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ORIGINAL PAPER

ASSOCIATION BETWEEN PERCEIVED STRESS, COPING PROFILE AND FEAR DURING THE COVID-19 PANDEMIC AMONG MALE AND FEMALE POLICE STUDENTS

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Abstract

Background: Coronavirus (COVID-19) outbreak was a sudden unknown stressor that could cause fear among people. Police officers were in the front lines, often unknowingly in direct contact with infected individuals, thus fear of getting infected (i.e., fear of COVID-19) could be higher in this population. Police students are preparing for the job of police officers and how they cope with a sudden unknown situation could be of importance for job performance and their mental health if such a situation occurs. This study aimed to investigate the association of perceived stress and coping strategies with fear of COVID-19 in police students. **Material and Methods:** *Perceived stress scale-10*, *Brief COPE*, and *Fear of COVID-19* (FSV-19) were administered to 340 police students (female = 183 [53.82%] and male = 157 [46.18%]). Correlation analysis was applied to test the association between perceived stress, all dimension of coping and fear of COVID-19. Multivariate analysis of variance was used to investigate between-gender differences. For mediating and moderating effect of coping primary coping style were used. **Results:** MANOVA reviled that significant differences occurred in perceived stress, 3 primary coping styles and fear of COVID-19 based on a gender. Stepwise regression analysis extracted the most significant predictors of fear of COVID-19. Perceived stress was the strongest predictor in general and in both genders. Denial and self-distancing were significant coping subscales in males, while humour and denial were significant in females. **Conclusions:** Perceived stress and coping strategies that students used to deal with the situation moderately defined their fear of COVID-19 outbreak, with perceived stress being the strongest predictor. Med Pr. 2022;73(3):179–90

Key words: occupational stress, coping strategies, gender, law enforcement, COVID-19, police students

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INTRODUCTION

The outbreak of severe acute respiratory syndrome Coronavirus 2 (COVID-19) spread rapidly around the world for the last few months with some countries impacted to greater extent than others. One stressor that is hard to avoid in a crisis, especially when dealing with a previously unknown and invisible enemy such as COVID-19, is fear. This fear can be caused or exacerbate by fear of getting infected and ending up in a hospital or quarantined in an improvised hall, shortages of protective equipment (i.e., gloves and masks), lines in front of supermarkets, closing of the borders, and constant disturbing real and fake news about the number of new cases and of the deceased through the media; all of which make a stressful environment. This fear, coupled with other pandemic impacts, like the economic toll (e.g., company bankruptcies, loss of employment and salaries), negatively affected the stress level and fear experienced by the population during COVID-19 [1]. This environmental stress and fear could be even more pronounced among medical care workers and police officers who are in the first lines of defence against the infection. However, it should also be noted that, although these events may be perceived as stressful by most, individual differences may exist in the way people perceive them.

Perceived stress

Perceived stress is a degree to which situations in one's life are appraised as stressful, which originates from feelings or thoughts of an individual about how much stress they are under at any given moment [2]. If the situations are seen as unpredictable and uncontrollable, there is a higher chance that the person will perceive them as stressful. So the event itself could be 'objectively' stressful for some people, but not for others with a different mindset if they perceive the event as only a challenge in their lives. Still it has been pointed out for a long time that if people believe that something is stressful and also believe that stress in bad for their general health, the impact of that belief could be disadvantageous for a person [3]. However, perceived stress is strongly associated with personality traits, whereby people who rank higher in consciousness are more likely to follow procedures (i.e., COVID-19 preventive procedures) [2]. In return, this improves coping resources resulting in minimizing their perceived threat of COVID-19, thereby lowering perceived stress.

Coping strategies

Even though young adults are less likely to be afraid of dying from COVID-19 (most of the official data suggests that the mortality rate in young is about 0.2%), some level of anxiety is to be expected [4]. Colleague students for example, may worry about being asymptomatic carriers and infecting their parents and grandparents given that they often live at home [5] and about the impact of the pandemic on their academic studies and academic delays [6]. Dealing with this notable challenge disrupting the lives of students requires efforts to be made in order to minimize negative effects and help build better coping strategies to manage pandemic stress and fear. Result obtained in studies from various countries reviled that young adults from different countries used different coping strategies as response to COVID-19 [7]. Adequate coping mechanisms could buffer the negative effects on mental health [8] as well as hormonal responses related to higher stress levels [9].

