Original scientific paper
Received: 06 March 2024
Accepted: 12 June 2024
UDC: 343.81-052:159.913
DOI: *https://doi.org/10.31299/ksi.32.1.2*

COPING WITH STRESS AND MENTAL HEALTH OF PRISONERS

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ABSTRACT

Prison is a high stress environment where an individual's mental health can be seriously affected (Mansoor et al., 2015). The way prisoners cope with stress is an important factor in examining the impact of the prison environment on their mental health (Gullone et al., 2000). The aim of this study is to examine the relationship between prisoners' coping strategies and their mental health within the framework of the health theory of coping (Stallman, 2020). The study was conducted on a sample of N=125 male prisoners who were in the Diagnostic Department of the Diagnostic Centre in Zagreb (M=40.08; SD=11.97). The Multidimensional Coping Scale (Duhachek, 2005) and DASS-21 (Lovibond & Lovibond, 1995) were used. Participants were also asked to rate the intensity of emotions they had experienced in the past week. The results show that only unhealthy coping strategies make a significant contribution to explaining prisoners' anxiety, while both healthy and unhealthy coping strategies contribute to explaining prisoners' depression. The results do not confirm the premise of the theory that the frequency of using stress coping strategies is negatively associated with the intensity of experiencing unpleasant emotions. The results are discussed in relation to the theoretical framework and their practical applicability.

Keywords: coping strategies, anxiety, depression, emotions, prisoners

INTRODUCTION

A lack of adequate life skills is considered to be one of the factors that can encourage criminal behaviour (Lipsey & Cullen, 2007; Simpson & Knight, 2007). People who do not have sufficiently developed life skills have a higher risk of engaging in risky and/or criminal behaviour and, consequently, a higher risk of being convicted of a criminal offence (Pat et al., 2023). Accordingly, prisoners often have poorly developed socio-emotional skills (Granados et al., 2023), which manifest themselves in impulsive reactions (Adhiatma & Halim, 2016; Papalia et al., 2019), low frustration tolerance (Cuervo et al., 2015; Duran et al., 2017), lack of emotional control (Choi et al., 2024; Laws & Crewe, 2016) and difficulties in developing abstract thinking (Granados et al., 2023). Similarly, prisoners are characterised by inadequate identification and problem solving (Adhiatma & Halim,

2016) and a lack of social skills necessary to deal with difficulties in the prison environment (Bucklen & Zajac, 2009; Papalia et al., 2019; Spence, 1981), where high levels of stress are typical (Van Harreveld et al., 2007). Prisons are indeed restrictive and depriving environments, and imprisonment itself inevitably affects all aspects of the prisoner's life (Granados et al., 2023). The loss of daily habits and routines and the lack of contact with loved ones as a result of incarceration can significantly affect the already fragile resources of people serving a prison sentence (Granados et al., 2023).

Given the lack of these resources, i.e. social and emotional skills and competences, it is assumed that prisoners as a population are generally less able to cope adequately with the stressful circumstances of the prison environment (Gullone et al., 2000). It is important to consider that coping strategies in prison are limited (Brown & Ireland, 2006; Leszko et al., 2020), which is mainly due to the fact that such facilities are characterised by reduced opportunities to influence and control situations (Farkaš & Žakman-Ban, 2006).

In addition to individual characteristics, certain factors can potentially influence prisoners' choice of coping strategies, while the nature of stressful situations in the prison environment is not a particularly strong feature for the choice and use of certain coping styles (Buško & Kulenović, 1995). The time spent in prison can influence how prisoners try to cope with a stressful situation (Brown & Ireland, 2006). In other words, the amount of time they are exposed to a stressor is one of the variables that leads to changes in the use of coping strategies (Mohino et al., 2004). Prisoners serving longer sentences use more emotion-oriented strategies than prisoners serving shorter sentences (Reed et al., 2009). This is because prisoners try to deal directly with the source of stress at the beginning of their prison stay and use more problem-oriented strategies, whereas the longer they are in prison, the more emotion-oriented strategies they use (Reed et al., 2009). This is because when a person believes that their actions will not affect the cause of the problem, they focus on emotions (Folkman, 1984). Furthermore, Mohino et al. (2004) found in their study that there are major differences between the two strategies in relation to time in prison, namely emotional discharge, and positive reappraisal. In the first few months of their stay in prison, prisoners tend to use the emotional discharge strategy. Over time, the expression of uncontrolled emotions in stressful situations decreases. The positive reappraisal strategy was used less in the first few months than during the rest of the time in prison (Mohino et al., 2004). In addition, certain differences in the use of certain coping strategies among prisoners can be recognised depending on the security level of the facility. The research findings of Reed et al. (2009) showed that prisoners in open-type prisons most frequently use emotion-oriented strategies in the form of distancing, self-control, and the search for social support. In contrast, prisoners in closed-type prisons tend to use problem-oriented strategies in the form of planned solutions to the cause of the problem (Reed et al., 2009). The difference in the use of coping strategies has also been observed in relation to prior experience of serving a prison sentence. Compared to recidivists, first-time offenders are more likely to use the strategy of seeking alternative rewards which refers to involvement in new activities and searching for sources of satisfaction (e.g. reading more often as a source of enjoyment) (Mohino et al., 2004).

In general, prisoners most often try to deal with a given stressful situation through direct action, i.e. by taking concrete action, while rarely focusing on emotions (Buško & Kulenović, 1995). Mohino et al. (2004) reached a similar conclusion in their study, the results of which indicate that prisoners prefer action, i.e. confrontation with the problem. On the other hand, the prisoners tend to

use help-seeking strategy and support strategy the least. It was also found that the younger prisoners in the sample used cognitive strategies more frequently than behaviour-oriented strategies (Mohino et al., 2004).

