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## Article

# Insights into Positive Mental Health Amid the Covid-19 Pandemic: Evidence from a Study in Croatia

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**Abstract:** *Objective:* The Covid-19 pandemic has raised significant concerns about public health, particularly in terms of mental well-being due to heightened fear and uncertainty. The findings of this study are based on a survey conducted to evaluate the mental health status of the general population in Croatia during the Covid-19 pandemic. *Methods:* A survey conducted randomly and cross-sectionally included 588 respondents from all 21 counties in Croatia. The survey gathered demographic data and assessed various factors related to pandemic response measures and mental health using the Mental Health Continuum-Short Form (MHC-SF) scale. *Results:* Despite feeling adequately informed about Covid-19 (76.0%), most respondents (60.8%) expressed concerns about their loved ones during the pandemic. There were significant numbers who felt there was no risk of infection (50.9%) or believed they would not get infected (40.2%), while 72.4% were content with government measures. Statistical analysis indicated that mental health was not significantly different between genders, but age-related differences were evident, with those under 21 experiencing the most distress. The lowest level of psychological and social well-being was observed in respondents who were unemployed. *Conclusions:* The study identifies vulnerable groups in the Croatian population during the pandemic, including younger individuals, those on parental leave, students, and the unemployed, who exhibited worse mental health. The importance of implementing targeted mental health interventions to support these vulnerable groups is highlighted by these findings.

**Keywords:** mental health; Covid-19; pandemic; fear; anxiety; Mental Health Continuum-Short Form

## 1. Introduction

The global Covid-19 pandemic has instilled widespread fear and uncertainty, profoundly altering societal norms and lifestyles, with consequential impacts on mental well-being. Research by Xiang et al. (2020) indicates that individuals subjected to quarantine experience a spectrum of adverse emotions including boredom, anger, and profound loneliness. Moreover, the initial phase of the SARS outbreak was associated with a multitude of psychological distresses such as depression, panic attacks, anxiety, suicidal tendencies, delirium, and psychotic symptoms [1]. Infectious diseases, exemplified by Covid-19, have been consistently linked to psychological distress and manifestations of mental illness [2]. Studies conducted in China by Wang et al. (2020) underscore the prevalence of depression, anxiety, and stress amidst the Covid-19 crisis. Furthermore, sleep disturbances have emerged as a pertinent concern [3], particularly among frontline healthcare workers who face heightened levels of trauma [4]. In response to these challenges, Banerjee (2020) advocates for comprehensive strategies encompassing public education on pandemic-induced psychological impacts, disease prevention, and health promotion. Central to Banerjee's discourse is the imperative integration of psychological and healthcare services, alongside the implementation of crisis intervention measures and the provision of mental health support [5]. Aligned with these recommendations, the Croatian Institute of Public Health has issued guidelines aimed at mitigating the adverse effects of anxiety and stress precipitated by the Covid-19 pandemic. These directives aim to equip professionals with the tools necessary to offer psychosocial support, bolstering resilience among both healthcare workers and the general populace [6]. As the pandemic underscores the critical intersection of public health and mental well-being, it is imperative for health systems to assimilate lessons learned and fortify preparedness for future crises. This study endeavors to

investigate the mental health landscape in Croatia, delineating vulnerable demographic groups within the populace. Through such research, insights can be gleaned to inform targeted interventions and policies aimed at safeguarding mental well-being amidst unprecedented societal challenges.

