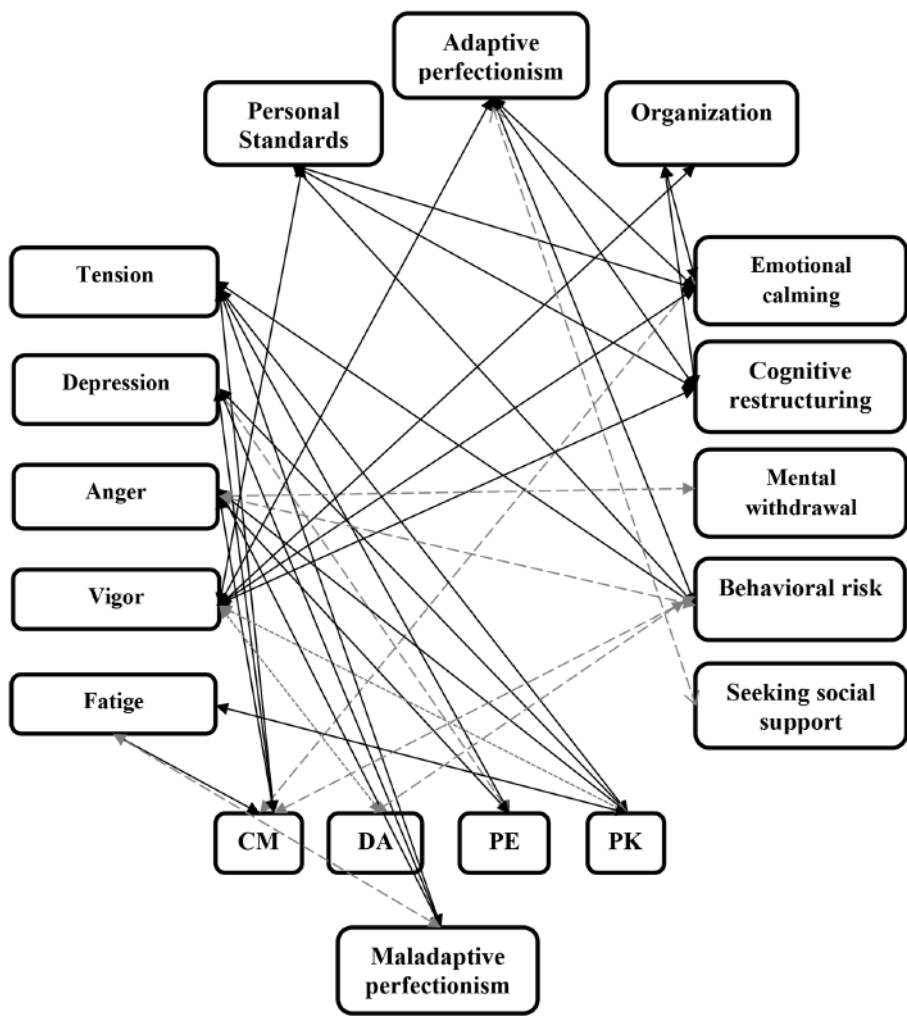
The results from correlation analysis of the data revealed significant relations between the subscales of Perfectionism, Mood States and Coping strategies (Figure 1).

We established significant correlation dependencies (Figure 1) between Adaptive perfectionism and Emotional calming ($r=.570^{**}$), Cognitive restructuring ($r=.503^{**}$), Behavioral risk ($r=.314^{**}$), Seeking social support ($r=.251^{*}$), Vigor ($r=.289^{**}$), Tension ($r=.203^{*}$), between Personal Standards and Emotional calming ($r=.507^{**}$), Cognitive restructuring ($r=.412^{**}$), Behavioral risk ($r=.291^{**}$) and Tension ($r=.266^{**}$), between Organization and Emotional calming ($r=.502^{**}$), Cognitive restructuring ($r=.473^{**}$), Vigor ($r=.382^{**}$), and negative with Fatigue ($r=-.238^{*}$).

There were significant positive correlations between Maladaptive perfectionism and the researched Mood States (Figure 1) - Tension ($r=.370^{**}$), Depression ($r=.281^{**}$), Anger ($r=.308^{**}$), and Fatigue ($r=.238^{*}$).

The data from the correlation analysis revealed the specific role of perfectionism in its two forms – adaptive and maladaptive perfectionism. While the scales of Adaptive perfectionism are related to Vigor and active constructive coping strategies (Figure 1), those of Maladaptive perfectionism are related mostly to negative experiences - Tension, Depression, Anger, Fatigue.

To check this hypothesis, we applied a step regression analysis. In the first model, the independent variable was Adaptive perfectionism, and the dependent variables – strategies for coping and Mood States. The results from the



Legend:
—— Significant positive correlations (**)
----- Moderate correlations (*)
..... Negative correlation

Figure 1. Results from correlation analysis

regression analysis showed that the high levels of Adaptive perfectionism influenced strategies Emotional calming, and Behavioral risk, Vigor and Tension (Table 5).

