



## The relation of stress coping strategies and self-handicapping strategies to the process of opiate addicts behavior changes

Povezanost strategija za prevazilaženje stresa i samohendikepirajućih strategija sa procesom promena ponašanja opijatskih zavisnika

Mirjana Jovanović\*, Aleksandra Dickov†‡, Marija Kajtez§, Veselin Dickov§, Tatjana Dragišić||

Clinical Centre Kragujevac, \*Psychiatric Clinic, Kragujevac, Serbia; Clinical Center of Vojvodina, †Clinic of Psychiatry, Novi Sad, Serbia; University of Novi Sad, ‡Faculty of Medicine, Novi Sad, Serbia; §Institute for the Health Protection of Students, Novi Sad, Serbia; ||University Clinical Center of the Republic of Srpska, Banja Luka, Republic of Srpska, Bosnia and Herzegovina

### Abstract

**Background/Aim.** During a progress of addictive behavior treatment, the strategies of coping with stress are engaged, but addicts may continue with self-handicapping behavior which is opposite to changing a problematic behavior. The aim of this study was to examine the stress coping (CS) strategies and self-handicapping (SH) strategies in relation to the process of addictive behavior change. **Methods.** In the descriptive clinical study, the sample of 200 consecutively recruited inpatient opiate addicts were explored. They underwent methadone therapy. The general information questionnaire, the Indicator of coping strategies (CSI), SH-questionnaire for assessing self-handicapping behavior (SH) and the University Rhode Island Change Assessment (URICA) questionnaire for the assessment of process of change were completed. The Student *t*-test, Pearson's correlation coefficient and multiple regression analysis were applied. The SPSS for Windows was used and the  $p \leq 0.05$

defined as statistically significant. **Results.** Among the CS, there were significant correlations between avoiding problems strategy and all SH strategies ( $p \leq 0.02$ ). The social support was directly proportionate to the process of change ( $p = 0.03$ ,  $\beta = 0.35$ ). However, the process of change inversely correlated to internal handicaps in interpersonal relationships strategy (IHI) ( $p = 0.02$ ;  $\beta = -0.54$ ) and strategy of focusing to the problem ( $p = 0.00$ ,  $\beta = -0.44$ ). **Conclusion.** The significant positive predictor for the process of addictive behavior change was a strategy of social support, but focusing on the problem and the strategy of internal handicaps in achievement situations were significant negative predictors. The evaluation of motivation process and stress coping strategies could be useful for creation of improved tailored treatment of opiate addiction.

### Key words:

opioid-related disorders; therapeutics; stress, psychological; mental disorders; surveys and questionnaires.

### Apstrakt

**Uvod/Cilj.** U tretmanu adiktivnog ponašanja koriste se strategije za prevazilaženje stresa – *stress coping* (SC), mada zavisnici često nastave sa samohendikepirajućim – *self-handicapping* (SH) obrascem ponašanja, koji je u suprotnosti sa promenama problematičnog ponašanja. Cilj ove studije bio je da se ispituju SC i SH strategije u odnosu na proces promene adiktivnog ponašanja. **Metode.** U deskriptivnoj kliničkoj studiji ispitan je uzorak od 200 konsekutivno regrutovanih bolesnika koji se nalaze na bolničkom tretmanu zbog opijatske zavisnosti. Za prikupljanje podataka primenjeni su: Opšti informativni upitnik, CSI- indikator  *coping* strategija, SH- upitnik za procenu *self-handicapping* ponašanja

i *University Rhode Island Change Assessment* (URICA) – upitnik za procenu procesa promena. Primenjen je Studentov *t*-test, koeficijent Pearsonove korelacije i multipla regresiona analiza. Korišćen je SPSS za Windows; vrednost  $p \leq 0.05$  je definisana kao statistički značajna. **Rezultati.** Zavisnici su najviše koristili strategiju izbegavanja, a manje socijalnu podršku i fokusiranje na problem. Od CS značajna povezanost je bila utvrđena samo između ponašanja izbegavanja i svih SH strategija ( $p \leq 0.02$ ). Sa procesom promene ponašanja jedino je socijalna podrška bila pozitivno povezana ( $p = 0.03$ ;  $\beta = 0.35$ ), dok su sa procesom promene obrnuto proporcionalno bili povezani fokusiranje na problem ( $p = 0.00$ ,  $\beta = -0.44$ ) i strategija internalizovanog hendikepa u sagledavanju situacije – IHI ( $p = 0.02$ ;  $\beta = -0.54$ ).