## 2. Methods

### 2.1. Study Design and Participants

The survey was distributed to the general populace via social media channels, ensuring representation from all 21 counties in Croatia. A total of 588 respondents participated in the study. Socio-demographic information of the participants was collected to provide contextual understanding. Mental health was assessed utilizing the Mental Health Continuum - Short Form (MHC-SF) - Mental Health Questionnaire developed by Lamers et al. (2011). This instrument comprises 14 items segregated into three subscales. The first subscale, comprised of three questions, evaluates emotional well-being (EWB). Social well-being (SWB) constitutes the subject of the second subscale, encompassing five items, while the third subscale focuses on psychological well-being, comprising six items [7]. Each item was assessed on a 6-point Likert scale ranging from 0 to 5, denoting frequencies from "never" to "every day" [7]. Scoring followed the guidelines stipulated in the MHC-SF protocol, with responses ranging from 0 (every day) to 5 (never). Composite scores were computed for emotional well-being (EWB: 1-18), social well-being (SWB: 1-30), and psychological well-being (PWB: 1-36) [7]. The validity of the MCH-SF scale was established through rigorous psychometric analysis, including the calculation of Cronbach's alpha reliability coefficient. In the Croatian context, the total MCH-SF scale demonstrated high internal consistency with a Cronbach's alpha coefficient of  $\alpha = 0.92$  [8].

### 2.2. Statistical Analyses

The analysis was conducted using IBM SPSS Statistics Version 25 for Mac OS, a widely utilized software package for statistical analysis. Descriptive statistics were employed to characterize the sample, encompassing weighted percentages and mean values across all variables. Given the non-normal distribution of the data, non-parametric statistical tests were selected to identify significant differences. Specifically, the  $\chi^2$ -test, Mann-Whitney U test, and Kruskal-Wallis H test were utilized for this purpose. Furthermore, the Spearman correlation coefficient was employed to elucidate the strength and direction of associations between variables. Significance levels were determined based on a threshold p-value of 0.05, adhering to conventional standards of statistical significance. This rigorous analytical approach ensures robustness and reliability in the interpretation of findings.

### 2.3. Ethical Consideration

The study was ethically approved by the University of Rijeka's ethics committee, ensuring compliance with the rigorous standards outlined in the Personal Data Protection Act of Croatia (Official Gazette 103/03–106/12) and the Act of Protection of Patients' Rights in Croatia (Official Gazette 169/04, 37/08). Additionally, adherence to the ethical principles delineated in the Declaration of Helsinki was meticulously observed throughout the research process. Prior to participation, all respondents were provided with comprehensive information regarding the aims and objectives of the study. Voluntary consent was explicitly obtained from each participant, who were assured of their autonomy to opt-in or opt-out without any coercion. Participation in the study was strictly voluntary, affirming the principles of ethical research conduct.

## 3. Results

The study uncovered insights from 588 respondents exclusively from Croatia, spanning across all 21 counties. Among the participants, 53 (9.1%) identified as male, while 527 (89.6%) identified as female. The average age of respondents was 37 years ( $SD = \pm 9.9$ ; Range 18–69 years). Regarding educational attainment, the majority held a high school degree ( $N=268$ , 46.1%), followed by bachelor's degrees ( $N=194$ , 33.4%), and master's degrees ( $N=114$ , 19.6%). In terms of employment status, 424