In contrast, inadequate coping mechanisms could lead to more fear and could lead to students perceiving the situation to be even more stressful [10]. For instance, stressors caused by COVID-19 were found to be in a positive association with coping strategies such as sell-distraction, active coping, denial, emotional support, behavioural disengagement, venting, and use of instrument, positive reframing, self-blaming, planning, humouring and religion. However, the most adopted coping strategies were religious, instrumental and active coping strategies, while the substance use was the least used strategy [11]. While there is evidence of high levels of stress and anxiety in students [11,12], the information on whether perceived stress during the most recent virus outbreak and subsequent coping strategies are associated with the level of fear of COVID-19 is scarce.

Fear of COVID-19

As mentioned before, 2 individuals in the same situation could have completely different reactions and their cognitive appraisal of the situation as well as the assessment of the adequacy of their own coping resources in response to the precipitating event will determine the outcome of their reaction [13]. If people believe that their coping resources and strategies are adequate and that they have the situation under control, they will reappraise the situation if they firstly saw it as stressful and perceive it as only challenging and benign [14]. During 2020, the COVID-19 pandemic was an event that was not under control and it can be assumed that most people perceived it as stressful.

Students who are in the focus of examination in this study lead already stressful lives because of the many academic hurdles and police students perhaps even more than most because of the specific physical expectations. The pandemic only exacerbated their problems since many were certainly afraid of getting sick or infecting their older loved ones if visiting them, since this is a fear shared by most people [15]. Since the pandemic was something new and unknown and uncontrollable even by doctors and since the virus mutates and is unpredictable in terms of symptoms and consequences it could be labelled as "potentially stressful event." If the person is afraid of it, he or she might believe that it cannot be controlled and that the resources and strategies of dealing with it are not enough. Therefore, it could be expected that those who fear the virus will perceive their coping strategies as less effective and simultaneously the pandemic itself as a stressful event. Fear is a basic emotion aroused by the detection of a threat and because of the COVID-19 death rates the pandemic is considered as a threat by most. If it persists for long, fear can stimulate the behavioural immune system which leads to negative emotions and in time to distress-related disorders [16].

This information could be of importance for tactical populations, such as the police officers and by extension

police students who are about to become officers, given their need to be on the front lines of sudden virus outbreaks or even non-virus emergencies. Various and unpredictable stressors occur in policing and these stressors can be physical, emotional, or psychological [17], such as brutality at the crime scene, traffic accidents, and pandemic outbreaks when police officers are exposed on a daily basis to people who may be infected. In addition, officers working daily in the office or in outdoor patrols suffer from operational stressors such as shift work, working alone at night, over-time demands, risk of injury, and organizational stressors such as dealing with co-workers, feeling that different rules apply to different people, and feeling a constant urge to prove oneself to the organization [18]. In that regard, the recruitment and study process of police students are organized to ensure that the right candidates enter and graduate from their training institutions.

The unexpected COVID-19 pandemic could present as a perceived stress for which these students must be prepared and provided strategies that they can use to cope with the situation. Therefore, investigating perceived stresses and coping strategies in relation to COVID-19 fears could provide fundamental knowledge through which to improve the educational process of future officers.

Considering this, the first aim of this study was to examine to what degree perceived stress levels and coping strategies were associated with a fear of COVID-19 in police students of both sexes. The second aim was to investigate the mediation and moderation effects of coping strategies on fear of COVID-19. The first hypothesis was that students' perceived stress levels and coping strategies would be associated with a fear of COVID-19. The second hypothesis was that perceived stress would be the strongest predictor of fear of COVID-19, while regression coefficient will increase by adding coping mechanisms. The third hypothesis was that there would be mediation effects of coping styles on fear of COVID-19.

MATERIAL AND METHODS

Sample and procedure

The research data collection was anonymised, and the questionnaires were applied via the Moodle platform at the end of April 2020; the peak of the first wave of the pandemic in Serbia, with the countrywide state of emergency. The questionnaire was sent to all students with the explanation about the aim of the study followed by the informed consent box. Participants could not start the questionnaire if they did not tick YES in informed consent box. Participants were asked to report their age, sex, as well as if they were diagnosed with coronavirus, if they were in contact with someone who had been diagnosed, or if they were in isolation. Only participants with negative answers to coronavirus questions were included in the analysis. There were 367 students, who were eligible, but 27 did not complete or reply to all questions and they were excluded from the analysis. The final sample included 340 undergraduate students (age 21.38±2.13 years) of the University of Criminal Investigation and Police studies, Belgrade, Serbia (UCIPS) out of which 183 (53.82%) were female and 157 (46.18%) male. Considering that the number of male students at this University is larger, the response rate of females was much higher than in male students. The procedure was conducted with the permission of the Ethics Committee of the University of Criminal Investigation and Police studies (440-2) and was performed in accordance with the Helsinki Declaration.

