

# Mental Health of Police Trainees during the First Wave of the COVID-19 Pandemic

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## **Abstract**

The COVID-19 pandemic took power over the world in 2020. Because of this situation, we surveyed the experiences of the police trainees in the first two months of the pandemic in Hungary as part of ongoing research in the 2019-2020 school year. Respondents were members of different police departments, and the epidemic-related activities became part of their everyday tasks. In the research, we used a questionnaire that we had prepared. It had 14 questions, and it was a part of our test battery, which examined mental health in a longitudinal study. The inventory was filled in online during the period of respondents' professional examinations (from the end of May to the beginning of June 2020), and we received 28 answered questionnaires about the experience of policing the pandemic. The reason of the low participation rate – 28 responses from approximately 100 people – was probably the impersonal online format, because earlier data collections had been led by the researchers, and they yielded higher response rates. The results showed that females experienced larger fear related to the health of relatives than males. Their everyday services were influenced significantly by sleeping difficulties and they felt duties more physically overwhelming at this time. The outcomes did not show gender differences in the fields of mental health. Despite some negative influences, the pandemic was not perceived as particularly stressful for police work over the first two months of its eruption. Although the sample was not representative, it could serve as a basis for the future research of these questions – especially when considering that the pandemic is more stressful for everyone both mentally and physically at the time of the second and third waves.

**Keywords:** COVID-19, mental health, police trainees, gender difference

## Introduction

### The impact of COVID-19 on police work

The Coronavirus or COVID-19 has transformed our life significantly from the beginning of 2020. Our lifestyle changed as a result of the pandemic, and in many parts of the world, the military and police have had an active role in the fight against the virus through ensuring compliance with lockdown and quarantine arrangements (Farrow, 2020). In connection with all this, many aspects of the police work have also changed. The state of danger was announced on 11th March 2020 in Hungary and related to the Government Decree 40/2020. (11th March), in which new measures were introduced in connection with police work. This outlined that the Hungarian police officers would face these tasks of handling the pandemic just like other countries. Many components of police work changed by degrees, such as the rules of social distancing in police measures, using protective personal equipment (PPE) like gloves, masks, hand sanitizer (Khadse et al., 2020). In parallel, the daily work of units altered, although with various degrees (Frenkel et al., 2020; Jennings & Perez, 2020; Stogner, et al., 2020).

### Mental health impact of coronavirus on police officers

The impact of COVID-19 on mental health has been researched from the beginning of the pandemic. It is not a big surprise, that most of the studies are focusing on the health care workers primarily, but we are able to find some research on police officers and the general population in persistently increasing quantities. Summarizing the results of these studies we can say that in addition to a clear increase in the incidence of anxiety disorders, an increase in the proportion of depressive symptoms and stress levels also emerged in several cases (Grover et al., 2020a; Vicario-Merino & Muñoz-Augustin, 2020). Overlooking the results of surveys about police officers we can say that though the main streams of the results show one direction, we can find a really mixed picture in some details.

The surveys were filled out mostly online due to the social distancing guidelines that are one of the most important protectors from the virus. Frenkel et al (2020) conducted longitudinal research with qualitative and quantitative parts especially among European police officers in five countries (Austria, Switzerland, the Netherlands, Germany, and Spain – region Euskadi). Their results were interesting both in terms of work and in

terms of private life. Quite a few respondents reported stressors in their private life: they talked about worries related to the health of relatives and childcare with home-schooling. The main tasks were changed: the regular work tasks were complemented with added coronavirus-related duties. The experiences of work-related stressors in the pandemic showed a mixed picture: approximately one-quarter of the respondents did not notice any changes in this field, but problem areas such as challenges in the constantly changing governmental measures, expectations of social distancing rules between colleagues turned up as stressors (Frenkel et al, 2020). Fears related to getting infected by COVID-19 and worries about infecting others also appeared in the study. Questions about PPE pointed to widely divergent experiences of police officers in different countries: In some countries, PPE was abundant, while in others PPE supply was a serious problem. The research was done in the first few months of the pandemic, and even though the dropout was high between different measurement points, we think it is still relevant and important because of its internationality.

In a Russian study by Soloviev, Zhernov & Ichitovkina (2020), female police officers showed a significantly higher degree of depression and anxiety, they were significantly less likely to show maladaptive stress reactions than male officers, and female officers were less afraid of getting infected. The study was conducted straight after the first COVID-19 infection registered among Moscow police officers.