(78.1%) were employed, 96 (17.7%) were unemployed, and 10 (1.8%) were students. During the Covid-19 pandemic, 373 (71.7%) respondents maintained their employment, while 88 (16.9%) experienced unemployment, 36 (6.9%) were on paid leave, and 23 (4.4%) were on unpaid leave. Regarding sectors of employment, 208 respondents (40.2%) worked in the private sector, 123 (23.7%) in civil service, 101 (19.5%) in public service, and 86 (16.6%) identified with other categories, such as mothers with children, pregnant women, or students. The study also noted that 395 respondents (71.4%) had children, while 158 (28.6%) did not. During the pandemic, 337 respondents (60.8%) expressed concern for the well-being of their loved ones, while 173 (31.2%) did not report worry, and 44 (7.9%) were extremely worried. A majority of respondents demonstrated a solid grasp of the Covid-19 pandemic, with 421 (76.0%) feeling adequately informed, whereas 102 (18.4%) felt insufficiently informed, and 31 (5.6%) expressed a lack of interest in being informed. In terms of infection risk perceptions, 281 respondents (50.9%) did not perceive any risk, 222 (40.2%) believed they would not contract the virus, and 49 (8.9%) believed they would be infected. Satisfaction with government measures was expressed by 399 respondents (72.4%), while 152 (27.6%) expressed dissatisfaction. A significant impact of the Covid-19 pandemic on the future of the population was acknowledged by 435 respondents (78.7%), whereas 73 (13.2%) did not contemplate it, and 45 (8.1%) believed there would be no impact. In terms of mobility, 253 respondents (45.8%) reported leaving their homes daily for work, with 170 (30.8%) doing so several times a week, 61 (11.1%) once a week, and 16 (2.9%) not leaving home at all. In regard to conflict situations arising from quarantine during the pandemic, 295 respondents (60.0%) reported experiencing reactions similar to those before the pandemic, 103 (20.9%) reported less conflict, 64 (13.0%) reported increased conflict, while 30 (6.1%) respondents lived alone (Table 1). The statistical analyses were conducted utilizing the Mann-Whitney U test, Kruskal-Wallis H test, and Chi-square test. The results revealed no statistically significant difference between genders concerning the overall MHC-SF scale and its three subscales. However, notable disparities emerged across age groups. Specifically, individuals younger than 21 years appeared to experience the greatest impact during the Covid-19 pandemic, as evidenced by significant differences across all three scales (EWB:  $M=2.56$ ,  $SD=1.192$ ;  $p<0.05$ ; PWB:  $M=2.24$ ,  $SD=1.120$ ;  $p<0.05$ ; SWB:  $M=3.50$ ,  $SD=1.022$ ;  $p<0.05$ ; Total MCH-SF:  $M=2.76$ ,  $SD=0.863$ ;  $p<0.05$ ). Conversely, no significant differences were observed based on educational attainment. Regarding employment status, unemployed respondents exhibited the most pronounced effects on their psychological and social well-being, with significant differences found across all scales (PWB:  $M=1.57$ ,  $SD=1.184$ ;  $p<0.05$ ; SWB:  $M=2.87$ ,  $SD=1.203$ ;  $p<0.05$ ). Those on paid leave experienced impaired emotional well-being (EWB:  $M=1.76$ ,  $SD=1.494$ ;  $p<0.05$ ). Moreover, individuals categorized under 'Other,' such as mothers with children, pregnant women, and students, displayed a decreased overall score on the scale (Total MCH-SF:  $M=2.12$ ,  $SD=1.007$ ;  $p<0.05$ ). Additionally, individuals on paid leave exhibited a negative impact on social well-being (SWB:  $M=3.02$ ,  $SD=1.226$ ;  $p<0.05$ ) across all scales and employment statuses. Respondents without children exhibited greater emotional difficulty in coping with the Covid-19 pandemic and displayed a more negative overall scale score compared to those with children (EWB:  $M=1.61$ ,  $SD=1.206$ ;  $p<0.05$ ; Total MCH-SF:  $M=1.93$ ,  $SD=0.793$ ;  $p<0.05$ ). Furthermore, individuals with a high level of concern for the pandemic demonstrated the lowest levels of positive mental health and EWB ( $M=2.15$ ,  $SD=1.492$ ;  $p<0.05$ ; Total MCH-SF:  $M=2.10$ ,  $SD=1.098$ ;  $p<0.05$ ). Moreover, respondents who felt inadequately informed experienced the most significant negative impact across all three scales and the overall scale (EWB:  $M=1.56$ ,  $SD=1.118$ ;  $p<0.05$ ; PWB:  $M=1.58$ ,  $SD=1.212$ ;  $p<0.05$ ; SWB:  $M=2.86$ ,  $SD=1.233$ ;  $p<0.05$ ; Total MCH-SF:  $M=2.03$ ,  $SD=1.005$ ;  $p<0.05$ ), while those who did not desire to be informed exhibited the best mental health. Respondents who perceived a risk of themselves or their loved ones being infected with the Covid-19 virus demonstrated poorer EWB and SWB, as well as a lower overall score on the scale (Total MCH-SF:  $M=2.18$ ,  $SD=1.075$ ;  $p<0.05$ ). Moreover, respondents who believed that the Government of the Republic of Croatia did not implement effective measures during the pandemic exhibited impaired PWB and SWB (PWB:  $M=1.48$ ,  $SD=1.173$ ; SWB:  $M=2.89$ ,  $SD=1.188$ ;  $p<0.05$ ). Furthermore, those who anticipated consequences for the population due to the pandemic showed reduced EWB ( $M=1.42$ ,  $SD=1.193$ ;  $p<0.05$ ). Additionally, respondents who did not leave their homes at all during the pandemic