Instruments

The *Perceived Stress Scale-10* was used for the self-report measure of perceived stress over the participant's past month. The original version developed by Cohen et al. [19] had 14 items before the scale was revisited to improve internal reliability. Participants were asked to say how often they have felt and thought a certain way within the past month (e.g., "In the last month, how often have you felt that you were unable to control the important things in your life?"). Participants answered the 10 items using a 5-point Likert scale (0 – never, 1 – almost never, 2 – sometimes, 3 – fairly often, and 4 – very often). The total scores range 0–40 pts with higher scores indicated higher levels of perceived stress. The instrument was previously translated and used in Serbia and has shown to hold good psychometric qualities [20]. The reliability of the instrument was good in this study (Cronbach's $\alpha = 0.835$).

The *Brief COPE* questionnaire developed by Carver [21] was used to evaluate coping strategies. It measures 14 different coping responses (with 2 items for each subscale): *Self-Distraction, Active Coping, Denial, Substance Use, Use of Emotional Support, Use of Instrumental Support, Behavioural Disengagement, Venting, Positive Reframing, Planning, Humour, Acceptance, Religion,* and *Self-Blame*. Participants were asked to rate to what degree they used each of abovementioned

strategies in everyday problems that they face, in stressful aspects of their life or in unexpected stressful situations including the current pandemic. For this questionnaire a 4-point Likert scale was used, whereby participants were asked to mark the score that best describe them as follows: 1 – "I haven't been doing this at all," 2 – "I've been doing this a little bit," 3 – "I've been doing this a medium amount," 4 – "I've been doing this a lot." The instrument was also previously translated into Serbian and has demonstrated acceptable psychometric qualities [22]. The reliability of the instrument was acceptable to excellent in this study (Cronbach's α range: 0.658–0.973). Also, higher order factors were calculated: Problem focused coping style (items 2, 7, 10, 12, 14, 17, 23, 25), Emotion focused coping style (items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, 28) and Avoidant focused coping style (items 1, 3, 4, 6, 8, 11, 16, 19). Cronbach's α coefficients were excellent for the Problem focused coping (Cronbach's α = 0.900), good for the Emotion focused coping (Cronbach's α = 0.805), and acceptable for the Avoidant focused coping (Cronbach's α = 0.622).

The *Fear of COVID-19 Scale* – FCV-19S [23] was used to evaluate the effects of COVID-19 on fear among students. According to the authors, it has a stable unidimensional structure with robust psychometric properties [23]. Participants were required to indicate their level of agreement with the statements such as "I am most afraid of Corona," "It makes me uncomfortable to think about Corona," "My hands become clammy when I think about Corona," "I am afraid of losing life because of Corona." A 5-point Likert scale was used: 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree. The total score was calculated by summing up scores on each of seven items providing the range of 7–35 pts. Higher score indicated higher fear. The instrument has not been previously used in Serbia and therefore it was first translated by the authors of this study. The minor differences in translation were discussed and resolved by consensus. The scale showed acceptable reliability in this study (Cronbach's α = 0.869).

Statistical analyses

Statistical analyses were conducted in SPSS v. 22 (IBM, Chicago, USA). In the first step, statistical analysis included reliability analysis (Cronbach's α coefficients) and descriptive statistics (M, SD). Then, correlation analysis (Pearson correlation) was applied to test the association between perceived stress, all dimension of coping and fear of COVID-19, in combined sample, as well as in male and female students. Fisher r-to-z transformation was used to if the correlations that occur in males and females were statistically different. A multivariate analyses of variance (MANOVA) was used for evaluating a potential sex differences in perceived stress, coping strategies and fear of COVID-19. The 3 independent multiple linear regressions (stepwise method) were applied to test predictive power of perceived stress level and coping strategies on fear of COVID-19: the first for the combined, the second for males and the third for females. For testing mediating and moderating effect of coping, in further analyses primary coping styles were used (Problem focused coping, Emotion focused coping and Avoidant focused coping).

