

# Social and Psychological Rehabilitation of People Addicted to Psychoactive Substances: Research Results

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**Abstract:** *The article presents the empirical study of resocialization and socio-psychological rehabilitation of addicts to psychoactive substances, carried out by the scientific and pedagogical staff of Lviv State University of Internal Affairs (Ukraine), working in the field of social and behavioral sciences. The study started in November 2020 and was completed in February 2021. It was conducted in three cities of Ukraine (Kyiv, Kharkiv, Lviv). 46 people addicted to psychoactive substances aged 16 to 51 were involved. The men presented the sample of 89%, the women estimated by 11%. Regarding individual age, it should be noted that 51% of the researched were 35-37 years old, namely: 17.4% alcohol addicts; 60.9% – drug addicts; 21.7% – alcohol and drug addicts. The goal and objectives of the experimental study were highlighted; a hypothesis was formulated. The category of people addicted to psychoactive substances was selected, with the psychological portrait of the subjects undergoing treatment in the indicated rehabilitation centers of the cities of Ukraine was clarified, while comparing them with practically healthy persons, who correspond to age and sex characteristics. The following psychological tools were used in the study: life-sense orientation test in the adaptation by D. Leontiev, the methodology for diagnosing interpersonal relations by T. Leary, the MMPI questionnaire («Mini-Mult»), the method for diagnosing the socio-psychological adaptation of K. Rogers-R. Diamond. The main differences between the subjects were determined according to various characteristics: the presence and absence of addicted relatives, alcohol and drug addiction, use of up to ten and over ten years. The negative consequences for the brain, in particular, and human life in general, when using psychoactive substances are described.*

**Keywords:** *rehabilitation; resocialization; addiction; psychoactive substances; mental state of addicts, neurology, brain.*

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## Introduction

At the present stage of psychological science development in Ukraine, prevention and rehabilitation programs for people addicted to psychoactive substances are presented in various ways, and the number of rehabilitation centers for them is also increasing. However, it is worth noting the contradictions that occur in Ukrainian society between the promotion of a healthy lifestyle among people of different ages, the prevention of drug addiction, smoking and alcoholism in educational institutions of various levels of training, and reducing public funding for rehabilitation projects aimed at minimizing the use of psychoactive substances. At the same time, there is no single concept of effective programs of social and psychological assistance and rehabilitation of addicts in treatment. Furthermore, there is no single methodological approach or technology to help them. Finally, experts' views on treatment and rehabilitation protocols do not find a common denominator. The topic of addiction falls under the interests of sociology, medicine, neuroscience, neurology, psychology, and pathopsychology. Hence, it is timely and extremely important.

**The idea** of this study is to clarify the features of the modern rehabilitation process and the individual characteristics of people addicted to psychoactive substances.

**The aim** is to present the results of an empirical study on the rehabilitation of persons addicted to psychoactive substances.

**The hypothesis** of the research is the assumption that if the process of rehabilitation of persons addicted to psychoactive substances is carried out in accordance with individual characteristics, simultaneously taking into account the mental state, mental functions, life situations of the addict's personality, using differential methods and forms of psycho-corrective activity, then rehabilitation of persons addicted to psychoactive substances will have positive indicators, as evidenced by the strengthening of an active personal position, restoration of physical and mental health and the effectiveness of social adaptation in society.

## Literature review

Readings in research on the process of addicts' rehabilitation (Burlaka, 2008; Lytvynchuk, 2016; Yih-Ing et al., 2013; Aleksandrov et al., 2020) strongly suggest that the importance of resocialization of people addicted to psychoactive substances requires profound investigation. The empirical research is based on the main principles of domestic (Chernets'ka,

2015;Kharchenko et al., 2015) as well as foreign (Allen et al., 1998; Chicos et al., 2019; Hosseinpour, 2019; Orsolini et al., 2019) psychological studies. The treatment and rehabilitation of addicts have repeatedly attracted the attention of researchers (see, for example, Chemerys, 2019; Ryzhko et al., 2003; Zhao Min et al., 2011). A range of scholars emphasizes the factors of the emergence and formation of addictive behavior (de Wit, 2009; Sklar et al., 1999; Yegorov, 2007). Some scientists devoted their works to its preventive forms and levels (Husak et al., 2013; Lins'kyi et al., 2006; Starshenbaum, 2006). There is a number of neuroscientists who study the nervous system and seek optimal treatments for neurological and mental illness (Konopka, 2014; Winger et al., 2005). The presence of a genetic predisposition to the use of psychoactive substances is confirmed by experimental data in the studies of the researchers (Kushchev, 2012; Moskalenko & Shevtsov, 2000). The analysis of neurochemical studies shows the fundamental unity of the central mechanisms of the development of addiction to psychoactive substances (Bakalyuk & Oliynyk, 2011). The neurological consequences of alcohol addiction and the effects of alcohol on the brain are described in the works of the following scholars (Nikiforov et al., 2017; Parfenov, 2010).

## **Methodology**

The following methods were used in the study: life-sense orientation test in the adaptation by D. Leontiev; the methodology for diagnosing interpersonal relations by T. Leary; diagnostics of personality disorders using the MMPI questionnaire («Mini-Mult»); the method for diagnosing the socio-psychological adaptation of K. Rogers-R. Diamond. Statistical data processing was carried out using the SPSS for Windows software package. The methods of descriptive statistics included an assessment of the arithmetic mean, standard deviation. To process the data obtained and quantitatively characterize the severity of the relationship between psychological indicators, we used correlation analysis using Pearson's rank correlation coefficient, comparative analysis of Student's t-test.