The following results are from countries that were among the first to find themselves in a difficult situation because of the coronavirus infection rate, such as China and India:

- a study in Wuhu found different levels of depression and anxiety among police officers.. Education, location, police classification (security, regimental, traffic, criminal, etc.), and using sleeping pills were identified as risk factors (Yuan et al., 2020);
- extension of working hours, chronic diseases, and older age increased psychological stress significantly in north-western China. Male police officers perceived a significantly higher level of organizational stress in this representative sample during this period (Huang et al., 2021);
- Grover et al (2020b) found an increased level of stress and negative emotional responses among Indian police officers, furthermore female police officers showed

a higher level of anxiety, depression, and negative emotional responses than male officers;

- another research in India also drew attention to negative psychological impacts, and they noted that they had found a higher infection rate among police officers than the general population during the first wave (Khadse et al, 2020).

We can see that the results of these studies differ under aspects of gender: in some countries, females showed higher degrees of psychological impact during the first wave of the coronavirus, in some countries the male officers did. The contradictory results can draw attention to the fact how much we don't know yet about the effects of coronavirus on mental health.

## Materials and Methods

### Participants and procedures

The participants of this study were police trainees. The police trainees who completed their probation year in the 2019-2020 school year served in the spring of 2020 at the beginning of the COVID-19 pandemic, therefore they had tasks in the police work related to the pandemic. With this in mind, we created a questionnaire in our longitudinal study to capture the experiences during those few months of police trainees, who took their professional examination at the end of May and beginning of June 2020 in one of the law enforcement schools in Hungary. This was the third and last data collection time in our longitudinal study.

The survey was conducted online, which was a difference from earlier times when trainees had filled out the inventory in the presence of researchers. At this measurement point, only 28 out of about 100 trainees participated in the survey. In earlier years, there had been 131 (out of 151) and 115 (out of 145) respondents. The low participation rate was thus probably a consequence of these changed circumstances, namely the impersonal online response format.

### Measures

We applied inventories about anxiety and depression to measure mental health. Participants assessed their depression during the last month using the Center for Epidemiological Studies Depression Scale (CES-D). This questionnaire has 20 items, which cover 4 groups of

depressive symptoms: cognitive, emotional, behavioural, and interpersonal (Radloff, 1977).

We measured anxiety in two ways and one of that was the measuring of trait anxiety. Respondents rated it using STAI-T (State-Trait Anxiety Inventory – Trait), which has 20 items, and it mapped the usual degree of respondents' anxiety (Sipos, Sipos & Spielberger, 1988).

The current degree of depression and anxiety was measured using the Hospital Anxiety and Depression Scale (HADS), which measured these factors in the previous week. The scale has 14 items, seven about depression and seven about anxiety (Muszbek et al, 2006). The participant responded on a four-point Likert scale in every questionnaire. In this study, 14 questions were used to measure police work during the first wave of COVID-19. Survey items were developed based on own experience as a psychologist at the Hungarian Police and they fitted in with the focus of our research (health behaviour, stress, burnout, and mental health). The items covered the following areas:

- in what kind of police tasks the respondents participated related to the pandemic (home quarantine inspection, service at a border crossing point, law enforcement activities related to lockdown restriction);
- how much they experienced the service as stressful according to the given criteria (general; physical, emotional);
- questions about PPEs;
- what kind of situation they were afraid of related to the coronavirus (meeting an infected person, getting infected, a family member getting infected, their colleague getting infected, others getting infected);
- the extent of the changes they experienced on themselves, based on the given criteria (having sleeping difficulties; becoming more tired; becoming irritated, tense; their behaviour has changed towards others; worried; becoming impatient; their thoughts were constantly around the coronavirus) and how much these factors affected their duties;
- the changes of health behaviour.

The coronavirus-related mini questionnaire in detail and its basic results were published (Borbély, 2021).

The participants also provided their demographic characteristics, such as age, sex, marital status, place of residence, and probationary place.

## Results

### Demographics and Descriptive Statistics

The mean age of the 28 participants was 23.14 years (SD=5.52). 60.71% (n=17) of the participants were male and 39.29% (n=11) were female (see Table 1). The mean depression scores for the study participants were 13.21 on CES-D (SD=8.34) and 4.04 on the HADS – Depression Scale (SD=2.38), which showed that depression is not typical in the sample (Muszbek et al, 2006).

