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Core beliefs – Schemas and Coping Styles in Addictions

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Abstract

In our work we focused on the issue of core beliefs – schemas and coping styles in addict patients according to J. Young's model. We analyzed the relationship of early maladaptive schemas and coping styles of avoidance and overcompensation. We also examined the differences in the intensity of schemas in terms of gender and type of addiction and we were researching schemas with the highest overall scores in our clinical sample of patients with different addictions. We confirmed that early maladaptive schemas are in positive relationship with coping styles of avoidance and overcompensation. We also found out that there are schemas that prove to be dominant in the group of addict patients (schemas of self-sacrifice, hypercriticalness, and punitiveness). The differences in the intensity of the schemas relative to gender were found in only two domains, namely in the domain of impaired autonomy and performance and the domain of other-directedness. We did not find any differences in the schema intensity due to the type of addiction.

Keywords

Core beliefs, schemas, coping styles, addiction

Introduction

The existence of schemas in people is now considered a psychological fact. Schemas occur in both clinical and non-clinical population and, according to various theories, represent more or less similar facts. The concept of schemas is the core of a cognitive model, from which schemas are fundamental core beliefs or assumptions that are part of a perceptual filter and that people use in assessing the world (Longe, Gale in Kordačová, 2010). Schemas thus represent one of the other concepts through which we can assess human psychopathology.

The theory and therapy focused on the change of schemas (the so-called schema therapy) by J. Young has proven in the last two decades as one of the few approaches that has empirical evidence of efficacy in treating borderline personality disorder (Giesen-Bloo et al.; Farrell, Shaw, Webber, 2009). It forms the basis for one of the new approaches in the treatment of addiction, which is characterized by the so-called dual focus, i.e. focusing on relapse prevention but also on personal pathology which is often in co-morbidity with addiction (Verheul, Van den Brink, Hartgens, 1995; Van den Bosch et al., 2002).

The Mechanism of substance use from the schema therapy perspective

Emotional problems, that individuals with personality disorder suffer from, are by many authors hypothetically associated with early maladaptive schemas (Young, Klosko, Weishaar, 2003; Ball, 1998, 2007). Many studies have already shown that emotional problems are often associated with substance use (Witkiewith, Villarreal, 2009; Moitra, Anderson, Stein, 2013). Among the significant risk factors of addiction relapse are mainly negative emotions (Olsson et al., 2016). Some authors believe that negative

affects play a central role in the behavior of the addicted person. In that case, the use of drugs is a way to regulate unpleasant negative emotions and deal with emotional problems. This relationship between emotional problems and substance use is linked by coping style (Bonn-Miller et al., 2007; Ullman et al., 2013).

According to T. Kersten (2012), substance use intensifies maladaptive coping modes. The psychotropic effect of addictive substances intensifies avoidance coping mode (a detached defender) and fulfills the function of avoiding emotional pain, or intensifies overcompensation mode (e.g. grandiosity, attack), which results in strengthening of narcissistic or antisocial behavior. Individual differences in dominantly used coping modes can predict differences in the type of substances used. T. Kersten's theory corresponds with the hypotheses of "self-treatment", that suggest that the use of a certain substance is rarely accidental, but rather a result of interaction between the psychotropic effect of an addictive substance and the emotional state with which a person fights (Khantzian, 1989). In accordance with the hypotheses about the use of addictive substances that match coping styles, Milkman and Frosh found that opiates reinforce the dominant defensive strategy of heroin users – to withdraw and isolate, while amphetamine artificially inflates the self-confidence of stimulant users and strengthens their dominant defensive strategy of active confrontation. The authors concluded that the psychological effect of addictive substance use corresponds to the dominant defensive strategies or, in theoretical terms of schema therapy, to coping styles of avoidance and overcompensation (Straver, 2017). Addictive substances that have a psychotropic effect corresponding to this psychological state of avoidance coping style – as reported by T. Kersten (2012) – have the function of intensifying avoidance coping modes, can evoke feelings of stability and calmness, and help an individual avoid feeling of abandonment, abuse or sadness. According to several sources, this psychotropic effect may be induced by using marijuana, opiates, sedatives and ketamine.