## **Results**

The study was conducted from November 2020 to February 2021. The study involved 46 people addicted to psychoactive substances aged 16 to 51 years old. All of them during the study were hospitalized in three different rehabilitation centers (Lviv, Kyiv, and Kharkiv). The men presented the sample of 89%, the women estimated by 11%. It is worth

saying that 51% of the researched were 35–37 years old, to be exact: 17.4% alcohol addicts; 60.9% – drug addicts; 21.7% – alcohol and drug addicts. The duration of remission of participants in rehabilitation programs is within a wide time frame. Thus, the last time they used psychoactive substances varies from one to three months ago – 50% of respondents; 4 – 6 months – 28.3% of persons; 7–12 months – 8.7%; over 12 months – 8.7% of participants. The length of use is also ranged: 1–5 years – in 30.4% of respondents; 6–10 years – in 21.7%; 11–15 years – in 26.1%; 15–23 years – in 21.7% of participants respectively. A characteristic feature is that 52.2% of the respondents have no addicts in the family, while 47.8% – one of the close relatives used drugs or alcohol. For 43.5% of respondents, this is their first rehabilitation, 56.5% of participants have already undergone rehabilitation programs. At the time of the research, all participants in the experiment were staying in indicated centers, adequately oriented in the environment, had a clear consciousness, and provided voluntary written consent to conduct the survey. The rehabilitants were diagnosed in accordance with the International Classification of Diseases ICD-10, heading F10-F19: Mental and behavioral disorders due to the use of psychoactive substances (addiction syndrome) by a doctor of the highest category specializing in «Addiction».

The characteristics of the participants are presented in Table 1, which is based on the authors' own conception.

**Table 1** Features of the studied group

Indicators	Characteristics	Number of people	Percentage values
Gender	Male	5	11%
	Female	41	89%
Age	16-20	6	13%
	21-25	5	11%
	26-30	14	30.5%
	31-35	10	21.5%
	36-40	7	15%
	41-51	4	9%
Dependency type	Alcohol	8	17.5%
	Drugs	28	61%
	Alcohol + drugs	10	21.5%
Consumption (years)	1-10	23	50%
	11-23	23	50%

Previous experience of rehabilitation	There were previous rehabilitations	26	56.5%
	The first rehabilitation	20	43.5%
Abstinence	1-12 months	42	91%
	13-26 months	4	9%
Family addiction	There were no addicts in the family	24	52%
	There were addicts in the family	22	48%

*Compiled by the authors*

First of all, it is worth considering that we were interested in the question: whether the use of psychoactive substances is affected by the relationship of our respondents with the presence (or absence) of their addicted relatives or significant people. Hypothesis: suppose that in the studied persons in whose family there were no addicts, high indicators of life-sense orientation prevail, and there will be no significant differences in the results of other methods we have carried out. Having clarified the designated issue, the results of a comparative analysis of personal indicators of individuals in the presence and absence of addicted relatives is presented, that is, whether the addiction of close relatives has an impact on the addiction of our respondents. Having carried out calculations of the life-sense orientation test, we obtained the following results, which are presented in Table 2, which is based on the authors' own conception.

**Table 2** Comparison of the level of life-sense orientation test indicator for persons with the presence and absence of addicted relatives

Scale	Subscale	Average value	Standard deviation	Significance level	Number of people
Life Goals	There were no addicts in the family	25.21	7.33	0.055	24
	There were addicts in the family	21.00	7.11	0.055	22
	Norm indicators	38.91	3.2		
Life Process	There were no addicts in the family	24.04	6.40	0.516	24

	There were addicts in the family	22.73	7.23	0.519	22
	Norm indicators	35.95	4.06		
Life Performance	There were no addicts in the family	19.5	5.18	0.474	24
	There were addicts in the family	18.27	6.32	0.478	22
	Norm indicators	29.83	3.00		
Locus of control-I	There were no addicts in the family	17.5	4.69	0.043	24
	There were addicts in the family	14.59	4.76	0.043	22
	Norm indicators	24.65	2.39		
Locus of control-life	There were no addicts in the family	23	5.10	0.397	24
	There were addicts in the family	21.5	6.75	0.404	22
	Norm indicators	34.59	4.44		
The overall indicator of LSO	There were no addicts in the family	81.08	16.47	0.262	24
	There were addicts in the family	74.90	20.34	0.267	22
	Norm indicators	120.36	10.21		