Table 5. Results from Regression analysis

	Adaptive Perfectionism		Sig.	ΔR^2
	β	t		
Emotional calming	.434	4.959	.000	.325
Vigor	.257	2.971	.004	.353
Tension	.201	2.369	.020	.390
Behavioral risk	.176	2.088	.040	.418

In the second model, the independent variable was Maladaptive perfectionism. The results from the regression analysis showed that the high levels of Maladaptive perfectionism influenced Tension (Table 6).

Table 6. Results from Regression analysis

	Maladaptive Perfectionism		Sig.	ΔR^2
	β	t		
Tension	.370	3.879	.000	.137

Discussion

The pandemic COVID 19 changed people's usual rhythm of life and the life of sports students around the world. They had a lifestyle full of high physical activity, lots of travelling, competitions, strong emotions which were part of their sports-competitive and educational activities. However, they had to adapt to a life in isolation without the ability to practice their usual activity, with uncertainty about the future and fear of the disease. Their reactions, their experiences, their coping with the situation – all of these are questions which need a solution on the basis of objective empirical data.

The results obtained from our research on domineering emotional states and perfectionism and their relation to sports students' preferred coping strategies in times of the pandemic COVID-19 revealed a certain specificity in the manifestation of the researched indicators depending on gender, qualification, and kind of sport.

Our results confirmed the hypothesis that Perfectionism is an important psychological variable which influences the way athletes' cognitive, affective, and behavior characteristics function (Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Hamashek, 1998; Terry-Short, Owens, Slade, & Dewey, 1995). Therefore, the fact that adaptive perfectionism and its subscales Organization and Personal Standards were domineering among the researched sports students is a positive finding. The lowest values were received for Parental criticism and Concern over Mistakes. The obtained results, as a whole, support previous finds (Iancheva, 2013; Iancheva et al., 2020). We can summarize that the studied athletes used an adequate strategy on a cognitive and behavioral level to overcome the situation.

Vigor dominates the athletes we study. Having in mind that the research was conducted within 30 – 40 days after the start of the emergency situation, we can claim that the researched individuals were coping relatively well with the current situation. Regardless of the imposed lockdown and isolation, the researched athletes feel quite energetic, alert and motivated. Next is Tension, i.e. regardless of preserving a relative vitality and energy, the researched sports students experience nervousness, anxiety, agitation. The established fact that Anger and Depression had the lowest values is favorable.

The comparative analysis of the data revealed significant differences along the factors gender, kind of sport, and qualification.

The women in the researched sample had significantly higher values for Organization, Adaptive perfectionism, and Seeking social support. The men had higher values for Parental Expectations, Anger, and Fatigue, as a reaction to the imposed isolation. These results suppose different direction of the applied psychological interventions for coping with the situation.

We established significant differences depending on the qualification of the researched sports student as regards Organization, Emotional calming, and Cognitive restructuring. The researched individuals with the highest qualification – competitors who have won quotas and are preparing for participation in the Olympic Games in Tokyo are coping with the situation the most successfully and are the most adaptive during the pandemic. They are more organized and most often resort to Emotional calming, and Cognitive restructuring as a coping strategy. The students with the lowest level of qualification (competing in student and regional tournaments) had the lowest values for these indicators. Our results confirm other research on the differences in coping strategies depending on the level of sportsmanship and successful realization in sports (Rogaleva, Malkin et al., 2019).

The results from correlation analysis of the data revealed significant relations between the subscales of Perfectionism, Mood States and Coping strategies. Our results reveal the specific mediator role of perfectionism and its two forms – adaptive and maladaptive as regards the way one experiences a threatening, uncertain and risky situation, in this case – COVID-19, and the preferred coping strategies. The adaptive perfectionism and its subscales correlate with Vigor and active constructive coping strategies and in this way help the adaptive behavior. Maladaptive perfectionism is connected mainly with negative experiences – Tension, Depression, Anger, Fatigue and lowering of Vigor, as well as elements of risky behavior. In this sense, our results support the surveys of Enns & Cox (2002) about the functional nature of the subscales Personal standards and Organization, as well as the role of maladaptive perfectionism as stimulating negative functioning.

The obtained results are a valuable reference point in seeking the most efficient approaches to athletes' coping with the consequences from the pandemic COVID-19 and considering their specifics depending on the gender, qualification, kind of sport, especially because there are still few surveys on the subject.

Limitations

This research has a few limitations – the number of the researched sample and the fact it was carried out online. A wider scope of research would allow for a more in-depth analysis and interpretation.

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✉ **Tatiana Iancheva**

ORCID ID: 0000-0001-9718-6056

National Sports Academy “Vassil Levski”

21, Acad. Stefan Mladenov St.

Sofia, Bulgaria

E-mail: iancheva.tatiana@gmail.com