Addictive substances whose psychotropic effects match and intensify overcompensation coping modes can evoke feelings of power and can lead people to commit violent and sexual crimes, ridicule and attack others, or cheat without a moral dilemma (Kersten, 2012). Methamphetamines, cocaine and ecstasy may have such an effect. Other substances such as alcohol may cause an effect corresponding to both coping styles, depending on the dose or on the mixtures with other substances. The functional nature of substance use is becoming increasingly adaptable and leads to the development of addiction (Straver, 2017).

The results of some studies have already confirmed that early maladaptive schemas are associated with a wide range of psychiatric disorders, including depression (Riso et al., 2006), eating disorders (Waller, Meyer, Ohanian, 2001), post-traumatic stress disorder (Cockram, Drummond, Lee, 2010) and personality disorders (Ball, Cecero, 2001). Therefore, it appears that early maladaptive schemas may present increased vulnerability to the full spectrum of psychiatric disorders, including addiction. Research studies that investigated the relationship between schemas and substance use suggest that nearly all schemas are associated with substance use (Brotchie et al., 2004, 2007; Roper et al., 2010; Shorey et al., 2011).

Brotchie et al. (2004) showed that drug users scored significantly higher in 11 out of 15 maladaptive schemas than the non-clinical control group. The authors compared four groups of addict patients, i.e. alcohol addicts, drug addicts and combined alcohol-opiate patients with a non-clinical control sample in the early maladaptive schema representation. The results suggest that there are more maladaptive schemas of higher intensity in the clinical group than in the non-clinical group. In addition, higher intensity of the schemas of subjugation, vulnerability to danger and emotional inhibition was confirmed in the group of alcohol addicts than in other groups. The presence of a higher rate of maladaptive schemas in alcohol addicts compared to a non-clinical sample was also proved by a group of authors around Roper (2010). The facts stated above have been confirmed by research both on a sample of adult alcohol addicts (Roper et al., 2010) and a sample of adult drug addicts (Shorey et al., 2012b). When comparing drug addicts and their intimate partners who do not exhibit an addiction problem, an overall higher rate of early maladaptive schemas in drug addicts has been confirmed (Shorey et al., 2011). The biggest differences were in the schemas: defectiveness/shame, failure to achieve, dependence/incompetence, vulnerability, and insufficient self-control. According to the above authors, these schemas can be considered as the most predisposing to the formation of addiction problem, as a way of dysfunctional coping with the schemas.

The research team of Shorey, Stuart and Anderson (2012a) examined the differences in early maladaptive schemas between drug-addicted men and women. The results showed that women scored significantly higher than men in 14 out of 18 monitored schemas. Four schemas have proven to be the most widespread in both men and women without distinction, namely the schema of self-sacrifice, punitiveness, hypercriticalness and insufficient self-control. The same group of authors also examined the incidence of early maladaptive schemas in pathological gamblers, where higher scores were found in schemas of emotional inhibition, insufficient self-control, approval seeking, punitiveness, emotional deprivation, abandonment, mistrust/abuse, social isolation and self-sacrifice (Shorey et al., 2012b).

Relationship of early maladaptive schemas and substance use

Straver (2017) states that the best key to confirming the relationship between maladaptive schemas and substance use is to identify negative childhood experiences that may have contributed to drug use in adulthood. Several studies have attempted to examine the risk factors in childhood for the development of addiction in adulthood and have shown that children who grew up in highly conflicting families were at greater risk of using illicit drugs later in life (Hawkins, Catalano, Miller, 1992). Similarly, parent-child interaction, characterized by a lack of proximity associated with ill-treatment (psychological, sexual, and/or emotional abuse), is associated with a significantly higher likelihood of substance use in life (Afifi et al., 2012; DeBellis, 2002; Hawkins, Catalano, Miller, 1992). The above negative childhood experiences regarding abuse and neglect are a prerequisite for the development of maladaptive schemas in the domain of disconnection and rejection (Young, Lidemann, 1992; Young, Klosko, Weishaar, 2003). This domain contains schemas: abandonment/instability, abuse/mistrust, emotional deprivation, defectiveness/shame, social isolation/alienation. Therefore, it is hypothesized that schemas in this domain are associated with substance use, or more specifically, emotional pain caused by schemas in this domain leads to substance use as a way of managing and coping with pain (Straver, 2017).