Testing a potential mediation effect of coping styles between perceived stress and fear of COVID-19 was based on Baron and Kenny's procedure [24]. After correlations analyses (Pearson correlation) which was perform to test association between perceived stress, coping styles and fear of COVID-19, a hierarchical regression (the enter method) was performed to directly test the interactive effects (i.e., moderation) of perceived stress and coping styles on fear of COVID-19. At Step 1 the independent predictor variables were the perceived stress and primary coping styles (Problem focused coping, Emotion focused coping and Avoidant focused coping), and the criterion variable was fear of COVID-19. For Step 2, the interaction effects between all 3 coping styles and perceived stress were used as predictors and in this step, the variables were mean-centred.

RESULTS

Descriptive statistics

Descriptive statistics for mean (M) and standard deviation (SD) for the whole sample, males and females is presented in Table 1. Male and female students differed in coping strategies such as self-distraction ($F = 6.613$, $p = 0.011$, partial $\eta^2 = 0.03$), emotional support ($F = 5.361$, $p = 0.021$, partial $\eta^2 = 0.02$), venting ($F = 14.917$, $p < 0.001$, partial $\eta^2 = 0.06$), positive reframing ($F = 7.698$, $p = 0.006$, partial $\eta^2 = 0.02$), and self-blame ($F = 4.823$, $p = 0.029$, partial $\eta^2 = 0.01$). MANOVA reviled that significant differences occurred in perceived stress, 3 primary coping styles and fear of COVID-19 based on a gender ($F (1, 334) = 66.58579$, $p < 0.0001$; Wilk's $\Lambda = 0.909$, partial $\eta^2 = 0.09$). Follow-up ANOVA tests indicated that gender has a statistically

Table 1. Descriptive statistics for perceived stress, coping dimensions, coping styles and fear of COVID-19 in a sample of police students, the end of April 2020, Serbia

Variable	Participants					
	total (N = 340)		males (N = 157)		females (N = 183)	
	M	SD	M	SD	M	SD
Perceived stress [pts]	1.216	0.721	1.011	0.640	1.387	0.741
Coping dimensions [pts]						
self-distraction	2.615	0.884	2.451	0.910	2.751	0.840
active coping	3.196	0.854	3.291	0.850	3.118	0.852
denial	1.292	0.543	1.245	0.437	1.331	0.617
substance use	1.046	0.232	1.049	0.248	1.044	0.218
emotional support	2.545	0.990	2.379	0.965	2.683	0.992
use of instrumental support	2.470	0.933	2.431	0.872	2.503	0.983
behavioural disengagement	1.183	0.416	1.167	0.385	1.197	0.441
venting	2.109	0.867	1.876	0.746	2.303	0.914
positive reframing	2.823	0.833	2.673	0.865	2.948	0.787
planning	3.089	0.897	3.180	0.873	3.014	0.912
humour	2.627	1.078	2.611	1.117	2.639	1.047
acceptance	3.238	0.748	3.229	0.819	3.246	0.685
religion	1.707	0.830	1.752	0.851	1.669	0.813
self-blame	2.031	0.836	2.088	0.861	1.984	0.814
Coping style [pts]						
problem focused	2.720	0.637	2.675	0.621	2.757	0.650
emotion focused	2.573	0.563	2.515	0.569	2.623	0.555
avoidant focused	1.460	0.325	1.380	0.302	1.527	0.329
Fear of COVID-19 [pts]	1.474	0.565	1.324	0.432	1.599	0.630

significant effect on perceived stress ($F(1, 334) = 24.378$, $p < 0.0001$, partial $\eta^2 = 0.07$), Avoidant focused coping scores ($F(1, 334) = 17.99$, $p < 0.0001$, partial $\eta^2 = 0.05$) and fear of COVID-19 ($F(1, 334) = 20.87$, $p < 0.0001$, partial $\eta^2 = 0.06$).

Associations

Correlation analysis (Table 2) for the whole sample revealed the strongest association between perceived stress and fear of COVID-19, followed by denial, self-distraction, venting, emotional support, use of instrumental support, behavioural engagement, humour, and religion. Fisher r-to-z transformation showed that correlations obtained in perceived stress, self-distraction, denial, emotional support, and religion were not significantly different between male and female students. However, substance use, behavioural disengagement, and acceptance correlated only in male students, while use of instrumental support and humour correlated only in female students. Therefore, the sample could be divided by sex.