Coping strategies are a significant factor in the impact of the prison environment on the mental health of incarcerated individuals (Gullone et al., 2000) and they are related to stressful life events and general psychological well-being (Maschi et al., 2014). It should be noted that prisoners have a significantly higher rate of mental health problems compared to the general population (Bedaso et al., 2020; Birmingham, 2003; Fazel & Danesh, 2002). Individuals serving a prison sentence have a significantly lower subjective quality of life and lower self-esteem than members of the general population (Gullone et al., 2000). Compared to the general population, a higher rate of self-harm and suicide has been found among prisoners (Borschmann et al., 2017; Fazel et al., 2016; Hawton et al., 2014). Accordingly, the potential risk of suicide among male prisoners is three to six times higher than the same risk in the general population (Fazel et al., 2016). Rates of anxiety and depression are significantly higher in the prison population than in the general population (Cooper & Livingston, 1991; Gullone et al., 2000). Depression is, in particular, one of the most widespread mental health problems among prisoners (Reingle Gonzalez & Connell, 2014). The results of a meta-analysis based on 109 studies from 24 countries and a sample of 33,588 prisoners show that one in seven prisoners was diagnosed with depression (Fazel & Seewald, 2012). Another meta-analysis conducted on a slightly smaller sample of prisoners showed that depression occurs in 10% of male prisoners, whereas the prevalence in the general population ranges from 2% to 4% (Fazel & Danesh, 2002). In addition to depression, a high prevalence of mania, anxiety and PTSD was also found in prisoners (Reingle Gonzalez & Connell, 2014; Osasona & Koleoso, 2015).

Research on the relationship between different stress-coping strategies and the mental health of prisoners has led to contradictory results. Ireland's study (2001) found that the use of emotion-oriented strategies over a certain period contributed to lower levels of depression among prisoners, whereas problem-oriented strategies did not have the same effect. This is supported by the results of the study by Van Harreveld et al. (2007) who found that prisoners who used active emotion-oriented coping strategies fared better than prisoners who tried to keep negative feelings to themselves. However, the results of the study by Gullone et al. (2000) indicate a positive correlation between emotion-oriented strategies and depression and anxiety, and a negative correlation between these strategies and self-esteem. On the other hand, a negative correlation was found between depression, anxiety, and problem-oriented coping (Gullone et al., 2000) and refraining from certain actions until the problem was analysed and an appropriate solution was found (Negy et al., 1997). The use of problem-oriented coping strategies is also associated with higher self-esteem (Gullone et al., 2000). In addition, prisoners who used a greater number of coping strategies for stressful and challenging situations showed lower levels of depression and anxiety, and higher self-esteem, indicating better adaptation to the prison environment (Negy et al., 1997).

In addition, research suggests that avoidance-based coping, denial of problems (De Castella et al., 2017; Gillanders et al., 2015) and abstinence from any activity (Negy et al., 1997) are associated with mental health problems, especially increased levels of psychological stress. On the other hand, a correlation was found between lower levels of depression and anxiety and higher levels of self-esteem for the more frequent use of strategies related to reconsidering the problematic situ-

ation, accepting the reality of the stressful event, and turning to religion (Negy et al., 1997). Similarly, Van Harreveld et al. (2007) indicate that prisoners who use coping strategies aimed at social support in stressful situations have a better mood, better mental health, and better psychological well-being. Furthermore, research has shown that focussing on the positive aspects, i.e. positive thinking, helps prisoners to cope with stressful situations and thus contributes to better psychological functioning of the person as well as to the reduction of mental health problems (Shulman & Cauffman, 2011; Van Harreveld et al., 2007). A positive view of the situation can help reduce psychological stress in a way that makes it easier to cope with the emotional reactions associated with being in a prison environment (Lazarus & Folkman, 2004). Focusing on the positive aspects of a particular stressful situation, accepting a prison stay, and discussing difficulties and problems with others in a correctional facility are strategies that contribute to a lower intensity of mental health concerns and psychological stress of individuals serving a prison sentence (Shulman & Cauffman, 2011; Van Harreveld et al., 2007).

From all that has been said so far, it can be concluded that there are different categorisations of coping strategies, of which the most common are: (1) problem-solving and emotion-oriented strategies (Folkman & Lazarus, 1980); (2) action-oriented versus avoidance strategies (Roth & Cohen, 1986); and (3) cognitive versus behavioural coping strategies (Skinner et al., 2003). Due to the need for theories that better capture hierarchical action systems, exhibit functional homogeneity and specificity, and are linked to adaptive processes, Stallman (2020) proposed the categorisation of coping strategies into healthy and unhealthy types within the new theoretical framework of the health theory of coping. According to this theory, coping represents cognitive and behavioural responses, and coping strategies are categorised as healthy or unhealthy depending on how detrimental they are to the person's overall health (Stallman, 2018). Strategies in both categories, regardless of emotional intensity, reduce unpleasant emotions such as sadness, anger, or fear (Stallman, 2020), which often occur as a reaction of the organism to the effect of a stressor (Šupe et al., 2011). The way a person tends to deal with negative emotions is important because certain negative emotions, such as sadness and anxiety, are associated with various psychological and physical problems (Van Harreveld et al., 2007). According to this theory, the use of unhealthy strategies is likely to have negative consequences on an individual's mental health, even though they reduce unpleasant emotions (Stallman et al., 2020). This view is supported by Van Harreveld et al. (2007), whose research indicated that active coping strategies reduce unpleasant emotions more effectively than passive strategies. More specifically, the results showed that prisoners who resort to avoidant coping strategies in stressful situations, for example preferring to remain alone, experience more unpleasant emotions than those who then use active coping strategies, such as talking to others or viewing the stressful situation in a positive light (Van Harreveld et al., 2007).