The mean of trait anxiety (M=36.50, SD=9.08) was substantially lower than the Hungarian standard (M=43.72, SD=8.53; Sipos, Sipos & Spielberger, 1988). There might be several factors behind it, like the low mean age in the sample and the expectation of the workplace among other things. The mean of current anxiety was 3.50 (SD=3.14) on the HADS – Anxiety Scale, so this was in the normal range (Muszbek et al., 2006).

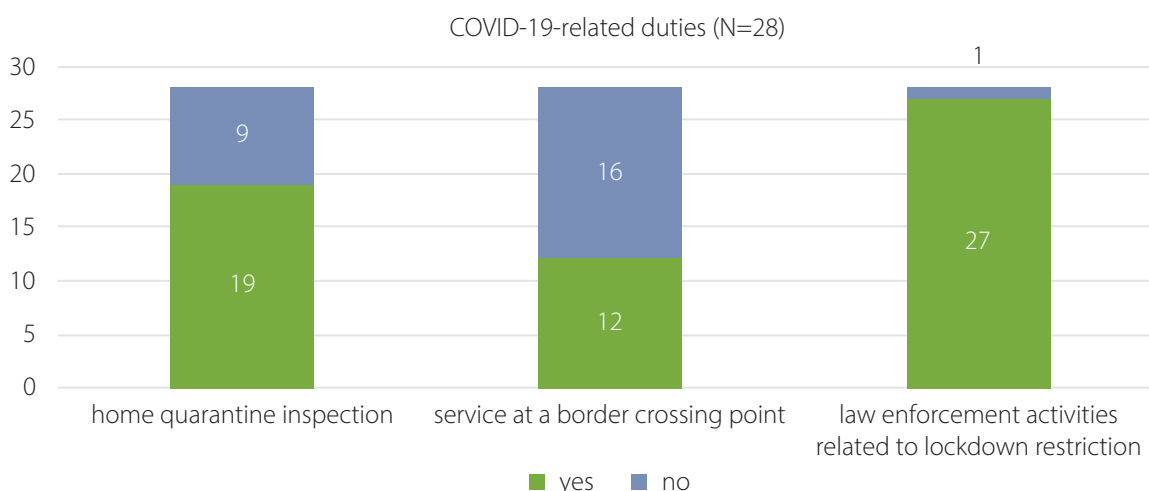
**Table 1:** The demographic characteristics of the sample

Variables	Categories	n	%
Gender	Male	17	60.71
	Female	11	39.29
Marital status	Single	9	32.14
	In a relationship	18	64.29
	married	1	3.57
Place of residence	county seat or city with county rights	6	21.43
	other towns	6	21.43
	village	16	57.14
Probationary place	county police department	21	75.00
	Budapest Police Department	6	21.43
	Airport Police Directorate	1	3.57

Related to the involvement in the COVID-19 response, the majority of the respondents (64.29%, n=18) were involved in two tasks, while 21.43% (n=6) of the sample

participated in all three tasks and 14.29% (n=4) of the sample were involved in only one type of task. The participation rate in each task is shown in Figure 1.

**Figure 1:** COVID-19 related tasks at duties (N=28)



### Gender differences in the sample

We used the nonparametric Mann-Whitney U test for the investigation of gender differences because of the low number of participants and violation of normality.

We compared genders to examine whether male and female police trainees experience and perceive depression, anxiety, fears, self-observed changes, and factors influencing duties differently or not. As shown in Table 2, there is no significant difference between the mental health outcomes of males and females.

**Table 2:** Comparison of the average level of depression and anxiety between genders

	Male	Female	p (Mann-Whitney U)
	Mean ± SD	Mean ± SD	
CES-D Depression	12.94 ± 10.09	13.64 ± 4.95	0.186
STAI-T Trait Anxiety	35.59 ± 9.23	37.91 ± 9.09	0.422
HADS Depression	3.82 ± 2.70	4.36 ± 1.86	0.255
HADS Anxiety	3.24 ± 3.47	3.91 ± 2.66	0.253

The gender differences related to the investigated factors of the pandemic are shown in Table 3.