**Zaključak.** Značajan pozitivan prediktor u procesu promena lečenih opijatskih zavisnika bila je strategija mobilizacije socijalne podrške, dok su negativni prediktori bili fokusiranje na problem i strategija internalizovanog hendikepa u sagledavanju situacije. Procena motivacije i prevazilaženje stresa bile bi veoma

korisna u kreiranju poboljšanog tretmana zavisnika.

**Ključne reči:**  
**poremećaji izazvani opioidima; lečenje; stres, psihički; ponašanje, poremećaji; ankete i upitnici.**

## Introduction

Substance use and drug and behavior addictions have recurrent characters that are multiply determined and lead to a significant impairment of quality of life<sup>1, 2</sup>. In order to reach changes, special efforts are required, but the addicts are often motivated by short-term goals and their treatment acceptance may be the first step towards change<sup>3</sup>. Miller and Rollnick<sup>4</sup> indicate that it is necessary to observe the motivation for the change as a multidimensional phenomenon. It may be eventually developed in different directions by increasing or reducing the likelihood of change<sup>5</sup>. Motivation is considered as a key component for starting change, reducing risky behavior and confidence in the treatment outcome. Motivation includes both a willingness to change and treatment resistance (lack of treatment confidence)<sup>6</sup>.

The researchers gathered around Prochaska et al.<sup>7</sup>, conducted a series of researches and came up with several key constructs which may explain the nature of change which they called the Transtheoretical Model of change. In this model, there are few basic stages of Change: temporal dimension of change and processes of change, all the activities that people carry out or experiences that they used to change some of their thinking, behavior and assumption experience. Stages of change in this model are: precontemplation, contemplation, preparation, action maintenance and termination<sup>5-8</sup>.

However, there is a series of behavior that people persist on in order to keep self-image and public image which are opposed to a change of problematic behavior. At the end of the 70s, Jones and Berglas<sup>9</sup> called such persons the self-handicapping. When failure is expected in an activity, a person is actively seeking or creating factors that may interfere the performance of these activities, which may serve as a justification for the potential failure<sup>10</sup>. In these situations, the person suspects in self-efficacy which is defined as an individual's belief in his/her own ability to perform and execute a specific action<sup>11</sup>. Many psychopathological symptoms are interpreted in the light of self-handicapping strategies and included even the use of alcohol or drugs<sup>10</sup>. Obstacles are further created in a way that can be linked to failure and this does not realistically represent the major obstacle to a success<sup>12</sup>. In addition to such behavior, in the process of change, an addictive behavior and maintaining achievement, changes may be affected by the strategies because stress is often cited as the cause of addiction<sup>13</sup>. The addicts, with extreme levels of stress, show higher expectations from treatment<sup>9, 14</sup>. Twoy et al.<sup>15</sup> believes that drug abuse can be interpreted as a learned pattern of dealing with the frustrations and the anticipated failure. These strategies of coping with

stress allow the adequate adaptation to circumstances and require significant efforts to problems solutions which, eventually, leads to psychological well-being<sup>16, 17</sup>. In a case of addictions, particularly important strategy is mobilizing social support because people with more social support less perceive the stress and deal with it more successfully<sup>18</sup>.

The aim of this study was to explore the stress coping strategies (CS) and self-handicapping (SH) strategies in relation to the process of addictive behaviour change.

## Methods

### Subjects

The sample consisted of 200 opiate addicts who were consecutively hospitalized at the Clinic for Psychiatry, Clinical Center of Vojvodina, Department of Addictions, in Novi Sad. The subjects involved in the study met the International Classification of Diseases (ICD-10) criteria for opiate addiction. There were 160 male (80%) and 40 (20%) female subjects. The average age of respondents was 35.6 years. The history of opiate use showed that the 68 (34%) respondents had no recidive, 64 (32%) patients had between 1 and 3 recidives and 68 (34%) patients had more than three recidives.

The study was conducted in the period from 01 December 2013 to 01 April 2014. The study protocol was approved by the Ethics Committee of the Clinical Center of Vojvodina and prior to the investigation the written informed consents from all the subjects were obtained. The self-questionnaires were anonymous, in accordance with the ethical principles of scientific research.

### Instruments

The study participants filled out anonymously four questionnaires: the questionnaire of general information (age, gender, job status, lifestyle, etc), the CSI –Indicator coping strategies, the SH assessment questionnaire for self-handicapping and the University Rhode Island Change Assessment (URICA) questionnaire for the assessment stage of the change process which is the current process of personal change. The general information questionnaire was designed for this study and contained 10 questions that included basic socio-demographic data (gender, age, education, employment status, marital status, current living conditions, socioeconomic status) as well as questions related to the consumption of psychoactive substances, the family support and number of relapses in the previous period.