exhibited the worst scores on all three scales and the overall scale (EWB:  $M=2.38$ ,  $SD=1.431$ ; PWB:  $M=2.60$ ,  $SD=1.417$ ; SWB:  $M=3.57$ ,  $SD=1.179$ ; Total MCH-SF:  $M=2.90$ ,  $SD=1.214$ ;  $p<0.05$ ), while those who left their homes daily for work showed the best positive mental health. Moreover, respondents who frequently experienced conflict situations with family members exhibited negative mental health across all three scales and the overall scale (EWB:  $M=2.23$ ,  $SD=1.384$ ; PWB:  $M=1.82$ ,  $SD=1.202$ ; SWB:  $M=3.03$ ,  $SD=1.264$ ; Total MCH-SF:  $M=2.34$ ,  $SD=1.093$ ;  $p<0.05$ ) (Table 2). Spearman correlation analysis was employed to explore the relationship between participant characteristics and their Mental Health Continuum results. Weak positive correlations were observed between participants' employment status, parental status, level of information about Covid-19, perceptions of the effectiveness of government measures, and their Mental Health Continuum scores, all of which were statistically significant ( $r_s= 0.163$ ,  $p = .000$ ;  $r_s= 0.152$ ,  $p = .001$ ;  $r_s= 0.116$ ,  $p = .010$ ;  $r_s= 0.176$ ,  $p = .000$ ; respectively). Additionally, weak negative correlations were found between participants' concerns about their loved ones being infected, their perceptions of the pandemic's future impact on the population, and their Mental Health Continuum scores, which were also statistically significant ( $r_s= -0.123$ ,  $p = .000$ ;  $r_s= -0.108$ ,  $p = .017$ ; respectively) (Table 3). Furthermore, factor analysis was conducted to analyze the Mental Health Continuum scale and its three subscales. The Cronbach's alpha values were as follows: for emotional well-being  $\alpha=0.870$ , for psychological well-being  $\alpha=0.834$ , for social well-being  $\alpha=0.846$ , and for the total Mental Health Continuum scale  $\alpha=0.909$ . These values exceeded the commonly accepted threshold for internal consistency reliability (usually 0.70), indicating high reliability (Table 4).

**Table 1.** Sociodemographic data of the participants.

Variables n = 588	N	%
Gender		
Male	53	9.1
Female	527	89.6
Age		
<21	12	2.5
21 to 31	156	32.5
32 to 41	167	34.8
42 to 51	101	21.0
52 to 61	35	7.3
62>	9	1.9
Level of education		
Primary school	5	0.9
High School	268	46.1
Bachelor degree	194	33.4
University degree	114	19.6
Are you employed?		
Yes	424	78.1
No	96	17.7
Student	10	1.8
Retired	7	1.3
Maternity leave	6	1.1
How has the situation with the Covid-19 pandemic affected your employment status?		
I do not work	88	16.9
I still have a job	373	71.7
I am currently on paid leave	36	6.9
I am currently on unpaid leave	23	4.4
Employment		
Civil service	123	23.7