Predictive values

The stepwise regression analyses established significant models of associations of perceived stress level and coping strategies with the fear of COVID-19 (Table 3). Perceived stress was the most significant predictor in the whole sample, as well as in the male and female students. Stepwise analysis included 4 variables in combined sample, perceived stress, denial, self-distraction, and humour.

Three variables were included in the male model: perceived stress, self-distraction, and denial and 3 in the female model: perceived stress, humour, and denial. The analysis of coefficients revealed that perceived stress and subscales from *Brief COPE* may vary between

Table 2. Correlation of perceived stress and copying profile with the fear of COVID-19 in male and female police students and Fisher's r-to-z transformation for between-sex correlation differences, the end of April 2020, Serbia

Variable	Fear of COVID-19			Fisher r-to-z
	total (N = 340)	males (N = 157)	females (N = 183)	
Perceived stress	0.511**	0.402**	0.526**	0.150
Self-distraction	0.293**	0.301**	0.253**	0.638
Active coping	0.022	–0.002	0.075	
Denial	0.313**	0.373**	0.275**	0.317
Substance use	0.079	0.253**	–0.037	
Emotional support	0.202**	0.162*	0.183*	0.841
Use of instrumental support	0.192**	0.129	0.221**	
Behavioural disengagement	0.136*	0.352**	0.010	
Venting	0.265**	0.162*	0.250**	0.401
Positive reframing	0.081	0.078	0.023	
Planning	0.050	0.035	0.095	
Humour	–0.112*	0.046	–0.227**	
Acceptance	–0.065	–0.164*	–0.007	
Religion	0.182**	0.228**	0.185*	0.682
Self-blame	0.084	0.114	0.099	

* $p < 0.05$, ** $p < 0.01$.
Fisher r-to-z tests whether correlations obtained in each sex are statistically different.

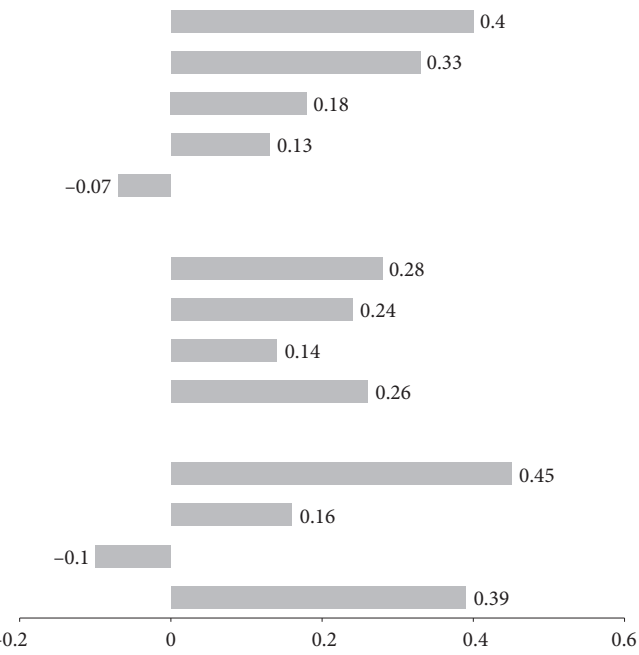
Table 3. Regression analyses for associations of perceived stress level and coping strategies with the fear of COVID-19 for the whole sample of police students, and relative to sex, the end of April 2020, Serbia

Model in group	R^2	SEE	ΔR^2	ΔF
Total (N = 340)				
model 1	0.261	0.489		
model 2	0.297	0.478	0.036	17.45**
model 3	0.324	0.469	0.027	13.31**
model 4	0.342	0.464	0.018	9.28*
Males (N = 157)				
model 1	0.161	0.413		
model 2	0.266	0.387	0.105	22.02**
model 3	0.322	0.373	0.056	12.55*
Females (N = 183)				
model 1	0.277	0.538		
model 2	0.302	0.529	0.025	6.53*
model 3	0.323	0.523	0.021	5.67*

SEE – standard error of the estimate.
* $p < 0.05$, ** $p < 0.01$.
Regression analysis: model 1 – the first step, model 2 – the second step, model 3 – the third step, model 4 – the fourth step.