The CSI questionnaire demands that respondents recall and describe in a few sentences on a particular situation from personal experience in the past 6 months which represented a

problem for them and answer why they were concerned<sup>19</sup>. After that, the subjects answer on how they used each of the 33 individually listed strategies to overcome the stress caused by mentioned problem. The questionnaire is designed to measure 3 independent dimensions: focus on the problem, seeking social support and avoiding problems. Each dimension has 11 items with three-point Likert scale which indicates how often the subjects use them<sup>20</sup>.

The SH questionnaire consists of four scales containing 34 items with a five-point Likert scale for answers<sup>21</sup>. Each item is a combination of external or internal causes which a person use to justify a potential failure in interpersonal relationships or situations achievements. The first scale includes items related to self-handicapping external causes in interpersonal relationships and the second one contains indicators of self-handicapping internal causes in interpersonal relationships. The third scale implies self-handicapping internal causes in situations of achievement while the fourth scale refers to self-handicapping external causes in situations of achievement. The scales and the total SH questionnaire have adequate representativeness, reliability and homogeneity<sup>12</sup>.

The URICA questionnaire is 32-items scale which assesses the stages of change<sup>22</sup>. The questionnaire includes four scales obtained after performing the analysis components: the precontemplation, contemplation, action and maintenance changes. With this questionnaire, it is possible to calculate the scores for the individual stages of the change process as well as the total score obtained by adding up the scores on the stages of contemplation, action and maintenance, and their sum is subtracted score for the precontemplation stage.

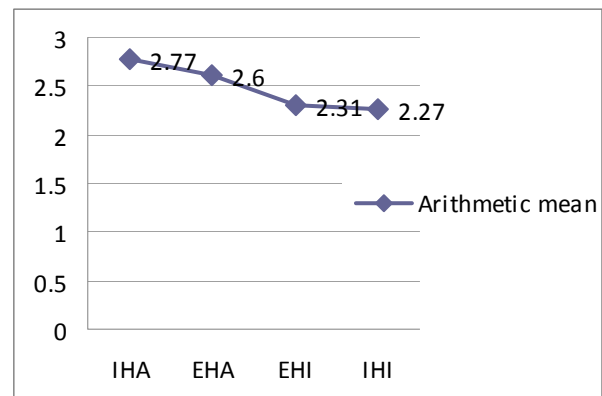
*Statistical analysis*

Statistical analysis was performed in the program Statistica 0.7 and SPSS for Windows, for the following analyses: descriptive analysis, correlation coefficients, hierarchical regression analysis, linear regression, analysis of variance and Student *t*-test. The *p* values of 0.05 or below were defined as statistically significant.

**Results**

There was a statistically significant difference in the SH strategies used among addicts (*p* = 0.02; *F* = 3.33). The internal handicaps strategy in achievement situations (arithmetic mean 2.77) and external handicaps in achievement situations (arithmetic mean 2.60) were the most used. The external handicaps in interpersonal relations (arithmetic mean 2.31), and internal handicaps in interpersonal relations (arithmetic mean 2.27) were less used (Figure 1).

The SH strategies were borderline and significantly associated with the process of change (*p* = 0.05; *R* = 0.425). Among the SH strategies, there was a statistically significant correlation only between internal handicaps in the interpersonal relationships strategy (IHI) and processes of change (*p* = 0.02). The beta correlation coefficient was -0.54 which showed that more intensive use of this strategy slowed the progression of the process of change (Table 1).



**Fig. 1 – The self-handicapping strategies among opiate addicts.**

**EHI – external handicaps in interpersonal relationships; IHI – internal handicaps in interpersonal relationships; IHA – internal handicaps in achievement situations; EHA – external handicaps in achievement situations.**

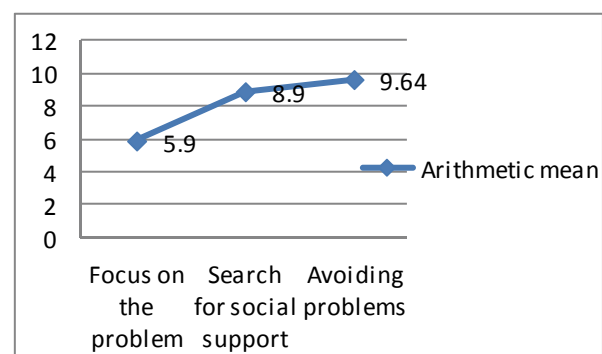
**Table 1**

**The self-handicapping strategies in the prediction of progression through the process of change**

The self-handicapping strategies	Process of change		
	$\beta$	<i>t</i>	<i>p</i>
EHI	-0.05	-0.30	0.76
IHI	-0.54	-2.28	0.02
IHA	0.02	0.12	0.90
EHA	0.23	1.13	0.26