In line with the aforementioned categorisation, Stallman (2017) developed the Coping Index to examine stress coping strategies. Some of the items such as "I drink alcohol", "I stop doing activities that I normally enjoy" and others are not applicable in the context of serving a prison sentence. Therefore, the Multidimensional Coping Scale, (Duhachek, 2005) which can be used to distinguish healthy from unhealthy coping strategies in a similar way, was used for the purposes of this study. Previous studies have found a link between avoidance and impaired mental health (Boals et al., 2011; Koopman et al., 2003; Taylor & Stanton, 2007), as well as between avoidance and negative

mood (Billings et al., 2000; Martinac Dorčić, 2002). The use of denial as a strategy is also associated with poor mental health, specifically higher levels of depression and anxiety (Negy et al., 1997). In addition, maladaptive/unhealthy coping can potentially contribute to the development of physical and mental disorders (Šakotić-Kurbalija et al., 2016). People who use active coping strategies, which, according to Duhachek (2005), include action, rational and positive thinking, emotional and instrumental support, and emotional venting, have a higher overall quality of life than those using passive coping strategies (Skowroński & Talik, 2018). Similarly, adaptive/healthy coping strategies in stressful situations can improve an individual's emotional regulation and mental health (Cook et al., 2015). Based on the above findings, we categorised avoidance and denial as unhealthy coping strategies, while action, rational thinking, emotional support, instrumental support, emotional venting, and positive thinking are categorised as healthy strategies.

Current study

As evident from the review of previous studies on the relationship between coping strategies and the mental health of prisoners, the results of these studies are inconclusive. For example, more frequent use of emotion-oriented strategies is positively associated with anxiety and depression (Ireland, 2001). However, some studies have found a negative association (Gullone et al., 2000). In Croatia, there is a lack of contemporary research that examines the relationship between coping strategies and the mental health of prisoners. Since previous classifications of coping strategies for stress have the aforementioned shortcomings, the contribution of this study lies in the selection of a new categorisation proposed by Stallman (2020). Thus, this research also contributes to the empirical verification of the health theory of coping.

The aim of this study was to investigate the relationship between coping strategies and mental health in prisoners within the framework of the health theory of coping (Stallman, 2020). In line with the premises of the health theory of coping, we hypothesised that the frequency of using stress coping strategies, whether healthy or unhealthy, would be negatively associated with the intensity of experiencing unpleasant emotions such as sadness and fear (Hypothesis 1). According to the health theory of coping, healthy coping strategies contribute to better mental health, whereas unhealthy strategies contribute to poorer mental health. Consistent with the theory, the effect of coping strategies on mental health should be significant regardless of the effects that coping strategies have on experienced stress intensity and unpleasant emotions, that is, regardless of the relationship between individual coping strategies on the one hand and the intensity of experienced stress or unpleasant emotions on the other. Therefore, we hypothesised that healthy coping strategies such as action, rational and positive thinking, emotional and instrumental support, and emotional venting would contribute significantly to the explanation of anxiety and depression in prisoners, as a higher frequency of using these strategies is negatively associated with depression and anxiety (Hypothesis 2). Regarding unhealthy coping strategies such as avoidance and denial, we hypothesised that the frequency of their use would contribute significantly to the explanation of anxiety and depression, but in the opposite direction, such that a higher frequency of use of unhealthy strategies would be associated with lower levels of anxiety and depression (Hypothesis 3).

METHOD

Participants

All male prisoners (N = 134) who were in the Diagnostic Department of the Diagnostic Centre in Zagreb during July 2023, i.e. at the time of data collection, participated in the study. Prisoners sentenced to longer than 6 months were sent to the Diagnostic Centre for comprehensive administrative and diagnostic assessment. Therefore, only prisoners who had been sentenced to more than six months in prison and who had just started their prison sentence during the study period participated in the study. Only the data of N = 125 prisoners were analysed in this study, as one respondent declined to complete the questionnaire and eight questionnaires were excluded from further analysis. These excluded questionnaires were completed only partially, or respondents gave the same answers for all items in the questionnaire. The age range of the participants whose questionnaires were included in the analysis ranges from 20 to 71 years, with an average age of M = 40.08 years (SD = 11.97).

Instruments

The use of stress coping strategies among prisoners was examined using the Multidimensional Coping Scale (Duhachek, 2005). The scale consists of 36 items that describe possible reactions that can occur as a result of a stressful event. The scale also consists of eight dimensions: action, rational thinking, emotional support, instrumental support, emotional venting, avoidance, positive thinking, and denial. Avoidance and denial are categorised as maladaptive/unhealthy coping strategies, while the remaining categories were referred to as adaptive/healthy strategies for coping with stress. Participants indicated their responses for each statement on a 4-point Likert scale, where 0 means "I don't work most of the time" and 3 means "I work most of the time". The total score for each category was calculated as the average of the responses to particles belonging to that category. A higher score indicates that a particular coping strategy is used more frequently. The statistically satisfactory reliability of the scale in this study is confirmed by the Cronbach's alpha coefficient, which is highest for the action category (α=.86) and lowest for emotional venting (α=.70). For the avoidance and positive thinking categories, the Cronbach's alpha coefficient is α=.81, for emotional support and denial α=.75, for rational thinking α=.73, while for the instrumental support category it is α=.71.