Public sector	101	19.5
Private sector	208	40.2
Other	86	16.6
Do you have children?		
Yes	395	71.4
No	158	28.6
How worried are you about the Covid-19 pandemic?		
I am very worried	44	7.9
I am worried about my loved ones	337	60.8
I am not worried at all	173	31.2
Do you think you are sufficiently informed about the Covid-19 pandemic?		
Yes	421	76.0
No	102	18.4
I do not want to be informed	31	5.6
Do you think that you or your loved ones will become infected with the Covid-19 virus?		
Yes	49	8.9
No	222	40.2
I am not thinking about it	281	50.9
Do you think that the implemented measures of the Government of the Republic of Croatia are good enough to combat the Covid-19 pandemic?		
Yes	399	72.4
No	152	27.6
Do you think that the pandemic will affect the life of the population in the future?		
Yes	435	78.7
No	45	8.1
I am not thinking about it	73	13.2
How often do you leave your home?		
Every day for work	253	45.8
Several times a week	170	30.8
Once a week	61	11.1
I do not go out at all	16	2.9
Other	52	9.4
Do you get into conflict situations with family members more than before?		
More often	64	13.0
Equally	295	60.0
Rarely	103	20.9
I live alone	30	6.1

**Table 2.** Characteristics of the participants regarding three subscales of the MHC-SF scale—Descriptive Statistics.

Variable	Emotional well-being			Psychological well-being			Social well-being			well-being MHC-SF scale		
	Mean	SD	Test/p	Mean	SD	Test/p	Mean	SD	Test/p	Mean	SD	Test/p
Gender				9.339.			10017.			9779.		
Male	1.28	00/	1.36	00/	2.40	00/	1.71					

Female	1.38	1.20	0.336	1.28	1.11	0.831	2.46	1.11	0.635	1.72	1.02	9764.
	4				3			5		2	00/	
	1.14				1.00			1.24		0.95	0.642	
	1				7			2		3		
Age groups												
	1.19				1.12			1.02		0.86		
	2				0			2		3		
	1.00				0.96			1.21		0.90		
<21	2.56	7		2.24	1		3.50	4		2.76	4	
21 to 31	1.18	1.05	31.011	1.31	1.05	11.516	2.32	1.26	11.19	1.64	0.96	14.88
32 to 41	1.17	4	/	1.23	4	/	2.50	1	7/	1.67	9	3/
42 to 51	1.67	1.26	0.000	1.25	0.92	0.042	2.48	1.13	0.048	1.78	0.90	0.011
52 to 61	1.64	0		1.25	4		2.29	0		1.70	3	
62 >	1.96	1.21		1.50	1.09		2.60	1.29		1.99	1.04	
	1				8			2		5		
	1.33				1.62			1.27		1.34		
	8				9			3		8		
Level of education												
	0.81				0.97			1.21		0.85		
	6				5			5		0		
Primary school	1.33	1.16	0.547/	0.54	1.00	4.945/	1.45	1.23	5.698/	1.04	0.93	5.467
Secondary school	1.39	8	0.908	1.33	6	0.176	2.54	2	0.127	1.78	5	/
Bachelor degree	1.36	1.09		1.30	0.99		2.49	1.22		1.74	0.93	0.141
University degree	1.32	2		1.21	3		2.24	1		1.60	6	
	1.21				1.08			1.21		1.02		
	2				2			7		8		
Are you employed?												
	1.12				0.94			1.21		0.92		
Yes	1.31	5	29.673	1.21	1	103.63	2.31	4	69.20	1.62	4	146.1
No	1.56	1.13	/	1.57	1.18	9/	2.87	1.20	1/	2.01	0.99	58/
Other	1.72	3	0.483	1.46	4	0.000	2.85	3	0.037	2.01	4	0.130
	1.29				1.18			1.24		1.05		
	6				6			0		1		
How has the situation with the Covid-19 pandemic affected your employment status?												
	1.07				0.91			1.20		0.89		
	3				7			3		1		
I still have a job	1.24	1.49	13.717/	1.18	1.29	7.646/	2.24	1.19	32.16	1.57	1.19	21.47
I am currently on paid leave	1.76	4	0.003	1.36	2	0.054	2.81	8	1/	1.96	3	4/
I am currently on unpaid leave	1.28	0.98		1.38	1.08		3.02	1.22	0.000	1.95	0.89	0.000
Other	1.73	1		1.60	6		2.98	6		2.12	7	
	1.20				1.20			1.12		1.00		
	8				0			9		7		
Employment												
	1.12				0.88			1.10		0.86		
	9				8			0		7		
Civil service	1.38	1.26	11.150	1.18	1.13	3.139/	2.17	1.15	12.99	1.58	1.02	7.929
Public sector	1.55	5	/	1.35	4	0.371	2.43	3	6/	1.78	9	/
Private sector	1.15	1.02	0.011	1.18	0.89		2.40	1.27	0.005	1.61	0.88	0.048
Other	1.63	7		1.53	5		2.84	8		2.02	2	
	1.24				1.24			1.29		1.10		
	7				4			0		8		