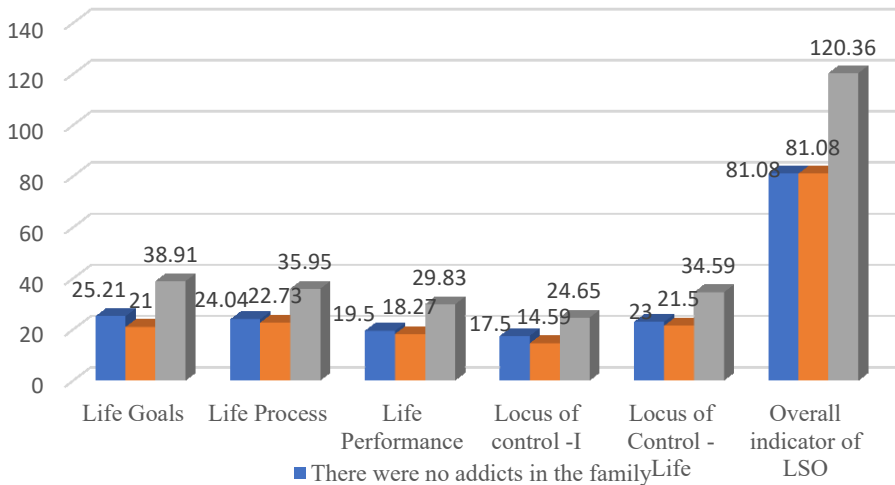
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The results of the life-sense orientation test indicate that the overall figures are lower than the widespread norms, testifying the frequent absence of goals in respondent's lives that can make life meaningful. Their objectives are aimed at a temporarily perspective. As can be seen from the results, participants are not satisfied with the existing life, its emotional saturation, or the life that they had been living until the moment they realized the state of sobriety. These people often live for today or yesterday.

Significant differences in indicators are available on two scales: «Life Goals» and «Locus of control-I». Scores on the «Life Goals» scale are higher in those subjects whose families had no addicts. It might be due to the absence of a harmful scenario in the family, there is no template for the

development of events and thoughts about the genetics of the disease. Besides, the same tendency concerns the scale «Locus of control – I», that is, despite the general tendency towards an internal locus of control, the indicators are higher for those who did not have addicted relatives.

Consequently, they imagine themselves as weak personalities, have a low level of self-control, usually do not take responsibility for the choices in their lives, often do not believe in themselves, do not know how to control the events of their own lives. It is easier and faster to return this category of respondents to their responsibility than those with low indicators because they had a negative example in life from loved ones, who used psychoactive substances. The indicator diagram is shown in Fig. 1.



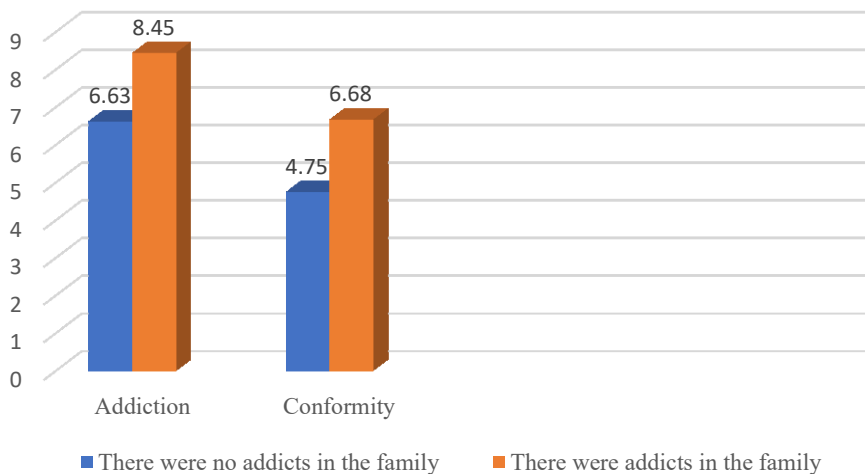
**Fig. 1.** Comparison of the level of life-sense orientation test indicator for persons with the presence and absence of addicted relatives (based on the authors' own conception).

With the help of T. Leary's test, significant differences were found on the following scales: dependence and conformity in persons with and without addicted relatives (see Table 3, Fig. 2).

**Table 3** Comparison of the levels of the T. Leary's test indicators of persons with the presence and absence of addicted relatives

Scale	Subscale	Average value	Standard deviation	Min. Value	Max. Value	Significance level	Number of people
Addiction	There were no addicts in the family	6,625	3,004	2	13	0.042	24
	There were addicts in the family	8,454	2,923	3	12	0.042	22
Conformity	There were no addicts in the family	4.75	3,082	0	12	0.040	24
	There were addicts in the family	6,682	3,107	3	14	0.040	22

*Compiled by the authors*



**Fig. 2** Comparison of the levels of the T. Leary's test indicators of persons with the presence and absence of addicted relatives (based on the authors' own conception).



Consequently, in the participants who had addicted relatives, the indicator of addiction is higher (8.45 vs. 6.63), which confirms the systemic nature of the disease. Such persons have become co-addictive since early childhood and take on the symptoms of the disease. Regarding the conformity index, it is also higher in respondents with addicted relatives (6.68 vs. 4.75), which may be due to increased traumatization of persons in destructive families. Since infancy they have been forced to adapt to family members, and show sympathy, care, compassion, that is, bear a certain responsibility towards them.

According to the results of the tests carried out for the diagnostics of personality disorders using the MMPI questionnaire («Mini-Mult») and the method for diagnosing the socio-psychological adaptation of K. Rogers-R. Diamond no differences were found. This points out that character traits are not changed during rehabilitation. The average adaptation indicators (59.58), self-acceptance (59.58), acceptance of others (63.76), emotional comfort (59.58), internality (51.57), striving for dominance (74.30), which roughly correspond to the normative ones. Indicators that are important for determining the correlation are as follows: self-acceptance (42.1 at a rate of 22-42), self-rejection (17.15 at a rate of 14.28). It is considered that self-acceptance is at a sufficiently high level and self-rejection is within the normal range, which indicates the positive consequences of rehabilitation. Indicators of the average values of MMPI («Mini-Mult») are also within the normal range (from 40 to 70) in the subjects. Average values of indicators: hypochondria – 52.9, depression – 54, hysteria - 57, psychopathy – 62, paranoia – 59, psychasthenia – 54.3, schizoid personality disorder – 60.5, hypomania – 57.