The Depression, Anxiety, and Stress Scale – 21 items (Lovibond & Lovibond, 1995), was used to assess the mental health of prisoners. The scale consists of three self-report subscales designed to measure the emotional states of depression, anxiety, and stress. The depression subscale assesses dysphoria, hopelessness, lack of interest, apathy, and self-devaluation, while the anxiety subscale includes autonomic system arousal and situational anxiety. The stress subscale measures the degree of chronic non-specific arousal, i.e. it assesses difficulties in relaxing, agitation, impatience and similar. Participants were asked to estimate how much each statement applied to them compared to the previous week. Responses were recorded on a 4-point Likert scale, where 0 means "Does not apply to me at all" and 3 means "Applies to me very often or most of the time". The total score for each subscale was calculated by summing the scores for the statements associated with each

subscale. Higher scores indicate a greater symptom severity. Lovibond and Lovibond (1995) provided recommended cut-off scores for the results on the scales given, categorising conventional severity levels into five categories (normal, mild, moderate, severe, and extremely severe). Since these cut-off scores have been derived from a longer version of this instrument with 14 items per scale, Lovibond and Lovibond (1995) suggested multiplying the total scores of the DASS-21 scales by 2. In this study, this was not performed. Instead, to gain insight into the severity of symptoms among prisoners, we divided the cut-off scores by 2. This approach allowed us to compare our results with those of other studies using the DASS-21 without additional recalculations. The Cronbach's alpha coefficient for the depression subscale in the sample of this study is α=.85, for the anxiety subscale is α=.87 and for the stress subscale it is α=.89. The above coefficients indicate a high reliability of all three subscales.

In addition to the aforementioned instruments, the participants were asked to assess how intensely they had experienced the emotions of sadness and fear in the past week. They recorded their answers on a 4-point Likert scale, where 0 is labelled "I didn't feel it at all" and 3 is labelled "I felt it very strongly".

Procedure

The research was approved by the Faculty's Ethics Committee. Approval was also obtained from the Central Office of the Directorate for the Prison System and Probation of the Ministry of Justice and Public Administration.

The data collection was carried out during July 2023 in the Diagnostic Department of the Diagnostic Centre in Zagreb in paper-pencil form. The use of measuring instruments was adapted to the organisational and security conditions of the Centre, which allowed the questionnaire to be completed for up to 16 prisoners at the same time. Therefore, the survey was conducted in several groups during the morning hours. The general purpose of the research was explained to the prisoners, and it was emphasised to them that participation was voluntary and completely anonymous and that they could withdraw from completing the questionnaire at any time. In addition, all prisoners received a form containing the necessary information about the research conducted for the participants before completing the questionnaire.

Data analysis

The data was analysed using IBM SPSS 23 software. Central tendencies and dispersion measures were selected based on the normal distribution of the data. The significance of deviations from the normal distribution was tested using the z-values for skewness and kurtosis. As suggested by Kim (2013), the distribution of medium-sized samples ($50<n<300$) deviates significantly from normal if the z-value for skewness and/or kurtosis is higher than 3.29. For variables whose distributions did not deviate significantly from the normal distribution, the mean and standard deviation were calculated, whereas for variables whose distributions deviated significantly from the normal distribution, the median and interquartile range were calculated. Depending on the distribution, Pearson's or Spearman's correlation coefficient was used to calculate the correlations between the

coping strategies and the emotions experienced (to test the first hypothesis) as well as anxiety and depression. To test the second and third hypotheses, the contribution of healthy and unhealthy coping strategies to the explanation of anxiety and depression in prisoners was analysed using hierarchical multiple regression analysis, controlling for the effects of stress intensity and experienced unpleasant emotions. Before applying the regression analysis, we analysed the data for the absence of outliers, the absence of multicollinearity and normality, linearity, and homoscedasticity of the residuals, as recommended in Tabachnick and Fidell (2007). In the first step, stress intensity and the experience of sadness and fear were entered to control for the effects of differences in perceived stress and unpleasant emotional intensity. In the second step, healthy stress coping strategies (action, rational thinking, positive thinking, emotional support, instrumental support, emotional venting), and in the third step unhealthy coping strategies (avoidance and denial) were included. In the final step the unpleasant experienced emotions (sadness and fear) were included. The significance level was set at $p<0.05$.

RESULTS

Table 1 shows the results of the descriptive analysis for anxiety, depression, and stress variables, as well as for stress coping strategies. It can be seen from the results that only the action and denial distributions significantly deviate from the normal distribution. Therefore, the median and interquartile range are more appropriate measures of central tendency and dispersion for these variables.

Using the mean scores, we can see that the prisoners in our sample have low average scores on the measures of mental health, i.e. they have low scores on anxiety, depression, and stress. However, the overall range of scores also indicates that the prisoners are very diverse. Some of them achieve the highest possible score on the depression scale and some prisoners achieve almost the maximum score on the anxiety and stress scales.

Table 1. Descriptive Statistics for Anxiety, Depression, Stress and Coping Strategies

Variable	M (C)	SD (Q)	Theoretical range		Observed range		$Z_{Skewness}$	$Z_{Kurtosis}$
			Min	Max	Min	Max		
Anxiety	5.99	5.20	0	21	0	19	2.86	-1.91
Depression	6.88	5.08	0	21	t	21	3.01	-0.35
Stress	7.78	5.25	0	21	0	20	2.24	-1.50
Healthy coping strategies								
Action	2.24 (2.29)	0.62 (0.86)	0.00	3.00	0.57	3.00	-3.42	-0.05
Rational thinking	2.09	0.58	0.00	3.00	0.20	3.00	-3.12	0.43
Positive thinking	2.12	0.64	0.00	3.00	0.50	3.00	-2.68	-0.27
Emotional support	1.11	0.69	0.00	3.00	0.00	3.00	2.79	0.15
Instrumental support	1.46	0.68	0.00	3.00	0.00	3.00	0.00	-0.46
Emotional venting	1.63	0.58	0.00	3.00	0.00	3.00	0.64	-0.17
Unhealthy coping strategies								
Avoidance	1.54	0.74	0.00	3.00	0.00	3.00	0.30	-1.33
Denial	0.65 (0.33)	0.70 (1.00)	0.00	3.00	0.00	3.00	3.93	-1.33

Legend:M = mean; *SD* = standard deviation; *C* = median; *Q* = interquartile range

As the mean values and ranges of the results do not provide a clear indication of the severity of mental health problems among prisoners, it is important to determine the proportion of prisoners with a certain severity of mental health problems. To determine the extent to which prisoners exhibit symptoms of anxiety, depression and stress, the percentages of participants in each category, defined according to the recommendations of Lovibond and Lovibond (1995), are presented in Table 2.