Do you have children?	1.10	27.119	0.98	33.885	1.24	35.29	0.94	67.35
Yes	1.26	2 /	1.18	3 /	2.39	7 8/	1.63	3 0/
No	1.61	1.20 0.028	1.55	1.05 0.243	2.58	1.20 0.083	1.93	0.97 0.002
	6		6		4		3	
How worried are you about the Covid-19 pandemic?	1.49		1.29		1.19		1.09	
I am very worried	2.15	2 24.586	1.60	0 4.527/	2.67	8 1.854/	2.10	8 6.585
I am worried about my loved ones	1.40	1.07 / 0.000	1.29	0.94 0.104	2.40	1.16 0.396	1.71	0.89 / 0.037
I am not worried at all	1.09	1.07	1.20	8 2.48	6	1.37	1.63	9 1.02
	0		1		2		1	
Do you think you are sufficiently informed about the Covid-19 pandemic?	1.11		0.94		1.20		0.93	
Yes	1.34	8 5.974/	1.22	9 6.006/	2.35	8 3/	1.65	0 11.73 6/
No	1.56	1.23 0.050	1.58	1.21 0.050	2.86	1.23 0.002	2.03	1.00 0.003 5
I do not want to be informed	0.99	1.04	1.28	2 1.11	2.31	3 1.22	1.59	1.01
	3		7		8		9	
Do you think that you or your loved ones will become infected with the Covid-19 virus?	1.47	0 13.555	1.34		1.12		1.07	
Yes	1.96	1.11 /	1.66	5 3.282/	2.93	4 7.958/	2.18	5 5/
No	1.21	5 0.001	1.28	0.95 0.194	2.45	1.24 0.019	1.73	5 0.005
I am not thinking about it	1.06		1.23	1 0.99	2.36	5 1.23	1.63	0.93
	7		3		3		9	
Do you think that the implemented measures of the Government of the Republic of Croatia are good enough to combat the Covid-19 pandemic?	21.272		47.291		52.11		76.29	
Yes	1.03	/	0.92	/	1.20	5/	0.89	0/
No	1.27	3 0.128	1.21	3 0.017	2.27	6 0.001	1.60	6 0.121
	1.58	1.33	1.48	1.17	2.89	1.18	2.00	1.02
	2		3		8		2	
Do you think that the pandemic will affect the life of the population in the future?	1.13		1.03		1.20		0.95	
Yes	1.42	9 9.050/	1.34	7 4.355/	2.51	8 3.996/	1.77	6 /
No	1.33	1.24 0.011	1.15	0.75 0.113	2.25	1.17 0.136	1.58	0.88 0.054
I am not thinking about it	1.04	8	1.12	0 1.04	2.19	9 1.36	1.49	0 0.99
	1.04		1.04		2.19	9 1.36	1.49	0 0.99
	9		6		9		7	

How often do you leave your home?	1	1.10	2	0.85	2	1.16	5	0.85
Every day for work	1.29	1.11	7	12.624	1.19	1.11	2.23	1.27
Several times a week	1.34	/	1.21	1.33	0	16.697	2.60	1.59
Once a week	1.61	7	0.013	1.39	6	0.002	2.69	1.79
I do not go out at all	2.38	1.43		2.60	1.41		3.57	1.90
Other	1.23			1.17			2.43	1.90
		1		7			9	3
		1.10		1.08			1.30	0.001
		1		3			2	1.21
								4
								1.63
								1.02
								0