Relationship between early maladaptive schemas and coping styles

In his study, Straver (2017) tested the above hypotheses and demonstrated that schemas in the domain of disconnection and rejection are associated with substance use through coping. Schemas in the domain of impaired limits affect the strength of the relationship between the schemas in disconnection domain and substance use. He also showed that there is a relationship between coping modes and the type of the substances that are used. His findings confirm the above assumptions that maladaptive schemas play an important role in the dynamics of substance use. The results are also consistent with the theories claiming that schemas in the disconnection domain are an important trigger for substance use (Ball, 1998; Roper et al., 2010). The assumption that coping modes mediate the relationship between schemas and substance use was confirmed only in the avoidance coping mode, which may be a confirmation of the theory that substance use fulfills the function of avoiding emotional pain. Bayrami, Baksipor and Esmaeili (2012) also focused on the relationship between early maladaptive schemas and coping styles according to Young's model. On the sample of 235 students they examined the relationship between schemas and coping styles using Young's questionnaires. The correlation analysis showed a significant positive relationship between the schemas in the domain of disconnection and overvigilance and inhibition coping style. The authors did not find a significant relationship between other variables.

Research background and objectives

The aim of our study is to analyze the relationship between early maladaptive schemas and coping styles. We want to find out whether the above findings confirm that higher intensity of early maladaptive schemas in each domain will be associated with a more pronounced avoidance coping style. We also want to find out the

nature of the relationship between early maladaptive schemas and overcompensation coping style, since the supposed positive relationship has not yet been empirically confirmed. Our another aim is to analyze gender differences in the intensity of early maladaptive schemas, based on the results of a study by Shorey, Stuart and Anderson (2011), which confirmed a higher intensity of early maladaptive schemas in women addicted to drugs in 14 out of 18 schemas. We therefore assume that we will confirm a higher intensity of early maladaptive schemas in women addicted to alcohol and drugs. We also want to confirm or refute the results of the same team of authors who found the highest overall score in the early maladaptive schemas of self-sacrifice, punitiveness, hypercriticalness and insufficient self-control. Another goal is to analyze the differences in intensity of early maladaptive schemas across the domains between different groups of addicts. Based on the findings of some authors who examined early maladaptive schemas in different groups of addicts, we assume that we will confirm the differences in intensity of early maladaptive schemas in the group of alcohol addicts and in the pathological gamblers group. According to the findings of Brothie et al. (2004), there is a higher intensity of early maladaptive schemas of subjugation, vulnerability to danger and emotional inhibition in the group of alcohol addicts. Shorey et al. (2012) found higher scores in early maladaptive schemas of emotional inhibition, insufficient self-control, approval seeking, punitiveness, emotional deprivation, abandonment, mistrust/abuse, social isolation and self-sacrifice in a group of pathological gamblers.

Hypotheses

Based on the findings mentioned above and in accordance with the research questions, we have formulated the following hypotheses.

H1: Higher intensity in each domain of early maladaptive schemas will be associated with higher intensity of avoidance coping style.

H2: Higher intensity in each domain of early maladaptive schemas will be associated with higher intensity of overcompensation coping style.

H3: The intensity in each domain of early maladaptive schemas will be higher in women than in men.

H4: The intensity in each domain of early maladaptive schemas will vary according to the type of addiction.

H5: The overall highest score will be in the early maladaptive schemas of self-sacrifice, punitiveness, hypercriticalness and insufficient self-control.

Methods and Sample groups

In our research we used a questionnaire method. In the introduction we asked about demographic data (gender, age), the type of addiction and number of hospitalizations per addiction.