Table 2. Percentage of participants in conventional severity labels by recommended cut-off scores

Severity labels	Anxiety		Depression		Stress	
	Cut-off	Percentage	Cut-off	Percentage	Cut-off	Percentage
Normal	0-3.5	44%	0-4.5	39.2%	0-7	55.2%
Mild	4-4.5	6.4%	5-6.5	11.2%	7.5-9	8%
Moderate	5-7	12.8%	7-10	32%	9.5-12.5	16%
Severe	7.5-9.5	8%	10.5-13.5	6.4%	13-16.5	12.8%
Extremely severe	10-21	28.8%	14-21	11.2%	17-21	8%

Almost half of the prisoners who participated in this study suffered from moderate to extremely severe anxiety and/or depression. Of particular concern is the percentage of those with extremely severe symptoms on these two scales. It is important to emphasise that we cannot draw conclusions about the clinical diagnoses of anxiety and depression from the results of these scales, but these results suggest that a significant proportion of prisoners experience severe anxiety and depression. Symptoms indicative of stress fared slightly better. Moderate to extremely severe stress-related symptoms were reported by 36.8% of participants.

In terms of coping strategies (Table 1), the results show that action, rational and positive thinking were the most frequently used coping strategies, while strategies related to seeking support, emotional venting, and avoidance were less frequently used. The least utilised coping strategy is denial.

To test the first hypothesis of this study, we examined the correlations between coping strategies and the experience of sadness and fear among prisoners. We hypothesised that all stress coping strategies would be negatively associated with unpleasant emotions of sadness and fear. The correlations in Table 3 show that sadness is only associated with emotional venting and avoidance, but this relationship is positive. Fear is associated with several coping strategies (action, emotional support, instrumental support, emotional venting, and denial), but in all cases, the correlations are positive. The results of this study do not support the first hypothesis. The experiences of sadness and fear were positively correlated with the experiences of stress as well as anxiety and depression. It is also important to emphasise that anxiety and depression are not associated with positive and rational thinking or action. However, there is a small positive correlation between anxiety and

Table 3. Correlations for Study Variables

Variables	2	3	4	5	6	7	8	9	10	11	12	13
1. Stress	.79**	.82**	.49**	.46**	.11	.05	.15	.20*	.17	.30**	.30**	.16
2. Anxiety	–	.81**	.54**	.54**	-.13	-.04	-.02	.19*	.18*	.22*	.33**	.31**
3. Depression		–	.55**	.47**	-.11	.08	.05	.27**	.18*	.20*	.32**	.32**
4. Sadness			–	.47**	.01	.12	.10	.17	.05	.22*	.19*	.12
5. Fear				–	.19*	-.03	-.05	.31**	.21*	.27**	.17	.26*
6. Action					–	.60**	.41**	-.12	.14	.32**	.09	-.20*
7. Rational thinking						–	.35**	.14	.27**	.41**	.13	-.11
8. Positive thinking							–	.07	.22*	.42**	.37**	.03
9. Emotional support								–	.42**	.50**	.29**	.29**
10. Instrumental support									–	.42**	.42**	.18
11. Emotional venting										–	.40**	.13
12. Avoidance											–	.39**
13. Denial												–

Note. Action and denial variables deviate significantly from the normal distribution, which is why the Spearman coefficient was calculated for these variables, while the Pearson coefficient was used for all others.
* p < .05., ** p < .01.

depression on the one hand and emotional venting, avoidance, denial and both emotional and instrumental support on the other.

To test the hypotheses regarding the contribution of healthy and unhealthy coping strategies to the explanation of anxiety and depression, we conducted hierarchical regression analyses with anxiety and depression as criteria. In the first step, the levels of stress, sadness, and fear were included as control variables. In the second step, healthy coping strategies were included, while in the third step, unhealthy coping strategies were included.

Table 4. Hierarchical Regression Results for Anxiety and Depression

	Anxiety			**Depression**		
	β	**R^2**	**ΔR^2**	**β**	**R^2**	**ΔR^2**
Step 1		.68	.68**		.71	.71**
Stress	.64**			.71**		
Sadness	.14*			.17**		
Fear	.18**			.06		
Step 2		.70	.03		.75	.04*
Stress	.65**			.75**		
Sadness	.18**			.17**		
Fear	.14*			.03		
Action	-.01			-.11		
Rational thinking	-.08			.14*		
Positive thinking	-.13*			-.01		
Emotional support	-.04			.12*		
Instrumental support	.10			.06		
Emotional venting	.01			-.16*		
Step 3		.74	.03**		.75	.03**
Stress	.63**			.73**		
Sadness	.17**			.17**		
Fear	.13*			.02		
Action	.01			-.09		

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	Anxiety			Depression		
	β	**R^2**	**ΔR^2**	**β**	**R^2**	**ΔR^2**
Positive thinking	-.16**			-.02		
Emotional support	-.07			.09		
Instrumental support	.05			.03		
Emotional venting	.00			-.17*		
Avoidance	.08			.03		
Denial	.15**			.16**		

* p < .05., ** p < .01.