  

Do you get into conflict situations with family members more than before?	1.38	4	1.20	2	1.26	4	1.09	3
More often	2.23	0.98	44.212	1.82	0.94	23.374	3.03	20.37
Equally	1.24	5	/	1.26	9	/	1.22	2.34
Rarely	1.05	1.06	0.000	1.01	0.92	0.000	2.42	0.89
I live alone	1.80	6		1.38	3		2.14	31.33
	1.24			1.16			1.14	4/
	4			8			5	0.000
								1.42
								0.84
								1.86
								7

Note: Test value - Mann-Whitney U test; Kruskal Wallis H test; Chi-Square Tests; SD – standard deviation; p value = statistical significance.

**Table 3.** Relationship between variables and MHC-SF - Spearman correlation.

Variable		mhc	ewb	swb	pwb
Are you employed?	<i>r<sub>s</sub></i>	0.163**	0.092*	0.193**	0.107*
	<i>p</i>	0.000	0.041	0.000	0.017
Do you have children?	<i>r<sub>s</sub></i>	0.152**	0.141**	0.065	0.170**
	<i>p</i>	0.001	0.002	0.152	0.000
Do you think you are sufficiently informed about the Covid-19 pandemic?	<i>r<sub>s</sub></i>	0.116*	0.008	0.122**	0.089*
	<i>p</i>	0.010	0.852	0.007	0.047
Do you think that you or your loved ones will become infected with the Covid-19 virus?	<i>r<sub>s</sub></i>	-0.123**	-0.159	-0.098*	-0.075
	<i>p</i>	0.000	0.000	0.029	0.097
Do you think that the implemented measures of the Government of the Republic of Croatia are good enough to combat the Covid-19 pandemic?	<i>r<sub>s</sub></i>	0.176**	0.083	0.222**	0.090*
	<i>p</i>	0.000	0.067	0.000	0.046
Do you think that the pandemic will affect the life of the population in the future?	<i>r<sub>s</sub></i>	-0.108	-0.129**	-0.090*	-0.090*
	<i>p</i>	0.017	0.004	0.046	0.046

Note: \*Correlation is significant at the 0.05 level; \*\*Correlation is significant at the 0.01 level; p – p value; *r<sub>s</sub>* - Spearman correlation coefficient, mhc - Mental Health Continuum; ewb - emotional well-being; swb - social well-being; pwb - psychological well-being.

**Table 4.** Item sum scores and Cronbach's alpha reliabilities for the MHC-SF and the subscales.

Subscale	Min	Max	Mean	SD	No. of items	Cronbach's $\alpha$
Emotional Well-Being	3	18	13.93	3.427	3	0.870

Psychological Well-Being	5	30	17.75	6.243	5	0.834
Social Well-Being	6	36	28.36	6.079	6	0.846
<i>Total MHC-SF</i>	14	84	59.93	13.655	14	0.909