In the first part, we used the YSQ-S3 questionnaire (Young Schema Questionnaire), a shortened version for research purposes with 90 items that measures 18 maladaptive schemas in 5 domains. The questionnaire includes items such as: "In almost everything I do I have to be the best. Being second in unacceptable to me", "I can say that I had no one who was ever kind, warm and supportive to me", "No one will get closer to me, when he or she finds out what I really am like". Individual statements are evaluated using the Likert scale from 1 (completely false) to 6 (completely true).

In the second part, we administered the Young-Rygh Avoidance Inventory questionnaire (YRAI) with 41 items, that explores different ways to avoid schemas. It includes items such as: "When I am alone, I watch TV a lot", "I try not to think about things that upset me or make me nervous", "I take drugs in order to feel better". The respondents rated the statements on a 6-point Likert scale from 1 (not at all) to 6 (very much). The higher the score, the more intense the avoidance coping style.

In the third part, we used the Young Compensation Inventory questionnaire (YCI) with 48 items, which measures different methods of overcompensation. The questionnaire includes items such as: "When something goes wrong, I often blame others", "I am comfortable with such positions where I can control or manage people around me", "I do not like rules and their violation satisfies me". The respondents rated each item on a 6-point scale from 1 (not at all) to 6 (very much). As a clinical tool in psychotherapy, every item is discussed with the patient and further inquired, and a higher score corresponds to a more intense overcompensation coping style.

In our research we used Slovak translation of these questionnaires by M. Šlepecký (2017). The above questionnaires are currently undergoing standardization on the Slovak population.

Research sample

The sample of respondents consisted of 121 patients hospitalized for various types of addiction in the Specialized Psychiatric Institute in Predná Hora (Odborný liečebný ústav psychiatrický Predná Hora). In terms of gender, the distribution was as follows: the sample consisted of 93 men (76.9 %), and 28 women (23.1 %). The average age of respondents was 40.6 years and the standard deviation was 11.98. The sample was dominated by a group of alcohol addicts with 80 members (66.1 %), followed by a group of drug addicts with 24 members (19.8 %), and the least numerous group of pathological gamblers with 17 members (14 %).

The sample distribution with respect to the number of hospitalizations per addiction was as follows: the largest group of patients who were hospitalized for the 1st time consisted of 77 members (63.6 %), the group of patients with the 2nd hospitalization consisted of 25 members (20.7 %), the group of patients with the 3rd hospitalization of 9 members (7.4 %), the group of patients with the 4th hospitalization of 6 members (5 %), the group of patients with the 5th hospitalization of 3 members (2.5 %), and 1 patient was hospitalized for addiction 7 times.

The research was approved by the Ethics Committee of Specialized Psychiatric Institute Predná Hora and was carried out in January and February 2018. The administration was conducted in person and respondents were given instructions and were informed about anonymity and voluntary participation.

Data analysis

For the data analysis, we used the SPSS 16 statistical program. For the determination of the relationship between the variables, we used the Pearson and Spearman correlation coefficient. For the determination of the differences between selections, we used the non-parametric Man-Whitney U test.

Result and interpretation

Correlation analysis

First, we subjected all variables to the normal distribution layout test. All variables showed normal layout except for the impaired autonomy and performance variable. The values of Kolmogorov-Smirnov test are shown in the table 1. Based on this, we have fulfilled the conditions for using Pearson correlation coefficient and in case of abnormal distribution layout of impaired autonomy and performance variable we used Spearman correlation coefficient.

Tab.1 Test of the normal distribution layout

Variables		D	Sig.
Schema domains	Disconnection and rejection	0.071	0.200*
	Impaired autonomy and performance	0.101	0.004
	Impaired limits	0.059	0.200*
	Other-directedness	0.071	0.200*
	Overvigilance	0.058	0.200*
Coping styles	Avoidance	0.045	0.200*
	Overcompensation	0.047	0.200*

* The correlation is significant at the level of 0.05

Relation between schema domains and avoidance coping style

The assumption that the higher intensity of the early maladaptive schema domains correlates positively with the avoidance coping style was confirmed in all 5 schema domains. The value of Pearson correlation coefficient in the domain of disconnection and rejection is 0.297 at the significance level of $p < 0.01$. In the domain of impaired autonomy and performance, the value of Spearman correlation coefficient is 0.334 at the significance level of $p < 0.01$. In the domain of impaired limits, the value of Pearson correlation coefficient is 0.345 at the significance level of $p < 0.01$. In the domain of other-directedness, the value of Pearson correlation coefficient is 0.297 at the significance level of $p < 0.01$. In the domain of overvigilance and inhibition, the value of Pearson correlation coefficient is 0.223 at the significance level of $p < 0.05$. The values of all correlation coefficients are shown in the table 2.