The results of the hierarchical regression analysis (Table 4) show that, apart from stress and unpleasant emotions, only a block of unhealthy coping strategies, especially denial, significantly contribute to explaining the prisoners' anxiety. It is noteworthy that denial explained 3% of the variance in anxiety when controlling for stress and unpleasant emotions. Higher levels of denial are associated with higher levels of anxiety. When explaining depression, with the control of stress and unpleasant emotions, healthy coping strategies explain 4% of the variance in depression, whereas unhealthy strategies account for 3%. Among healthy coping strategies, higher levels of rational thinking and emotional support help explain higher levels of depression, while higher levels of emotional venting are associated with lower levels of depression. With the introduction of unhealthy strategies in the third step, emotional support loses its significance as a predictor of depression. It is important to emphasise that like anxiety, only denial is a significant predictor of unhealthy strategies in explaining depression. Higher levels of denial are associated with higher levels of depression among prisoners. Although individual coping strategies contribute to explaining anxiety and depression, their associations with healthy strategies are not all in the expected direction; thus, we reject the second hypothesis. Regarding unhealthy coping strategies, denial explained both anxiety and depression, partially confirming the third hypothesis. Although some coping strategies, such as emotional support, instrumental support, and avoidance, were correlated with anxiety and depression (Table 3), the results of the regression analysis revealed no significant contribution of these variables to the explanation of anxiety or depression. If we examine the relationships of these coping strategies with stress and negative emotions, which we controlled for in the first step, in more detail, we can find an explanation for these results. These coping strategies are associated with the predictors introduced in the first step. When controlling for the effects of stress and unpleasant emotions, these coping strategies do not further contribute to the explanation of the criterion variables, contrary to what we would expect according to the health theory of coping (Stallman, 2020).

DISCUSSION

The descriptive data for depression, anxiety, and stress, i.e., the central tendency values of the subscales of the DASS-21 questionnaire, show that, on average, the prisoners included in this study do not exhibit particularly pronounced symptoms of mental health problems. Although the average scores on the dimensions of the DASS-21 scale were low, the results showed that almost half of the prisoners included in the study had moderate to extremely severe symptoms of depression and/or anxiety. Of particular concern is the percentage of those with extremely severe symptoms in the two subscales. The prisoners who took part in this study were in the early stages of their sentence. From this, we can conclude that the results obtained are consistent with the study by MacKenzie & Goodstein (1985), which suggested that the occurrence of depression and anxiety symptoms among the prison population is more common in the early stages of serving a prison sentence. The results confirm that prison is an extremely stressful environment where the mental health of prisoners can be significantly jeopardised. With this in mind, it is important to emphasise the importance of assessing and monitoring prisoners, particularly those who exhibit high levels of anxiety, depression and/or stress. It is necessary to provide these individuals with appropriate help and support during the adjustment phase and throughout the time they are serving their prison sentence. When interpreting the results, it should be noted that there is a lack of empirical research in the Croatian context that deals with the initial phase of serving a prison sentence and its impact on the mental health of prisoners (Farkaš & Žakman-Ban, 2006). There is also no clear and consistent evidence of lasting emotional, health, or other difficulties associated with the adjustment of prisoners. It is also important to note that the data for this study were collected at a single point in time. Therefore, we suggest that the mental health of individuals in prison should be measured at multiple points in time in future studies. Thus, changes in depression and anxiety that may occur while serving a prison sentence could be identified.

As far as coping strategies are concerned, the descriptors show that prisoners most often used action, rational and positive thinking, while they least often sought emotional support and used avoidance and denial strategies. The obtained results can be explained by the fact that prisoners had only spent a relatively short time in prison at the time of data collection, so they may not yet have had the need or opportunity to use unhealthy strategies to any great extent. As a reminder, the health theory of coping (Stallman, 2020) posits that if a person does not have a single healthy strategy available and/or effective, they will resort to unhealthy strategies to alleviate the stressful situation they find themselves in. The fact that prisoners most often use action is not unusual, as current evidence suggests that prisoners attempt to deal directly with the source of stress at the beginning of their sentence (i.e. Buško & Kulenović, 1995; Reed et al., 2009). The more frequent use of positive and rational thinking is also not surprising. After all, if a person has no control over the stressful situation they find themselves in, it is in fact up to them how they think about the stressor. This applies to the penal environment, where control over events is quite limited (Farkaš & Žakman-Ban, 2006), as are the coping strategies available (Brown & Ireland, 2006; Leszko et al., 2020). Regarding the low frequency of denial, it should be noted that denial refers to coping, which manifests itself as an effort to completely isolate oneself mentally from the source of stress (Duhachek, 2005). Simply put, the individual rejects the reality of a situation associated with psychopathology (Pjević et al., 2015). This way of reacting in a stressful situation is used more frequently

by individuals with anxiety and psychotic disorders compared to the general population (Pjević et al., 2015). Considering the above, we believe that it is extremely important to pay special attention to how prisoners with severe anxiety and depression deal with stress. In this way, it could be determined whether they continue to use the same strategies during their stay in prison or whether they opt for other strategies.