**EHI – external handicaps in interpersonal relationships; IHI – internal handicaps in interpersonal relationships; IHA – internal handicaps in achievement situations; EHA – external handicaps in achievement situations.**

Besides the SH strategies, the impact of SC strategies on the process of addictive behavior change was examined. There was a significant difference in the intensity of use of different coping strategies (*F* = 7.007; *p* = 0.00). The addicts mostly used avoidance strategy (arithmetic mean 9.64), then the social support (arithmetic mean 8.90) and the least used strategy was focus on the problem (arithmetic mean 5.90) (Figure 2).



**Fig. 2 – The stress coping strategies among opiate addicts.**

The correlation between the SC strategies and progress in the process of change was of borderline significant ( $p = 0.05$ ;  $R = 0.39$ ).

The avoiding problems strategy was not significantly associated with the process of change, but focus on the problem ( $p = 0.00$ ) and social support ( $p = 0.03$ ) were found to be statistically significantly associated (Table 2).

**Table 2**  
**The coping strategies in the prediction of progression through the process of change**

The coping strategies	Process of change		
	$\beta$	$t$	$p$
Focus on the problem	-0.44	-2.76	0.00
Social support	0.35	2.16	0.03
Avoiding problems	-0.04	-0.35	0.72

The strategy of focusing on the problem was inversely proportional to the change process, the beta coefficient of correlation was -0.44 showing that focusing on the problem led to less progress in the process of change. The social support was directly proportional to the process of change, beta coefficient of correlation was 0.35, indicating that more social support had impact on greater advancement in the process of change.

We found that there were the significant correlations between the avoiding problems strategy and external handicaps in interpersonal relationships ( $p = 0.02$ ), internal handicaps in interpersonal relationships ( $p = 0.00$ ), internal handicaps in achievement situations ( $p = 0.00$ ) and external handicaps in achievement situations ( $p = 0.02$ ). These correlations were inversely proportional, more used avoiding strategy led to less SH behavior used (Table 3).

**Table 3**  
**Correlations between self-handicapping strategies and stress coping strategies**

Caping strategies		EHI	IHI	IHA	EHA
Focus on the problem	R	-0.08	-0.81	0.29	0.24
	$p$	0.56	0.57	0.84	0.86
Social support	R	-0.84	-0.06	0.10	0.82
	$p$	0.56	0.65	0.94	0.57
Avoiding problems	R	-0.31	-0.38	-0.49	-0.32
	$p$	0.02	0.00	0.00	0.02

**EHA – external handicaps in situations of achievement; IHI – internal handicaps in interpersonal relationships; IHA – internal handicaps in achievement situations; EHI – external handicaps in interpersonal relationships.**

## Discussion

Changing an addictive behavior is a long process and requires maximum engagement of addicts to solve problems. Among the SH strategies in this study, the addicts mostly used a strategy of internal handicaps in achievement situations. It could be explained that an addict usually experienced the intrapersonal problem in the situations of possible success or failure. This result was in concordance with results from other researches which demonstrated the negative association of authenticity with self-handicapping. The few studies analyzed by Uysal and Knee<sup>23</sup> suggested that low trait self-control predicted self-handicapping, independent of self-esteem, self-doubt, social desirability or gender. The Turkish study from 2014 indicated that self-handicapping was positively predicted by self-alienation and acceptance of external influence, and negatively by authentic living<sup>24</sup>. There was suggested that the addicts tended to see in advance their own failure without attempting any action<sup>9</sup>. This could be linked with a number of unsuccessful attempts of treatment, so work on motivation and rewriting irrational beliefs are imposed on as the most important. The conclusions of the study which was dealing with the coping strategies of Vietnam veterans who were treated for posttraumatic stress disorder and substance use disorder suggested that: "...sub-

stance abuse is associated with less efficient, avoidant ways of coping with problems in living; and two, that substance abusers with a background of traumatic and stressful experiences are readily distinguishable by even more avoidant coping styles"<sup>25</sup>. If we consider self-handicapping strategies used in the interpersonal relationships of the addicts, the strategy of external handicaps in interpersonal relationships was used prominent one. It indicates that, as the culprits in the failure of achieving adequate interpersonal relationships, see other people, not themselves. This may be due to the prejudice and discrimination they face daily.