Based on the above findings, we can say that hypothesis No. 1 (Higher intensity in each domain of early maladaptive schemas will be associated with higher intensity of avoidance coping style) was confirmed.

Tab.2 Correlation between schema domains and avoidance coping style

Schema domains	Avoidance coping style	
	Disconnection and rejection	$r = 0.297^{**}$
	Impaired autonomy and performance	$r_s = 0.334^{**}$
	Impaired limits	$r = 0.345^{**}$
	Other-directedness	$r = 0.297^{**}$
	Overvigilance and inhibition	$r = 0.223^*$

** The correlation is significant at the level of 0.01

* The correlation is significant at the level of 0.05

Relationship between schema domains and overcompensation coping style

We assumed that the higher intensity of the early maladaptive schema domains would be associated with a more intense overcompensation coping style. We found a positive correlation between the schemas in all 5 domains and the overcompensation coping style. We found a moderate relationship in the impaired limits domain, where the value of Pearson correlation coefficient is 0.436 at the significance level of $p < 0.01$. We also found a moderately strong relationship in the domain of other-directedness, where the Pearson correlation coefficient value is 0.357. Both correlations are significant at the significance level of $p < 0.01$. We also found a weak relationship in the domain of disconnection and rejection, where the value of Pearson correlation coefficient is 0.333 at the significance level of $p < 0.01$ and in the domain of impaired autonomy and performance the Spearman correlation coefficient value was 0.191 at the significance level of $p < 0.05$. The values of all correlation coefficients are shown in the table 3.

Based on the above findings, we can say that hypothesis No. 2 (Higher intensity in each domain of early maladaptive schemas will be associated with higher intensity of overcompensation coping style) was confirmed.



Tab.3 Correlation between schema domains and overcompensation coping style

		Overcompensation coping style
Schema domains	Disconnection and rejection	$r = 0.333^{**}$
	Impaired autonomy and performance	$r_s = 0.191^*$
	Impaired limits	$r = 0.436^{**}$
	Other-directedness	$r = 0.376^{**}$
	Overvigilance and inhibition	$r = 0.357^{**}$

** The correlation is significant at the level of 0.01

* The correlation is significant at the level of 0.05

Analysis of differences

We tested the gender and the type of addiction variables for normal distribution layout. Since the Kolmogorov-Smirnov test did not demonstrate a normal distribution layout in both variables, we used the non-parametric Mann-Whitney U test for two independent selections. Kolmogorov-Smirnov test values are shown in the table 4.

Tab.4 Test of normal distribution layout

		D	Sig.
Variables	Gender	0.476	0.000
	Type of addiction	0.101	0.000

Differences in the intensity of the schema domains with respect to the gender

We assumed that there were differences in the intensity of each domain of early maladaptive schemas relative to gender. Based on the previous findings, women should score higher in each schema than men. Differences were found in the schema domain of impaired autonomy and performance where the Mann-Whitney U test value is 916.00, and in the other-directedness domain where the Mann-Whitney U test value is 926.50. In these domains, a statistically significant difference in the schema intensity relative to the gender was confirmed. The average achieved score confirms that women score higher than men in these domains. All values are shown in the tables 5 and 6 (see Tab. 6).

Based on these findings, we can confirm hypothesis No. 3 (The intensity in each domain of early maladaptive schemas will be higher in women than in men) in the domain of impaired autonomy and performance and in the domain of other-directedness. In other domains, the difference was not statistically confirmed.