**Table 3:** Comparison of fears, self-observed changes, and factors influencing duties between genders

Fears	Male	Female	p (Mann-Whitney U)
	Mean ± SD	Mean ± SD	
meeting an infected person	1.59 ± 0.80	2.18 ± 1.40	0.303
I'm getting infected	1.76 ± 0.83	2.27 ± 1.19	0.253
someone in my family is getting infected	3.29 ± 1.61	4.45 ± 0.69	0.077
my colleague is getting infected	2.29 ± 1.10	2.55 ± 1.37	0.695
I infect others	2.71 ± 1.57	3.45 ± 1.21	0.134
Self-observed changes	Male	Female	p (Mann-Whitney U)
	Mean ± SD	Mean ± SD	
I had sleeping difficulties.	1.18 ± 0.39	1.64 ± 1.03	0.246
I became more tired.	1.24 ± 0.44	1.50 ± 0.71	0.302
I became irritated, tense.	1.24 ± 0.44	1.64 ± 0.92	0.296
My behaviour towards others has changed.	1.18 ± 0.39	1.09 ± 0.30	0.635
I became impatient.	1.29 ± 0.59	1.36 ± 0.81	0.926
I was worried.	1.65 ± 0.79	1.82 ± 0.75	0.551
My thoughts were constantly around the coronavirus.	1.35 ± 0.61	1.45 ± 0.69	0.745
Factors influencing duties	Male	Female	p (Mann-Whitney U)
	Mean ± SD	Mean ± SD	
sleeping difficulties	1.12 ± 0.33	2.00 ± 1.18	0.017
fatigue	1.47 ± 0.72	2.18 ± 1.17	0.079
irritation, tense	1.53 ± 0.87	2.18 ± 1.54	0.372
worries about my family	2.41 ± 1.46	3.10 ± 1.60	0.273
my thoughts constantly revolving around the virus	1.31 ± 0.60	1.55 ± 0.82	0.540
fear of getting infected	1.53 ± 1.07	2.27 ± 1.27	0.063

In terms of fears, there was a trend difference between males and females for the item “someone in the participant’s family is getting infected” ( $p=0.077$ ). In the area of self-observed changes, there are no significant differences between the genders. At the same time, there were some interesting differences in the field of factors influencing duties. The difference was significant with regard to sleeping difficulties ( $p=0.017$ ), which were reported significantly more often by females. Furthermore, fatigue and fear of getting infected tended to influence the duties of female police trainees more often.

There were three questions about being overwhelmed in the first two months of the first wave. There was no statistically significant gender difference in the summarizing question (‘Did you feel more overwhelmed with the duties in this time?’  $p=0.706$ ). The two more questions about emotional and physical overload had nominal answer options, so we conducted a Chi-square test or if the requirements were not made, we chose Fisher’s Exact Test. The results showed there was no significant difference between males and females

in the area of physical overload ( $p=0.518$ ), but the difference was significant in the emotional overload among female police trainees ( $p=0.022$ ).

### Virus-related factors and mental health

We examined correlations between the virus-related factors and mental health. As shown in Table 4, there is no significant correlation between fears and depression, and anxiety. Among the self-observed changes, two items had a significant relationship with depression in the previous month (CES-D). These are ‘My behaviour towards others has changed.’ ( $r=0.401$ ;  $p=0.035$ ) and ‘My thoughts were constantly revolving around the coronavirus.’ ( $r=0.386$ ;  $p=0.042$ ). The correlations were of weak to medium strength. Besides them, there was a significant correlation between factors influencing duties and mental health: ‘My thoughts constantly revolving around the virus.’ ( $r=0.588$ ;  $p=0.001$ ). The correlation with CES-D was of medium strength. Thus, the thoughts around the virus showed a significant relation to one of the depression scales (CES-D) both at work and in private life.

**Table 4:** Results of correlation between mental health scores, and fears, self-observed changes and factors influencing duties