Among the SH strategies, there was a statistically significant correlation only between internal handicaps in interpersonal relationships strategy and processes of change. This correlation was inverse, indicating that this strategy led to less progression in the process of change. We could explain it by the clinical observations that the addicts often do not believe in the treatment success and the possibilities of addictive behavior change with doubting themselves and their own capacities. This data indicates the necessity of working on the addicts' motivation to change and to increase their self-confidence.

The results showed that among SC strategies, the avoiding problems strategy was the most prominent among the addicts. This is consistent with previous findings that young

people who abuse psychoactive substances predominantly used a strategy of avoiding problems<sup>26</sup>. The strategy of avoiding problems can instantly help the addict to escape from the current problems, but its long-term use disturbs addicts to make progress in the process of change. Other authors also found that treated opiate-dependent patients experienced higher level of stress and reported less use of adaptive coping strategies when compared to the controls<sup>27</sup>. Our study showed that the strategy of focusing on the problem was inversely proportional to the change process, which indicated that this SC strategy led to less progress in the process of change. However, the social support was directly proportional to the process of change and led to greater advancement in the process of change. Some recent biological studies also indicated that the social attachments protect against addiction and health consequences of stress, whereas drug abuse and chronic stress can undermine them<sup>28, 29</sup>. These findings suggest that novel treatment approaches and improved social support could be important aspects of decreasing stress during early recovery from opiate addiction. This means that addicts on admission are seeking treatment mostly when they are forced by others, family or judicial authority<sup>1</sup>, and they still do not see the problem which they found themselves in, and are most likely in the precontemplation stage. Then, they use social support, which includes seeking informal support from the people in their environment, but also professional help. The other researches indicated that it was necessary to work on practicing different problem solving strategies that would contribute to the maintenance of the achieved changes<sup>16</sup>. Mobilizing social support is therefore in the proportional correlation with the progress in the process of change<sup>17</sup>.

Obtained data from this study showed that more used the focus on the problem strategies lead to less progress in the process of change. This data can be linked to the fact that the search for possible solutions and actively coping is a characteristic of the stage action which is advancing higher; when it comes to the maintenance stage, then more pronounced is search for social support, both formal and informal, in order to maintain the changes achieved. These results are in concordance with the setting of the Transtheoretical Model of Change. It is believed that every addict pass, on average, three times through the stages of change until it reaches the stage of maintenance. The person more often passes through these stages progressively spirally than linearly<sup>30</sup>. This means that addicts go through the stages of change and each relapse does not mean a return to the very beginning of the fight, but every relapse is seen as a mistake to learn from, and each recurrence is a step closer to the maintenance changes. The spiral motion means that the relapse is a rule, but upon returning to the previous stages, an addict gets closer, but still maintains the changes<sup>5-8, 20, 30</sup>. It is in concordance with our results which showed that the two-thirds of addicts relapsed during past year, one-third more than three times. It confirmed that the relapse could be expected during the treatment.

Despite treatment challenges, the cognitive behavioral therapy (CBT) for substance use disorders demonstrated ef-

ficacy as part of combination treatment strategies and consisted of heterogeneous treatment elements, such as operant learning strategies, cognitive and motivational elements and skills building interventions<sup>31</sup>. In this study, results showed that there was a statistically significant correlation between strategy of avoiding problems and SH strategies. This correlation was inversely proportional, which means that the more the strategy of avoiding problems was used, the less the SH strategy was applied<sup>26</sup>. We could assume that if the addicts do not face the problem, there is no need to rationalize their dysfunctional behavior. The SH strategies were used in situations where a person was expecting failure of the taken action.

### *Limitations*

There are several limitations in generalization of the findings in this study. The observational descriptive study was used for relatively small sample, thus the observed characteristics and relations of the coping and SH strategies among the treated opiate addicts do not provide explanation whether they are the causes or consequences of addiction. Furthermore, the inpatients are likely to have more severe psychopathology when compared to the addicts from general population. Also, the patient's assessments were not pre-morbid, and chronic opiate use may modify the assessment of these strategies. A larger prospective study is needed for further study of complex interplay between addiction, the coping and self-handicapping strategies among treated opiate addicts. In this sense, the strategies that addicts use in coping with stress are important as well as SH strategies that can slow down the process of change. Thus, these findings might inform early interventions and treatments that target opiate addicts at a risk in the early dependence recovery.

### **Conclusion**

The results suggested that opiate addicts most significantly used the internal and external SH strategies in the achievement situations. Among coping strategies the avoidance strategy was the most prominent and inversely correlated with all SH strategies. The social support significantly positively correlated and could predict the process of change among the addicts. The change process inversely correlated to focus on the problem and to internal handicapping interpersonal relations.

The assessment of coping and SH strategies and early motivational interventions could improve behavioral change and treatment of opiate addicts.

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