Tab.5 Differences in the intensity of the schema domains with respect to the gender

Source of variability	Schema domains	U	Sig.
Gender	Disconnection and rejection	1002.50	0.066
	Impaired autonomy and performance	916.00	0.018
	Impaired limits	1030.00	0.094
	Other-directedness	926.50	0.021
	Overvigilance and inhibition	1099.50	0.213

Differences in the intensity of schema domains with respect to the type of addiction

Based on existing findings, we assumed differences at the domain level of early maladaptive schemas with respect to different groups of addictions. We first tested the domain-level difference with the Mann-Whitney U test between the alcohol addiction group and the illicit drug addiction group, then between the illicit drug addiction group and the pathological gamblers group, and finally between the alcohol addiction group and the pathological gamblers group. We did not find any statistically significant relationship between these groups. All values are shown in the tables 7 (see Tab. 7) and 8 (see Tab. 8).

Based on the above findings, hypothesis No. 4 (The intensity in each domain of early maladaptive schemas will vary according to the type of addiction) can be rejected.

Schemas with the highest overall score

Based on existing studies, we assumed that the highest scores would be in early maladaptive schemas of self-sacrifice, hypercriticalness, insufficient self-control, and punitiveness. We compared the average scores and found that the highest average score was in the early maladaptive schema of self-sacrifice (18.51), hypercriticalness (18.91), approval seeking (16.80) and punitiveness (16.71). A slightly lower average score was also found in the early maladaptive schema of abandonment. Based on these findings, hypothesis No. 5 (The overall highest score will be in the early maladaptive schemas of self-sacrifice, punitiveness, hypercriticalness and insufficient self-control.) was not confirmed. The average scores for all schemas are shown in the table 9.

Tab.9 Average scores achieved in early maladaptive schemas

Schemas		Average score	SD
Emotional deprivation		12,45	5,24
Abandonment		16,38	4,45
Abuse/mistrust		15,28	5,03
Social isolation		12,52	5,39
Defectiveness/shame		10,75	4,45
Failure to achieve		10,94	5,32
Dependence/incompetence		11,53	5,05
Vulnerability to danger		11,53	5,04
Enmeshment/undeveloped self		12,30	4,99
Subjugation		12,91	4,83
Self-sacrifice		18,51	4,82
Emotional inhibition		12,89	4,70
Hypercriticalness		18,19	4,11
Entitlement/grandiosity		14,99	4,01
Insufficient self-control		14,16	5,20
Approval Seeking		16,80	4,97
Negativity/Pessimism		15,53	5,61
Punitiveness		16,71	4,80

Discussion

In our work, we have empirically verified the model of early maladaptive schemas and coping styles of J. Young on a sample of patients diagnosed with addiction. According to this model, there is a relationship between early maladaptive schemas and coping styles of avoidance and overcompensation. Our results confirm the above assumptions and point to a relatively consistent system in the examined relationship. Between early maladaptive schemas and avoidance coping style, we found a positive relationship in all schema domains. Similarly, the relationship between early maladaptive schemas and overcompensation coping style seems to be consistent. We found a positive relationship between variables across all schema domains. Similar findings are reported by Bayrami, Baksipor and Esmaeili (2012), who have empirically confirmed a positive relationship between early maladaptive schemas and avoidance coping style in the disconnection and rejection domain and overvigilance and inhibition domain. However, they did not find a relationship between the early maladaptive schemas and overcompensation coping style.

The above results confirm the theoretical assumptions that avoidant behavior can help an individual avoid negative emotional states associated with early maladaptive schemas. In the context of

addiction, avoiding negative emotions can be a key mechanism leading to substance use. Therefore, one of the main goals of addiction therapy is to teach patients to cope with negative emotions, not to avoid them. But dealing with negative emotions is very demanding, especially for patients with strong personality pathology. Patients with personality disorders are known to be particularly sensitive and much more vulnerable to negative affects as well as to interpersonal conflicts that occur during classical community-style addiction treatment. Failure to cope with negative affects often results in premature discontinuation of therapy and subsequently a relapse occurs as a reaction to accumulated negative feelings caused by conflicts with co-patients and often also with staff. Therefore, schema therapy for addict patients offers the opportunity to focus first on the practice of regulating negative emotions, understand the triggers of these strong feelings, identify the modes in which the patient is often present and learn a new, more adaptive ways of coping. Keeping the patient on treatment is a factor that increases the likelihood of efficacy of the treatment itself. Some dual treatments have already confirmed a reduction in early withdrawal from therapy if they also focused on personality pathology in the treatment of addiction (Linehan et al., 1999). Therapy aimed at changing schemas in addict patients could help the classic treatment programs to streamline therapy of addictions and help the patients who are unable to abstain because of their personal pathologies.