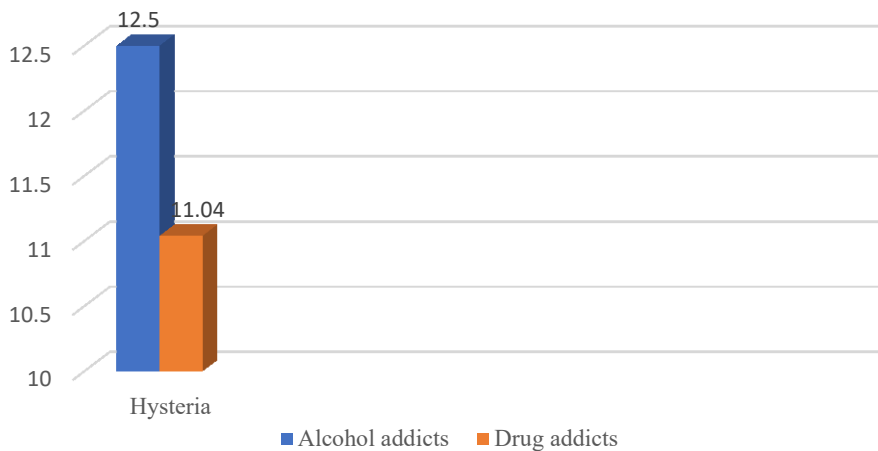
So, we have observed some differences between respondents in whose family there were and were not addicts only on several indicators, which are the most common and significant for the social behavior of the subjects: goals in life, internal locus of control, addiction, and conformity.

Following, the results of a comparative analysis of the personality indicators of alcohol and drug addicts are presented (see Table 4, Fig. 3). Hypothesis: suppose that the indicators of the integration of personality traits, the level of social adaptation, and life-sense orientation are without significant differences for alcohol and drug addicts.

**Table 4** Comparison of indicators of personal characteristics of MMPI («Mini-Mulb») of alcohol and drug addicts

Scale	Subscale	Average value	Standard deviation	Significance level	Number of people
Hysteria	Alcohol addicts	12.5	2,357	0.033	18
	Drug addicts	11,036	2,099	0.039	28

*Compiled by the authors*



**Fig. 3.** Comparison of indicators of personal characteristics of MMPI («Mini-Mulb») of alcohol and drug addicts (based on the authors' own conception).

The respondent's indicators are within the normal range, however, the indicators are higher in alcohol addicts than in those who use drugs. The hysteria indicator detects individuals prone to neurological defense reactions of the conversion type. They use the symptoms of a somatic illness as a means of avoiding responsibility, all problems are solved by going into illness. The main feature of such people is the desire to seem more significant than they actually are, the desire to attract attention, no matter what the cost is.

It is noted that the participants of the research can displace factors that can cause anxiety. They seem to emphasize somatic distress in order to

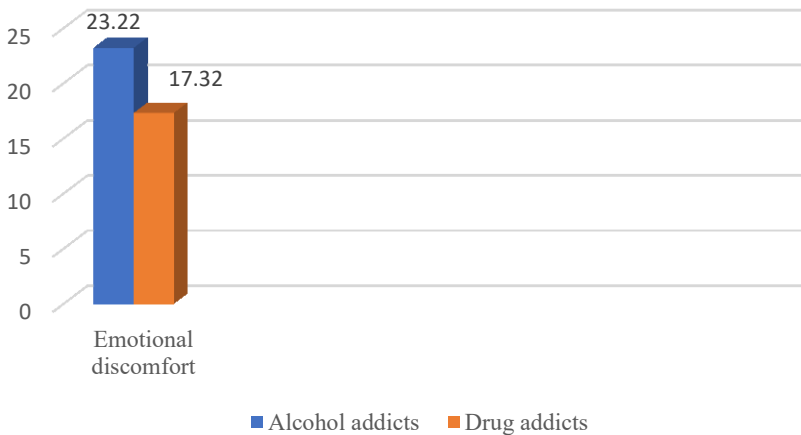
deny the difficulties in social adaptation. Additionally, alcohol addicts' need for social adaptation is higher, and prior, they use alcohol to facilitate their communication and interaction with people around them. The addict takes drugs to emphasize his independence. That means he/she needs to learn to ignore other people, their needs, and his/her need for other people's intimacy. Moreover, this ability for intimacy is not fundamentally formed. Ignoring other people rather relieves the fear of them, providing security through alienation.

The results of the level of social adaptation according to the K. Rogers – R. Diamond test for alcohol and drug addicts are highlighted in Table 5, Fig. 4.

**Table 5** Comparison of indicators of the level of social adaptation according to the results of the K. Rogers - R. Diamond test for alcohol and drug addicts

Scale	Subscale	Average value	Standard deviation	Significance level	Number of people
Emotional discomfort	Alcohol addicts	23,222	6,485	0.018	18
	Drug addicts	17,321	8,811	0.012	28

*Compiled by the authors*



**Fig. 4** Comparison of indicators of the level of social adaptation according to the results of the K. Rogers - R. Diamond test for alcohol and drug addicts (based on the authors' own conception).