Fears	CES-D	STAI-T	HADS-D	HADS-A
meeting an infected person	0.192 (0.328)	0.133 (0.501)	-0.055 (0.783)	0.049 (0.806)
I’m getting infected	0.210 (0.284)	0.198 (0.313)	0.094 (0.634)	0.065 (0.743)
someone in my family is getting infected	-0.175 (0.372)	0.113 (0.568)	0.068 (0.731)	-0.136 (0.491)
my colleague is getting infected	-0.131 (0.506)	-0.114 (0.563)	-0.265 (0.173)	-0.330 (0.087)
I infect others	-0.179 (0.363)	0.086 (0.663)	0.021 (0.915)	-0.233 (0.233)
Self-observed changes	CES-D	STAI-T	HADS-D	HADS-A
I had sleeping difficulties.	0.078 (0.693)	-0.123 (0.534)	0.120 (0.543)	0.048 (0.807)
I became more tired.	0.181 (0.366)	-0.062 (0.760)	0.261 (0.188)	0.261 (0.188)
I became irritated, tense.	0.114 (0.562)	-0.039 (0.845)	0.150 (0.446)	0.215 (0.272)
My behaviour towards others has changed.	0.401* (0.035)	0.137 (0.486)	0.256 (0.189)	0.364 (0.057)
I became impatient.	0.206 (0.293)	0.186 (0.344)	0.132 (0.503)	0.237 (0.224)
I was worried.	0.150 (0.447)	0.134 (0.498)	0.149 (0.450)	-0.046 (0.815)
My thoughts were constantly revolving around the coronavirus.	0.386* (0.042)	0.373 (0.051)	0.114 (0.564)	0.178 (0.365)

Factors influencing duties	CES-D	STAI-T	HADS-D	HADS-A
sleeping difficulties	0.147 (0.455)	-0.053 (0.788)	0.168 (0.392)	0.167 (0.395)
fatigue	0.214 (0.275)	0.141 (0.473)	0.149 (0.450)	0.286 (0.140)
irritation, tense	0.250 (0.200)	0.095 (0.629)	0.133 (0.501)	0.315 (0.103)
worries about my family	0.005 (0.980)	-0.072 (0.721)	0.071 (0.727)	-0.008 (0.969)
my thoughts constantly revolving around the virus	0.588** (0.001)	0.373 (0.055)	0.356 (0.068)	0.376 (0.053)
fear of getting infected	0.228 (0.242)	0.218 (0.265)	0.173 (0.380)	0.203 (0.300)

## Discussion

When this paper was written, new research results from the first COVID-19 wave were being published constantly; therefore, we can find more and more recent articles after only a few weeks that we could not include any more. At the same time, we could not find another study with police trainees on probation in Hungary. All the research showed a very mixed picture from different points of view – how strong was the coronavirus present at the time of research, in which phase were they in the first wave (ascending – culminating – decreasing) –, so that it was difficult to compare the results to each other.

Our findings show a remarkable difference compared to the study by Soloviev, Zehrnov & Ichitovkina (2020): in this study, there was no significant difference between males and females in terms of depression and anxiety, but female police trainees typically showed higher mean scores in these fields. Regarding the other aspects (irritation, fear of getting infected), we could observe reverse tendencies in our results as in the findings of the Russian study, but we found a much less significant difference. Furthermore, the mean age of the sample in the Russian study was higher than in ours. Also the Russian study examined only police officers in the capital, Moscow, while our research had a mixed sample in terms of probationary place. The police trainees in this study worked at different police stations, in different counties and in the capital, but not only in the capital. Meanwhile, the trends of our findings are similar to the results of Grover et al.'s (2020b) survey of Indian police officers.

Huang, Bodla & Chen (2020) found gender differences among Chinese police officers at the time of the first wave in their study on a representative sample. The

partial results of their study showed that the male officers typically scored higher than female officers did, thus male officers score worse, but the vast majority of these results were not significant. In the study of Yuan et al (2020), the male officers showed a higher rate of anxiety in Wuhu. These studies have similar results to the Russian studies, in contrast to our findings, which showed opposite tendencies.

As seen in the international research findings, the male officers showed worse scores of mental health indicators than the female police officers in several cases (among Chinese and Russian police officers), but the opposite results were also represented (among Indian police officers and in our sample). The discrepancy in these findings points to the possibility that a whole range of factors could affect the research results, such as the mean age of the sample, the cultural background and in some cases, it could also be the social appreciation of the police. At this point, these are only hypothesis - it would need further research to state these relations.

The research presented in this paper did not use a representative sample; in addition, we studied a specific group (police trainees). These were quite strong limitations of our research, but the results could be worth considering, and they could be a good basis for further research given that this study was done in the time of the first wave when the number of infected people in Hungary was low both in society and among police officers. As these lines were written, we were in the second part of the third wave of COVID-19, and the statistics were showing a significantly higher number of infected people and deaths in our country. Because of these factors, further research is necessary, especially as we have more and more information about the coronavirus and its long-term effects for the physical and mental health, and the presented study could be a basis for others.

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