A similar mechanism may also work with the overcompensation coping style. Our findings are consistent with the assumption that overcompensation may be one of the ways people attempt to cope with early maladaptive schemas. If an individual uses overcompensation as a coping style, he or she tries to fight the schema and behave as if the opposite of the schema is true. The behavior that is typical for an overcompensation coping style is exaggerated, unscrupulous, or even aggressive. Therefore, in addition to the supposed victory over the schema, it brings many negative consequences which result in the reactivation of the early maladaptive schema and the whole circle is repeated.

As in avoidance coping style, in overcompensation coping style it is important to analyze these maladaptive coping styles with the patients and find more appropriate and less risky ways of coping.

Verifying the hypothesis that addicts score highest in early maladaptive schemas of self-sacrifice, punitiveness, hypercriticalness and insufficient self-control showed differences in the results of our work and the results of other authors. The hypothesis that the highest overall score would be in the early maladaptive schemas mentioned above has not been confirmed in our work. Our results, however, suggest that the assumption of the existence of schemas that steadily reach the highest score in addicts is relevant, as early maladaptive schemas of self-sacrifice (other-directedness domain), hypercriticalness and punitiveness (overvigilance and inhibition domain) show the highest overall scores in our work, as well as in the work of Shorey, Stuart and Anderson (2011). The only difference we noticed was in the early maladaptive schema of insufficient self-control, which in our work scored lower than the approval seeking schema.

These findings could confirm Young's theoretical assumptions that there are conditional early maladaptive schemas, i.e. schemas that have arisen in response to primary, unconditional schemas. Conditional schemas are secondary and may be a form of overcompensation of primary unconditional schemas. Unconditional schemas (e.g. schemas in the domain of



disconnection and rejection) are, according to Young, key to the development of other schemas (Young, Klosko, Weishaar, 2003). The schemas of self-sacrifice and hypercriticalness, which, according to our findings as well as the findings of other authors, are dominant in addicts, are considered and belong to the so-called conditional schemas that develop in response to primary unconditional schemas, often in the domain of disconnection and rejection. According to some authors (Ball, 1998; Roper et al., 2010), the so-called unconditional schemas, i.e. schemas in the domain of disconnection and rejection, are an important trigger for substance use. Thus, a lower overall score in the unconditional schemas in our research (e.g. some schemas in the disconnection and rejection domain or impaired limits domain) does not necessarily mean that these schemas are less intense in addict patients, but we can deduce their strength from conditional – overcompensation schemas. For example the schemas of self-sacrifice and hypercriticalness as a response to the schemas of abandonment or defectiveness and shame. These assumptions need to be subject to empirical research and may be an incentive for further study in this field. Lower scores in unconditional schemas (e.g. schemas in the disconnection and rejection domain) could also confirm the assumption that primary unconditional schemas are according to Young often unrealized as they develop in early childhood (Young, Klosko, Weishaar, 2003) and are the deepest level of thinking about oneself, others, and the world (Greenberger, Padesky, 1995). Therefore, patients are often not in direct contact with them, which may be the reason why they report them less often. On the other hand, the overcompensation schemas, such as self-sacrifice or hypercriticalness which are among the most frequently scored in the schema research, are more easily realized, registered by the surrounding, and often represent a very acceptable human characteristic, which could explain their higher scores in studies. From clinical practice it is also known that patients are often unaware of the schemas that govern their lives and only with the help of therapy they can identify them. This could be one of the reasons why the research of schemas with the use of group administered questionnaire results in findings that the primary schemas, such as in the disconnection and rejection domain, are less frequently scored by the respondents than schemes in the other-directedness domain.