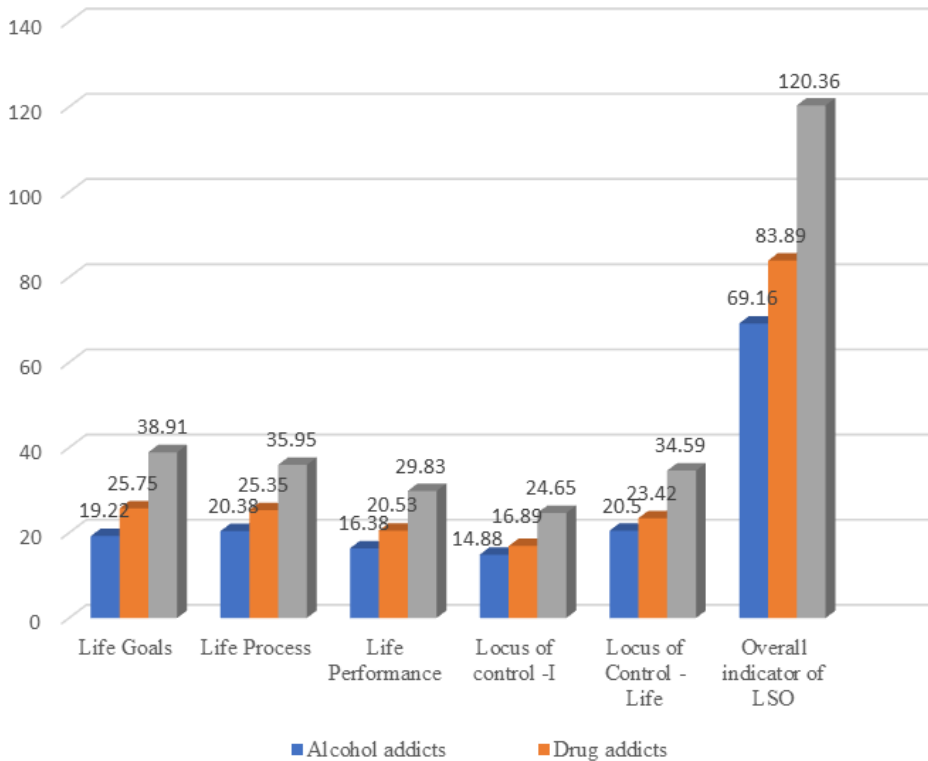
The emotional discomfort scale measures the uncertainty in emotional relation (uncertainty, depression, lethargy, etc.) to the surrounding social reality. In subjects who are addicted to alcohol, the indicator of emotional discomfort is higher than in drug addicts. The former feels embarrassed, try to redeem their guilt in front of authoritative interlocutors, while the latter tend to a feeling of fear of humiliation in front of the group, often devalue the leader, thus remains in the polarity «omnipotence-insignificance».

Comparison of the results of the life-sense orientation test showed more significant differences, the outcomes are reflected in Table 6 and fig. 5.

Table 6 Comparison of life-sense orientation indicators of alcohol and drug addicts

Scale	Subscale	Average value	Standart deviation	Significance level	Number of people
Life Goals	Alcohol addicts	19.22	5.54	0.003	18
	Drug addicts	25.75	7.48	0.002	28
	Norm indicators	38.91	3.2		
Life Process	Alcohol addicts	20.38	6.39	0.013	18
	Drug addicts	25.35	6.36	0.014	28
	Norm indicators	35.95	4.06		
Life Performance	Alcohol addicts	16.38	6.28	0.015	18
	Drug addicts	20.53	4.77	0.023	28
	Norm indicators	29.83	3.00		
Locus of control-I	Alcohol addicts	14.88	4.07	0.178	18
	Drug addicts	16.89	5.28	0.155	28
	Norm indicators	24.65	2.39		
Locus of control-life	Alcohol addicts	20.5	5.69	0.102	18
	Drug addicts	23.42	5.89	0.101	28
	Norm indicators	34.59	4.44		
The overall indicator of LSO	Alcohol addicts	69.16	17.31	0.007	18
	Drug addicts	83.89	17.10	0.008	28
	Norm indicators	120.36	10.21		

*Compiled by the authors*



**Fig. 5.** Comparison of life-sense orientation indicators of alcohol and drug addicts (based on the authors' own conception).

Thus, as can be seen from the results, which are highlighted in the table and figure, there are significant deviations in the indicators of alcohol and drug addicts and merely drug addicts. Those who are alcohol and drug addicts have lower scores on the scales «Life Goals», «Life Process», «Life Performance», «The overall indicator of life-sense orientation», which may be associated with a higher degree of depression, a sense of indifference, difficulty in interpersonal relationships.

Respondents addicted to drugs usually do not have established life values, due to the fact that they start using drugs early enough. To start with, it is necessary to form those values on which they could «rely» in order to recover. The personality, being immature, with uncertain values and life goals, is subject to addictive behavior. The reasons are the same as described above. Drug addicts have an illusion of control and self-sufficiency, which does not disappear during rehabilitation, especially if this is the first

rehabilitation. There was a pleasure in their lives that they remember. Those participants who used psychostimulants were active most of the time during the period of use, therefore the indicators of life-sense orientations are higher than in alcohol addicts.

No differences were found between the indicators of T. Leary's methodology of interpersonal relations.