The aim of this study was to examine the relationship between the stress-coping strategies of prisoners and their mental health within the framework of the health theory of coping (Stallman, 2020). According to this theory, we hypothesised that there is a negative correlation between the use of healthy and unhealthy coping strategies and emotions such as sadness and fear, i.e. that the use of coping strategies contributes to the lower intensity of these emotions. In this study, sadness was correlated only with emotional venting and avoidance strategies; however, this correlation is positive. Meanwhile, fear is correlated with several strategies (action, emotional support, instrumental support, emotional venting, and denial), and these correlations are also positive. The results obtained are not consistent with the findings that the use of different strategies to cope with stress is associated with lower levels of unpleasant emotions (Carver & Connor-Smith, 2010; Van Harreveld et al., 2007). The results also do not confirm the assumption of the health theory of coping (Stallman, 2020), according to which both healthy and unhealthy coping strategies reduce the intensity of unpleasant emotions experienced. However, the premise of this theory cannot be completely refuted. This is because the theory places coping methods in the context of time, and as previously mentioned, this data was collected at a single point in time. Perhaps the continued use of healthy and unhealthy strategies would eventually help reduce the intensity of sadness and fear. Therefore, it would be desirable to conduct longitudinal studies to clarify the relationship between these constructs. On the other hand, however, it should be emphasised that certain strategies can still negatively influence unpleasant emotions. In particular, venting may cause a person to focus on an emotion longer than desirable and necessary, making it difficult to deal with an unpleasant emotion (Goodrum, 2011). Regarding the relationship between avoidance and sadness, such coping can prolong an unpleasant emotional state and thus lead to a negative state (Goodrum, 2011). When interpreting the results, it is important to emphasise that we cannot draw any conclusions about the causal relationships between the emotions and the coping strategies. In this context, this means that it is also possible that the intensity of emotions influences the choice of a particular strategy. For example, prisoners who experience a higher intensity of fear may be more likely to choose strategies such as action or seeking some form of support.

The following two hypotheses are related to the relationship between the healthy and unhealthy coping strategies of prisoners and their mental health, in particular, the levels of depression and anxiety. According to the second research hypothesis, we expected a negative correlation between healthy coping strategies and levels of depression and anxiety. We hypothesised that prisoners who used healthy strategies more frequently would also show fewer symptoms of depression and anxiety. In the third hypothesis, we assumed that more frequent use of unhealthy coping strategies would contribute to higher levels of depression and anxiety, i.e. that more frequent use of avoidance and denial would be related to higher levels of anxiety and depression among prisoners. A hierarchical regression analysis was conducted, and the results revealed that the healthy strategies did not significantly contribute to explaining the prisoners' anxiety. On the other hand, un-

healthy coping strategies, especially denial, significantly contributed to explaining anxiety in such a way that the more frequent use of denial as a stress coping strategy was positively associated with higher levels of anxiety. This is consistent with the health theory of coping (Stallman, 2020), according to which the more frequent use of unhealthy ways of coping with stress has a negative impact on a person's mental health (Stallman et al., 2020). The results obtained also support the findings of Negy et al. (1997), according to which denial is associated with higher levels of anxiety. This result is also consistent with the study by Pjević et al. (2015), in which the results showed that anxious people are significantly more likely to use denial as a strategy for coping with a stressful situation. However, none of the studies mentioned, including this one, allow causal relationships to be established. These results can also be explained by the fact that mental health problems, in this case anxiety in particular, can contribute to a more frequent use of unhealthy coping strategies, as mental health influences, among other things, how we deal with the stresses of life (WHO, 2022).

Both healthy and unhealthy coping strategies contribute significantly to explaining depression. Among healthy strategies, more frequent use of rational thinking and emotional support helps explain higher levels of depression, whereas more frequent use of emotional venting is associated with lower levels of depression in prisoners. The results obtained were not entirely expected. Namely, rational thinking is characterised by greater control of emotions and greater objectivity (Duhachek, 2005), while habitual irrational thinking is considered one of the key factors associated with depression (Bridges & Harnish, 2010). Consequently, it is not possible to unambiguously explain the relationship between rational thinking and depression. Regarding the positive relationship between emotional support and depression, it is important to first point out that emotional support refers to an attempt to gather social resources to improve a person's emotional and/or mental state (Duhachek, 2005). Therefore, it is possible that prisoners with higher levels of depression may be more inclined to seek concrete emotional support in order to cope with the demands of stressful situations in prison. It should be noted that emotional support is no longer a significant predictor of depression after the introduction of unhealthy strategies into the hierarchical regression analysis. It is possible that depressed prisoners who use emotional support as a coping strategy may opt for unhealthy coping strategies in prison because they are aware that other prisoners often interpret the open expression of emotions as a sign of weakness (Van Harreveld et al., 2007). According to the study by Van Harreveld et al. (2007), prisoners who are more likely to share their negative emotions with others are mentally healthier than those who keep these emotions to themselves or suppress them, which is consistent with the findings indicating a relation between more frequent emotional venting and lower levels of depression. However, some studies have refuted this and suggest that prisoners who show more depression symptoms use more emotion-oriented strategies (Gullone et al., 2000), which has also been observed in young and juvenile prisoners (Ireland et al., 2005). Furthermore, in explaining depression, as with anxiety, the only significant predictor in relation to unhealthy coping strategies is denial. This finding is consistent with the aforementioned study by Negy et al. (1997), which suggests that more frequent denial during a stressful situation is associated with higher levels of depression in addition to anxiety.