Table 4. The coefficients from the stepwise regression analyses for the associations of perceived stress level and coping strategies with the fear of COVID-19 in a sample of police students and relative to sex, the end of April 2020, Serbia

Variable		SE	β	t	Unstandarized B
Total					
Step 1	perceived stress	0.04	0.51	10.92**	0.4
Step 4	perceived stress	0.04	0.42	8.99**	0.33
	denial	0.05	0.17	3.78**	0.18
	self-distraction	0.03	0.20	4.22**	0.13
	humor	0.02	–0.14	–3.05*	–0.07
Males					
Step 1	perceived stress	0.05	0.40	5.46**	0.28
Step 3	perceived stress	0.05	0.37	5.38**	0.24
	self-distraction	0.03	0.27	4.02**	0.14
	denial	0.07	0.25	3.54*	0.26
Females					
Step 1	perceived stress	0.05	0.53	8.32**	0.45
Step 3	perceived stress	0.05	0.46	7.21**	0.16
	humor	0.04	–0.17	–2.67*	–0.1
	denial	0.07	0.15	2.38*	0.39



* $p < 0.05$, ** $p < 0.01$.

sexes (Table 4). Denial was the only subscale that was significant across all groups, while self-distraction is significant in males and humour in females. The initial model (Step 1) and final model (Step 4 in combined sample and Step 3 in males and females) are presented to show the simplest model of prediction and the strongest model of prediction, with the lowest standard error of the estimate. In addition, the final models already show which variables were in previous step of stepwise regression analysis, which for this study does not provide additional value.

The correlation coefficients (Pearson's) are presented in Table 5 perceived stress, coping styles and fear of COVID-19. The strongest association between perceived stress and fear of COVID-19, followed Avoidant focused coping and Emotion focused coping.

A hierarchical multiple regression analysis (enter method) was applied to determine the predictive value of the perceived stress, Emotional focused coping, Problem focused coping, Avoidant focused coping and interactions between coping and perceived stress (Table 6) where fear of COVID-19 was criterion variable. In the first block, the predictor variables were perceived stress, Emotional focus coping, Problem focused coping, Avoidant focused coping. In the second block, interactions between coping and perceives stress were added (3 in total). The results of the regression analysis showed that the regression function in the first block, was significant, $R = 0.55$, $R^2 = 0.31$, $F(4, 331) = 36.50$, $p = 0.00$. Significant predictors were: perceived stress and Avoidant focused coping. Adding interactions in the second block, between perceived stress and coping styles, did not increase the percentage of the variance explained, $\Delta R^2 = 0.18$, $p = 0.06$, total $R = 0.57$, $R^2 = 0.32$, $F(4, 331) = 22.46$, $p = 0.00$. Emotion focused coping emerged as one more significant predictor, but added interactions were not.

Mediation analyses

Problem focused coping as mediator between perceived stress and fear of COVID-19. Although the regression of Perceived stress on fear of COVID-19, was significant, ($b = 0.40$, $t = 10.79$, $p < 0.01$), the regression of Perceived stress on the mediator, Problem focused coping, was not significant, ($b = 0.05$, $t = 5.96$, $p > 0.05$). It could be concluded that there was no mediation effect of the Problem focused coping between perceived stress and fear of COVID-19.

Table 5. Correlations between perceived stress, coping styles and fear of COVID-19 in a sample of police students, the end of April 2020, Serbia

Variable	Correlation				
	perceived stress	problem focused coping	emotion focused coping	avoidant focused coping	fear of COVID-19
Perceived stress	1				
Problem focused coping	0.05	1			
Emotion focused coping	0.23**	0.70**	1		
Avoidant focused coping	0.31**	0.34**	0.43**	1	
Fear of COVID-19	0.51**	0.12*	0.15**	0.35**	1

* $p < 0.05$, ** $p < 0.01$.

Table 6. Hierarchical multiple regression analysis in a sample of police students: prediction of fear of COVID-19 based on perception of stress, coping strategies and their interactions, the end of April 2020, Serbia

Variable	ΔR^2	β	t	p
Block 1	0.31			
perceived stress		0.46	9.42	0.00
coping				
problem focused		0.11	1.69	0.09
emotion focused		–0.13	–1.90	0.06
avoidant focused		0.22	4.21	0.00
Block 2	0.18			
perceived stress		0.45	9.08	0.00
× problem focused coping		0.08	1.33	0.19
× emotion focused coping		–0.01	–0.21	0.83
× avoidant focused coping		0.10	1.93	0.06
coping				
problem focused		0.12	1.74	0.08
emotion focused		–0.14	–2.03	0.04
avoidant focused		0.21	3.98	0.00

Total $\Delta R^2 = 0.49$.