Thus, the calculation of points for comparing the studied alcohol and drug addicts showed us the presence of dissimilarities between these two groups of people, which is a logical confirmation of the theories available in the psychological literature. According to our study, there are differences in the indicators of life-sense orientation, low indicators of life goals, satisfaction with the life process, its effectiveness. As well as alcohol addicts have a high indicator of emotional discomfort as well as a high indicator of hysteria, they are more suppressed, insecure, assess their lives worse, set fewer goals, avoid responsibility, «hiding» behind diseases, consequently showing a more neurotic type of behavior. Whereas drug addicts are more manifested in the behavior of the narcissistic type. Then, we present the results of a comparative analysis of life-sense orientation indicators of persons with a term of use up to 10 years and over 10 years. Hypothesis: suppose that in the subjects whose use period is up to 10 years, the indicators of life-sense orientation will be higher, the MMRI indicators will be lower, the indicators of the method for diagnosing the socio-psychological adaptation of K. Rogers-R. Diamond is also lower, and Timothy Leary's interpersonal relations scores are not significantly different.

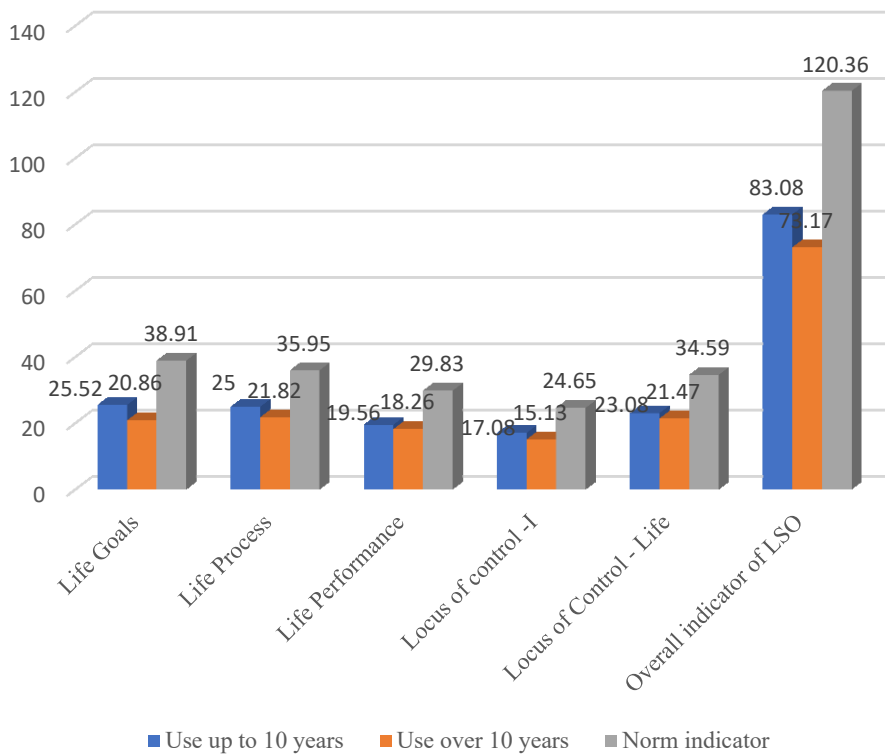
There were few differences in the indicators of life-sense orientation: «life goals» and «the overall indicator of LSO» (see Table 7, Fig. 6).

**Table 7** Comparison of life-sense orientations indicators of persons with a term of use up to 10 years and over 10 years

Scale	Subscale	Average value	Standart deviation	Significance level	Number of people
Life Goals	Use up to 10 years	25.52	6.14	0.032	23
	Use over 10 years	20.86	8.03	0.032	23
	Indicator of the norm	38.91	3.2		
Life Process	Use up to 10 years	25	6.53	0.112	23

	Use over 10 years	21.82	6.75	0.112	23
	Indicator of the norm	35.95	4.06		
	Use up to 10 years	19.56	4.78	0.446	23
	Use over 10 years	18.26	6.57	0.446	23
Life Performance	Indicator of the norm	29.83	3.00		
Locus of control-I	Use up to 10 years	17.08	4.24	0.178	23
	Use over 10 years	15.13	5.39	0.179	23
	Indicator of the norm	24.65	2.39		
Locus of control-life	Use up to 10 years	23.08	5.68	0.363	23
	Use over 10 years	21.47	6.19	0.364	23
	Indicator of the norm	34.59	4.44		
The overall indicator of LSO	Use up to 10 years	83.08	15.66	0.068	23
	Use over 10 years	73.17	20.04	0.069	23
	Indicator of the norm	120.36	10.21		

*Compiled by the authors*



**Fig. 6** Comparison of life-sense orientation indicators of persons with a term of use up to 10 years and over 10 years (based on the authors' own conception).

Thus, as suggested in the hypothesis, the life-sense orientation indicators are higher in the respondents who have used psychoactive substances for up to 10 years. That is, these are people with fewer psychological breakdowns, less both health problems and law troubles, they are more confident in not using or using in a controlled manner. Those who have been using for fewer years have a greater tendency to consider the future, set goals in life. Whereas those who have been using for over 10 years are less assured in goals, mainly due to unsuccessful previous attempts, or the experience of using rather than staying sober. The skills to live a sober life are lost as much as the ability to take responsibility for one's life is gone.