Since there are findings that women have higher overall scores than men in schemas (Shorey, Stuart, Anderson, 2011), we have also tested the differences in intensity of early maladaptive schemas in men and women. We have found these differences only in two domains, i.e. in the domain of impaired autonomy and performance and in domain of other-directedness. This discrepancy between our results and the results of other authors may also be due to the low number of women in our sample.

There are several explanations that seek to clarify the tendency of women to score higher than men in early maladaptive schemas. One possible explanation is based on research findings that women show a higher degree of depressive symptoms (Blazer, 2000), which could indicate that they are generally more vulnerable. We also know from some studies that unlike men, women are more likely to have other psychological problems besides addiction when treating alcohol addiction (Foster, Peter, Marshall, 2000). Therefore, it is possible that women addicted to alcohol are more likely to develop early maladaptive schemas than men. This would also corroborate the findings that women are often more likely to experience traumatic childhood events (e.g. sexual abuse) than men (Bolen, Scannapieco, 1999). These traumatic childhood events are probably responsible for the development of early maladaptive schemas

(Young, Klosko, Weishaar, 2003). However, it is equally possible that women are simply more sincere in research, which could also explain the gender gap.

When examining the differences in the intensity of the schemas with respect to different types of addictions, we also used the data from already existing findings that each group of addicts scores differently in different schemas. In our research, we have not found these differences, which is inconsistent with the results of a team of authors around Brotchie (2004), who unequivocally confirmed the higher intensity in the schemas of subjugation, vulnerability to danger and emotional inhibition in the alcohol addiction group compared to the group of pathological gamblers. We did not confirm these differences even in the group of illicit drug addicts. However, as with gender differences, we have encountered a problem of unequally distributed samples, because the number of alcohol addicts far exceeds the illicit drug addicts and the pathological gamblers. We consider the uneven distribution of the sample with respect to gender and type of addiction as one of the limits of our work. Therefore, it is difficult to draw conclusions from these results and the study should be an incentive for further research into this issue.

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Tab.6 Average achieved score in schema domains relative to gender

Gender		Disconnection and rejection	Impaired autonomy and performance	Impaired limits	Other-directedness	Over-vigilance and inhibition
Male	N	93	93	93	93	93
	Average	65.53	44.12	28.40	47.16	62.64
	SD	17.35	15.57	7.97	10.10	13.82
Female	N	28	28	28	28	28
	Average	73.57	53.03	31.64	51.82	65.46
	SD	19.94	17.87	7.01	10.53	12.12

Tab.7 Differences in the intensity of schema domains with respect to the type of addiction

Source of variability	Schema domains	U	Sig.
Alcohol – illicit drugs	Disconnection and rejection	861.00	0.445
	Impaired autonomy and performance	876.00	0.517
	Impaired limits	806.00	0.234
	Other-directedness	796.00	0.205
	Overvigilance and inhibition	953.00	0.957
Alcohol – pathological gambling	Disconnection and rejection	617.00	0.550
	Impaired autonomy and performance	647.50	0.758
	Impaired limits	571.00	0.300
	Other-directedness	661.00	0.857
	Overvigilance and inhibition	659.50	0.846
Illicit drugs – pathological gambling	Disconnection and rejection	194.00	0.791
	Impaired autonomy and performance	192.00	0.751
	Impaired limits	202.00	0.958
	Other-directedness	168.50	0.347
	Overvigilance and inhibition	193.00	0.771

Tab.8 Average score in schema domains with respect to the type of addiction

Type of addiction		Disconnection and rejection	Impaired autonomy and performance	Impaired limits	Other-directedness	Over-vigilance and inhibition
Alcohol	N	80	80	80	80	80
	Average	65.80	45.05	28.47	48.93	63.10
	SD	16.44	15.04	7.53	10.64	13.62
Illicit drugs	N	24	24	24	24	24
	Average	72.25	49.41	30.45	45.66	63.75
	SD	24.07	20.06	9.51	10.70	15.19
Pathological gambling	N	17	17	17	17	17
	Average	68.05	47.00	30.52	48.58	63.58
	SD	16.54	17.94	6.73	8.21	10.40



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