Emotion focused coping as mediator between perceived stress and fear of COVID-19. In Step 1 of the mediation model, the regression of Perceived stress on fear of COVID-19, ignoring the mediator, was significant, ($b = 0.40$, $t = 10.79$, $p < 0.01$). Step 2 showed that the regression of perceived stress on the mediator, Emotion focused coping, was also significant, ($b = 0.18$, $t = 4.31$, $p < 0.01$). Step 3 of the mediation process showed that the mediator (Emotion focused coping), controlling for Perceived stress, was not significant, ($b = 0.04$, $t = 0.709$, $p > 0.05$). Similar to previous model, there was no mediating effect of Emotion focused coping within relationship between perceived stress and fear of COVID-19.

Avoidant focused coping as mediator between perceived stress and fear of COVID-19 (Figure 1). In the Step 1 of the mediation model, the regression of Perceived stress on fear of COVID-19, ignoring the mediator, was significant, ($b = 0.40$, $t = 10.79$, $p < 0.01$). Step 2 showed that the regression of perceived stress on the moderator, was also significant, ($b = 0.214$, $t = 5.98$, $p < 0.01$). Step 3 of the mediation process showed that the mediator (Avoidant focused coping), controlling for perceived stress, was significant, ($b = 0.35$, $t = 4.32$, $p < 0.01$). Step 4 of the analyses revealed that, controlling for the mediator (Avoidant coping), perceived stress was a significant predictor of fear of COVID-19, ($b = 0.42$, $t = 9.17$, $p < 0.01$).

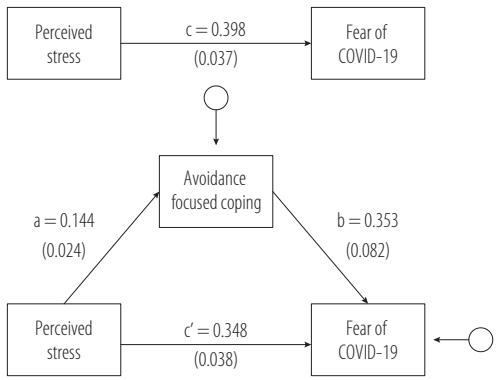


Figure 1. Mediation model of Avoidance focused coping in the relationship between perceived stress and fear of COVID-19 in a sample of police students, the end of April 2020, Serbia

A Sobel test was conducted and found partial mediation in the model ($z = 2.84$, $p < 0.000$). The mediation analysis has partitioned the total effect of perceived stress onto fear of COVID-19 ($c = 0.398$) into a direct effect ($c' = 0.348$) and a mediated effect ($a \times b = 0.051$). It seems that mediation through Avoidant focused coping (that implies using cognitive efforts to disengage from the stressor), while statistically significant, explains only a small part of the total effect of perceived stress on fear of COVID-19.

DISCUSSION

This study had 2 aims, to investigate the associations of perceived stress and coping styles with fear of COVID-19 and to determine the prediction value of perceived stress and coping styles in determination of fear of COVID-19. The results revealed that perceived stress and coping strategies were significantly associated with fear of COVID-19, thereby proving the first hypothesis to be true. Considering the prediction values, the strongest predictor of fear of COVID-19 was perceived stress followed by the Avoidant and Emotion focus coping. The mediation analysis determined a small mediation effect of Avoidant focused coping on effects of perceived stress on fear of COVID-19. Therefore, the second hypothesis was true, while the third hypothesis was partially true.

In general, police students had perceived the fear of COVID-19 (M±SD = 1.58±0.56) and stress level (M±SD = 1.22±0.72) within the lower part of a 5-level Likert scale, suggesting that the COVID-19 outbreak had relatively low impact on police students of both sexes. Although the range for both was 0–3.30, perceived stress seemed to be more present than the fear of COVID-19 considering that 3.30 is closer to upper bound of the scale (0–4) used in evaluation of perceived stress. However, the mediation analysis suggested that Avoidant coping could mediate the effect of perceived stress on fear of COVID-19. Also of note is that the selection process of police students at the UCIPS includes the evaluation of psychological characteristics that is based on accepted/not-accepted criteria, which could have posed the selection effects [21]. In addition, unrealistic optimism that characterizes young people may reflect in lower perceived stress and fear.