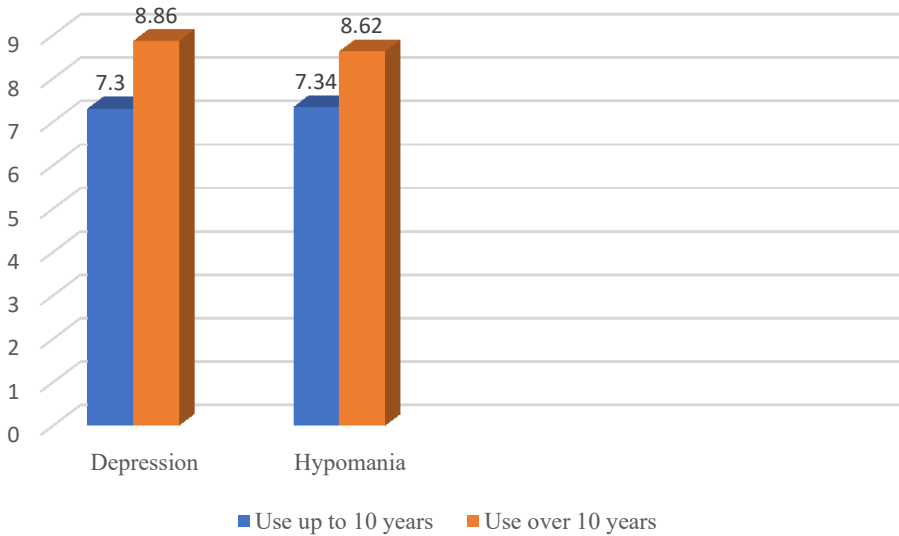
Regarding the personality traits, as a result of the study, significant differences were also revealed according to the «Depression» and «Hypomania» scales (see Table 8, Fig. 7).



**Table 8** Comparison of MMPI indicators of persons with a term of use up to 10 years and over 10 years

Scale	Subscale	Average value	Standart deviation	Significance level	Number of people
Depression	Use up to 10 years	7.30	2.47	0.047	23
	Use over 10 years	8.86	2.74	0.048	23
Hypomania	Use up to 10 years	7.34	2.01	0.051	23
	Use over 10 years	8.63	2.35	0.052	23

*Compiled by the authors*



**Fig. 7** Comparison of MMPI indicators of persons with a term of use up to 10 years and over 10 years (based on the authors' own conception).

As Figure 7 shows, the indices are quite high in both groups. The indicators are higher in respondents with a longer period of use, confirming the fact of the complication of the disease over time, that is, the problems are not solved, the condition is prolonged with an increasing effect. The analysis made it possible to state that the «Depression» scale shows a higher level of anxiety, self-doubt, the ability to despair. Subjectively, anxiety is

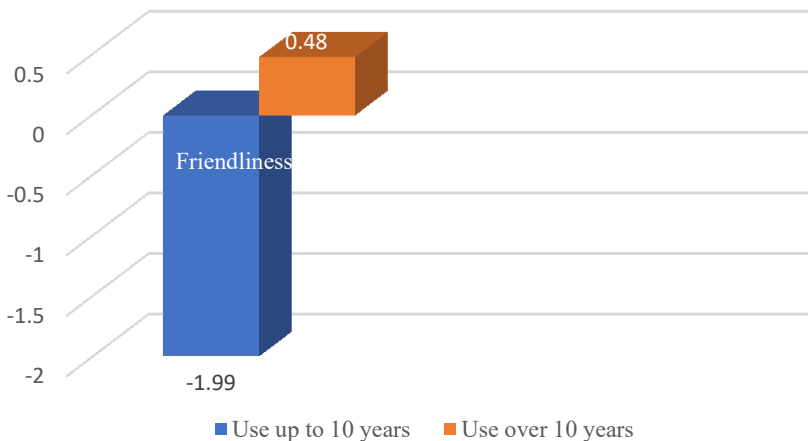
experienced in the form of a sensation of an indefinite threat, the nature and time of occurrence of which cannot be foreseen, fearful and anxious expectation. Depression, in this case, is more like pessimism, as if it overrides the anxiety of frustration by devaluing needs. It has been found that the indicators of «Hypomania» are quite high in both groups. At times they are higher than normal, which indicates the activity, energy, high spirits, that is an interesting observation that can be associated with emotional stress, or, hypothetically, with a significant reassessment of values in connection with long-term usage of psychoactive substances and some crisis (possibly age) period. It is said that the motivating factor in such cases is often raising children.

An additional difference was noticed in the indicator of interpersonal relations according to the results of T. Leary's test (see Table 9, Fig. 8).

**Table 9** Comparison of indicators of T. Leary's interpersonal relations of persons with a term of use up to 10 years and over 10 years

Scale	Subscale	Average value	Standart deviation	Significance level	Number of people
Friendliness	Use up to 10 years	-1.99	3.93	0.019	23
	Use over 10 years	0.48	2.82	0.019	23

*Compiled by the authors*



**Fig. 8** Comparison of indicators of T. Leary's interpersonal relations of persons with a term of use up to 10 years and over 10 years (based on the authors' own conception).