In addition to the aforementioned cross-sectional study design, other methodological limitations must be considered when interpreting the results. The first limitation relates to the sample, which is not representative of the entire prison population. Therefore, we cannot generalise the results

to prisoners in Croatia. In order to verify the results of this study and gain deeper insight into how prisoners deal with stress and its relationship to mental health, it would be valuable to include other categories of prisoners (e.g. prisoners sentenced to less than six months in prison, prisoners serving long-term sentences, female prisoners) in future studies. Another limitation concerns the participants' honesty. Before completing the questionnaire, the prisoners were informed that the survey would be anonymous and that their answers would have no impact on their future incarceration. Nevertheless, it is possible that some of them were somewhat sceptical and therefore gave socially desirable answers. To ensure a strong sense of anonymity among participants, no data were collected that could reveal their identity. Therefore, our study lacks information about the type of offence committed, sentence, and previous convictions. For this reason, we cannot provide a more precise description of the sample. As a next limitation, it is important to point out that the Multidimensional Coping Scale (Duhachek, 2005) was used and not the Coping Index developed by Stallman (2017) specifically for the study of coping with stress within the health theory of coping. As previously mentioned, coping styles in correctional settings are limited (Brown & Ireland, 2006; Leszko et al., 2020); thus, the use of a questionnaire that was not specifically developed for the prison population was also a limitation of this study. In this regard, we suggest developing a healthy and unhealthy coping strategy instrument specifically tailored for prisoners. In addition, the relationship between stress coping strategies and other constructs of mental health should be investigated. When we think about mental health, it is a very broad field that encompasses different constructs, and it is possible that the relationship between coping strategies and mental health depends on how we operationalise mental health.

Despite these limitations, it is important to emphasise the contributions of this study, one of which is that this study is the first in Croatia to examine the relationship between the coping strategies of prisoners and their mental health. In this way, new insights were gained into the mental health of the prisoners during their first month in prison and into the relationship between their coping strategies and their anxiety and depression. The research also contributed to the review of the health theory of coping (Stallman, 2020), which is relatively new and has hardly been verified to date. To the best of our knowledge, no research has yet been conducted to examine the coping strategies of prisoners within the framework of the aforementioned theory. The study can also serve as a basis for future studies in this area, and recommendations for practical application can be derived from these results.

Based on the obtained results, it is important to emphasise that professionals working with prisoners as they enter prison should monitor them and identify those with pronounced mental health problems, such as increased anxiety, depression, and perception of stress. Prisoners who exhibit such problems should be supported in coping with the stress caused by incarceration because these mental health problems may indicate the use of ineffective, maladaptive coping strategies. Based on the results of this study, we cannot establish a causal relationship between the use of different coping strategies for stress and mental health. Therefore, it is not possible to offer recommendations suitable to all prisoners. If a particular prisoner exhibits mental health problems in the form of pronounced symptoms of anxiety or depression, it is necessary to examine how the prisoner functions in the new environment in which they find themselves, what coping strategies they use and how they use them. As anxiety and depression are positively associated with unhealthy cop-

ing strategies, especially denial, it is possible that some prisoners may experience problems due to their overuse of these strategies. If a prisoner is found to be predominantly using coping strategies associated with mental health problems, they should be taught alternative coping methods and they should develop active problem-solving skills and different ways of looking at situations. Action in the context of structuring time in prison and seeking new activities that will provide the prisoner satisfaction and help them fill their time (e.g. reading, engaging in sports, participating in creative activities) as well as a positive and rational view of the situation could lead to the alleviation of unpleasant emotions, which could lead to less mental health problems.

CONCLUSION

The research conducted on the relationship between stress coping strategies and the mental health of prisoners has revealed that almost half of prisoners suffer from moderate to severe anxiety and depression symptoms at the beginning of their sentence. The results did not indicate a negative correlation between the frequency of using stress coping strategies and unpleasant emotions (sadness and fear) as expected. Instead, the significant associations observed are also positive. Regarding the contribution of healthy and unhealthy strategies in explaining anxiety and depression, higher anxiety was found to be significantly explained only by unhealthy strategies, particularly by the higher frequency of denial. The explanation of higher depression involves both healthy and unhealthy strategies, particularly a higher frequency of rational thinking and denial and a lower frequency of emotional venting. We conclude that the results largely contradict expectations based on the health theory of coping and that further research, especially longitudinal studies, is needed to further validate its assumptions.

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Criminology & Social Integration Vol 32 (2024) 1, 17–40.

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SUOČAVANJE SA STRESOM I MENTALNO ZDRAVLJE ZATVORENIKA

SAŽETAK

Zatvor je okruženje s visokim razinama stresa u kojem mentalno zdravlje pojedinca može biti znatno ugroženo (Mansoor i sur., 2015). Način suočavanja zatvorenika sa stresom važan je čimbenik kada se ispituju efekti zatvorskog okruženja na njihovo mentalno zdravlje (Gullone i sur., 2000). Cilj ovog rada jest ispitati odnos suočavanja zatvorenika sa stresom i njihovog mentalnog zdravlja u okviru zdravstvene teorije suočavanja (Stallman, 2020). Istraživanje je provedeno na uzroku od N=125 zatvorenika muškog spola koji su se nalazili na Odjelu za dijagnostiku Centra za dijagnostiku u Zagrebu (M=40.08; SD=11.97). Primijenjena je Višedimenzionalna skala suočavanja (Duhachek, 2005) te DASS-21 (Lovibond i Lovibond, 1995). Također se zamolilo sudionike da ocijene intenzitet emocija koje su doživjeli u proteklom tjednu. Rezultati su pokazali kako samo nezdrave strategije suočavanja značajno doprinose objašnjenju anksioznosti zatvorenika, dok i zdrave i nezdrave strategije doprinose objašnjenju depresije kod zatvorenika. Rezultati nisu potvrdili pretpostavku teorije prema kojoj je učestalost korištenja strategija suočavanja sa stresom negativno povezana s intenzitetom doživljenih neugodnih emocija. Rezultati su raspravljeni u odnosu na kontekst zdravstvene teorije suočavanja te je razmatrana i njihova praktična primjenjivost.

Ključne riječi: strategije suočavanja sa stresom, anksioznost, depresija, emocije, zatvorenici