Male and female students significantly differed in self-distraction, emotional support, venting, positive reframing, with female students scoring higher, and self-blame, where they scored lower than male students. Carver et al. [25] reported several significant sex differences in the use of coping strategies as females showed a tendency to focus on and vent emotions, while males were more prone to substance use (i.e., alcohol) as a way of coping. Matud [26] explored sex differences in stress and coping styles and found that females suffer more psychological distress than males and that their coping style was more emotion-focused compared with males. In another study, on a sample of children and adolescents, it was observed that the females sought more social support, while males used avoidance coping strategies to a greater extent than females [27]. Considering this, it seems that using maladaptive strategies such as self-distraction and denial in male students, and using emotion focused (i.e., humour) and avoidant focused coping styles (i.e., denial) in female students plays a significant role in perception of fear of COVID-19. The hierarchical regression analysis confirms this as next to perceived stress, avoidant coping style and emotion focused style were significant predictors of fear of COVID-19.

Maladaptive strategies such as denial and self-distraction were found to be significantly associated with perceived stress, as well as with mental health problems such as depression, while adaptive strategies had a stronger relationship with psychological well-being [28]. Although denial is considered maladaptive in terms of long-term strategy, initial short-term denial could provide sufficient time for the necessary shift in adopting proper coping strategies to avoid a psychological tailspin [29]. This could be of importance for police students (i.e., future officers) given that the serenity and consciousness of their actions may sometimes mean life or death,

thereby short denial may provide them the time to think enough before they act. On the other hand, if denial as an unconscious response lasts too long as a maladaptive coping strategy, it could lead to no reaction in times when the reaction is needed, such as in uncontrolled and unexpected stressful situations. In contrast to denial, humour was found to be associated with higher ratings in suppressing fear, greater self-perceived coping effectiveness, higher job satisfaction, and active and straightforward coping with stressful situations [30]. Considering this, whether denial among male and female students in the current study is a short-term precursor or adopted long-term strategy could not be answered as it would require a longitudinal study design.

Given that predictors of fear of COVID-19 in male students were denial and self-distancing and that they reported lower levels of perceived stress and fear of COVID-19 compared to female students, it may be that male students were actually more reluctant and less interested in the outbreak. At the same time, it may be argued that female students were willing to actively cope with the situation comparing to their counterparts. In addition, humour seemed to be a significant moderator of perceived stress and fear of COVID-19 among females as the fear of COVID-19 was linearly associated with humour, whereby females with lower stress levels were more likely to use humour as a coping strategy.

Several limitations could be pointed out in this study. The sample included only police students who were already selected based on some psychological characteristics, which may have influenced the levels of fear in the whole sample and which in turn may have limited the external validity of this study. The whole sample was representative of the police students' population in Serbia, but when divided by sex the sample size could have been bigger. The study was not longitudinal, which would provide better insight into potential changes in perception of stress and fear of COVID-19. The subsample of females was smaller compared to subsample of male students which is not typical for police students.

CONCLUSIONS

Overall, results suggest that perceived stress and coping strategies that students used to deal with the situation moderately defined their fear of COVID-19 outbreak, with perceived stress being the strongest predictor. Avoidant and Emotion focused coping styles also predicted fear of COVID-19, whereby the effect of perceived stress on fear of COVID-19 could be mediated by Avoidant focused coping. The fear of COVID-19 was significantly lower in male than in female students and was well below the midpoint of the 5-level Likert scale, suggesting that the fear was low and trivial in the majority of male participants. In that regard, it is likely that the male students did not need to actually use their coping strategies to a greater extent. Both, active and maladaptive coping strategies were predictors of fear of COVID-19 in female students, indicating that female students were more receptive of the situation that occurred, thus were more likely to activate their coping strategies than male students.

If the coping strategy is adaptive or not depends on the situation and the type of problem the person is facing. In the case of the pandemic, as the students cannot solve the problem, it could be adaptive to distance oneself and live with it, since the situation is not controllable. Counselling and preventive programs could go in this direction and promote acceptance of the situation and living through it. Further research could indicate if this is the most optimal coping strategy.

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