#### 4. Discussion

The aim of this study was to evaluate how Croatia's population managed the challenges posed by the Covid-19 pandemic in terms of positive mental health. Despite previous comparative studies suggesting that women typically exhibit greater concern and susceptibility to anxiety during crises [1], our findings indicate no statistically significant difference in positive mental health between men and women. Furthermore, our research revealed that younger respondents, particularly those under 21, exhibited the lowest scores on the positive mental health scale. This observation resonates with studies conducted in China, which propose that younger individuals, often more exposed to technology and extensive news coverage related to the pandemic, may experience heightened stress levels, thereby impacting their positive mental health [9]. Lockdown measures may have a disproportionately higher impact on the younger population due to their limited ability to socialize with peers. The long-term effects of the pandemic on mental health and education levels remain uncertain. Unemployed individuals or those on unpaid leave were found to experience a more negative impact on their mental health, encompassing both psychological well-being and social well-being. This could be attributed to factors such as job loss, reduced social interactions, limited educational opportunities, recreational constraints, and diminished freedom as they spend more time at home. Research suggests that certain measures implemented to combat the pandemic may disproportionately affect vulnerable groups, such as the unemployed [10]. Within this study, the "Other" group, consisting of mothers with children, pregnant women, and students, emerges as particularly susceptible to mental health challenges induced by the pandemic. Huang et al. (2020) highlighted concerns regarding the high prevalence of depressive symptoms and limited access to mental health services among these demographics. Additionally, the pandemic's impact on mothers and newborns has been noted to exacerbate stress and anxiety [11], while potential discrimination against Chinese students abroad may contribute to anxiety and stress-related disorders [12]. Contrary to the belief that having children is a risk factor for heightened concern during the COVID-19 pandemic, respondents without children exhibit poorer mental health compared to those with children. This contradicts previous assumptions, as respondents with children emerge as the most vulnerable group for heightened concern during the pandemic, despite neither women nor their children being at particular risk [13]. Moreover, social isolation and loneliness exacerbate poor mental health outcomes, with strong associations observed with anxiety, depression, self-harm, and suicide attempts [14]. The correlation between insufficient knowledge among respondents and poorer mental health is also notable. Comparative research suggests that anxiety levels can increase during a pandemic outbreak, particularly if the media provides inaccurate or excessive information. Distrust of public authorities due to the perception of inadequate government measures in Croatia can further deteriorate mental health among respondents. Respondents who are confined to their homes and refrain from going out altogether exhibit the worst mental health outcomes. This is concerning as impaired mental health is a major risk factor due to the expected consequences of quarantine and its related social and physical isolation. Psychosocial hazards include suicide and self-harm, substance abuse (such as alcohol and drugs), gambling, domestic violence, and child abuse [15]. Our findings elucidate the correlation between mental health and the frequency of conflict situations experienced during quarantine. Additionally, individuals who are employed and have children tend to exhibit positive mental health outcomes. Conversely, those who harbor fears of contracting the COVID-19 virus, either for themselves or their loved ones, often experience negative mental health or heightened anxiety. Moreover, Japanese researchers have underscored the economic repercussions of the COVID-19 pandemic, which significantly impact well-being. Economic insecurity may prompt the general population to hoard essential supplies, thereby exacerbating levels of fear and panic behavior [16].

## 5. Conclusions

The overall well-being of individuals and the functioning of society are intricately linked to the mental health of the population. This research illuminates crucial factors influencing the positive mental health of Croatia's population during the COVID-19 pandemic. Understanding these factors is paramount for effectively addressing the mental health needs of the population, particularly during times of crisis. The findings underscore that certain demographic groups, such as young people and mothers on maternity leave, are more vulnerable to the negative impacts of the pandemic on mental health. Additionally, individuals who experience excessive worry or refrain from leaving their homes are significantly affected. These insights emphasize the importance of targeted support and intervention strategies tailored to the specific needs of these vulnerable groups. Furthermore, the study highlights the necessity of continued investigation into the correlation between demographic characteristics and the impact of the Covid-19 pandemic. The dearth of research in this area underscores the need for further exploration to enhance our understanding of the factors influencing mental health outcomes during a pandemic. Importantly, the study underscores the significance of accurate and factual information dissemination in mitigating fear and panic among the population. A comprehensive approach to promoting mental well-being during crises necessitates supporting vulnerable groups, preserving jobs, and maintaining economic stability.

Policymakers and healthcare professionals play a pivotal role in providing resources and support to the population to uphold positive mental health in the face of adversity.

## 6. Limitations of the Study

The research conducted with a sample of 588 respondents represents only 0.03% of the active population of the Republic of Croatia, underscoring the need for further investigation in this area to attain more comprehensive insights. It's important to note that not all respondents answered all the questions, which is another limitation of this study. Additionally, the study primarily engaged a younger population that is more likely to utilize social networks and participate in online surveys.

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