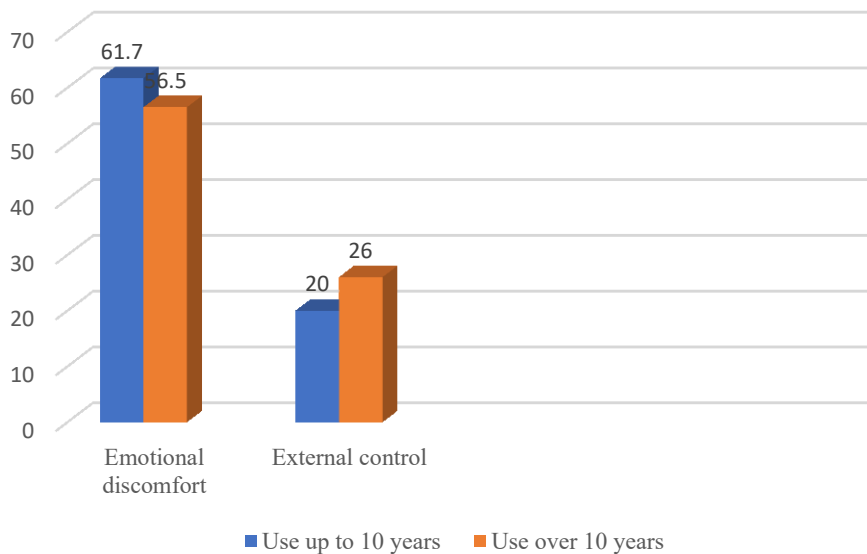
A positive result according to the «Friendliness» formula (in this case, for participants with a term of use for over 10 years) is the desire of the individual to establish friendly relations and interaction with others. However, a negative result (respondents with a period of use up to 10 years) indicates the manifestation of an aggressively competitive position, which hinders cooperation and successful joint activities. Such participants demonstrate more resistance, rejection of the disease, all the same thoughts about possible controlled use and, thus, withdrawal from help. Quantitative results are indicators of the severity of these characteristics. The indicator differences of socio-psychological adaptation were determined for emotional discomfort and external control (see Table 10, Fig. 9).

**Table 10** Comparison of indicators of diagnostics of social and psychological adaptation of K. Rogers - R. Diamond of persons with a term of use up to 10 years and over 10 years

Scale	Subscale	Average value	Standart deviation	Significance level	Number of people
Emotional discomfort	Use up to 10 years	16.13	7.69	0.004	23
	Use over 10 years	23.13	7.77	0.004	23
External control	Use up to 10 years	20	7.77	0.036	23
	Use over10 years	26	10.85	0.036	23

*Compiled by the authors*

It is statistically confirmed that the «Emotional discomfort», as in the previous analysis, is experienced by those who use psychoactive substances for a long time. The scale of the «External control» determines the tendency of an individual to a certain form of locus of control (externality). The tendency dominates to attribute the causes of everything that happens to external factors (environment, fate, or chance). Along with the results of the study, the indicators are higher precisely in persons with a period of use for over 10 years. One of the reasons for this may be the factor that such a long period is caused by the lack of the ability to take responsibility for oneself, the habit of thinking biasedly.



**Fig. 9** Comparison of indicators of diagnostics of social and psychological adaptation of K. Rogers-R. Diamond of persons with a term of use up to 10 years and over 10 years (based on the authors' own conception).

Consequently, the assumption was confirmed, there are certain differences in the values of indicators for persons with a period of use of up to and over 10 years. The longer the subjects use psychoactive substances, the higher the level of external control and emotional discomfort exists. At the same time, there is more desire to establish friendly relations with others, a higher level of depression and hypomania, as well as a general indicator of life-sense orientations, fewer goals in life, less satisfaction with life. They assess the level of life performance lower, and the external locus of control prevails in them.

**Correlation analysis of the presented study.** Characteristics of the connectivity of the signs of the personality traits of the personality of respondents and the presence or absence in their families those who are addicted to psychoactive substances.

Hypothesis: suppose that such characteristic as «self-acceptance» is associated with respondent's personality traits, whose family had no addictive relatives and is not be connected to the participants whose family had addicted relatives. The scale of «self-acceptance» appears as a result of an individual's self-assessment, determines the degree of satisfaction of the individual with his/her characteristics (see Table 11, Fig. 10).

**Table 11** Indicators of «self-acceptance» of respondents in whose family there were no addicted relatives

Scale	Subscale	Hypochondria	Depression	Hysteria	Psychopathy	Paranoia	Psychasthenia	Schizoid personality disorder	Hypomania
Self-acceptance	Pearson's correlation	-0.471	-0.445	-0.515	-0.537	-0.623	-0.540	-0.729	-0.520
	Value (2 side)	0.02	0.03	0.01	0.007	0.001	0.007	0.001	0.009
	N	24	24	24	24	24	24	24	24

*Compiled by the authors*

There is a negative correlation between the indicators of Self-acceptance and all indicators of the personal characteristics of the «Mini-Mult» technique. That is, for persons who had no addicts among their relatives, self-acceptance varies and depends on many factors. As well, the higher the self-acceptance indicator, the lower the indicators are as follows: hypochondria ( $r = -0.471$ ,  $p = 0.02$ ), depression ( $r = -0.445$ ,  $p = 0.03$ ), hysteria ( $r = -0.515$ ,  $p = 0.01$ ), psychopathy ( $r = -0.537$ ,  $p = 0.007$ ), paranoia ( $r = -0.623$ ,  $p = 0.001$ ), psychasthenia ( $r = -0.540$ ,  $p = 0.007$ ), schizoid personality disorder ( $r = -0.729$ ,  $p = 0.001$ ), hypomania ( $r = -0.520$ ,  $p = 0.009$ ).



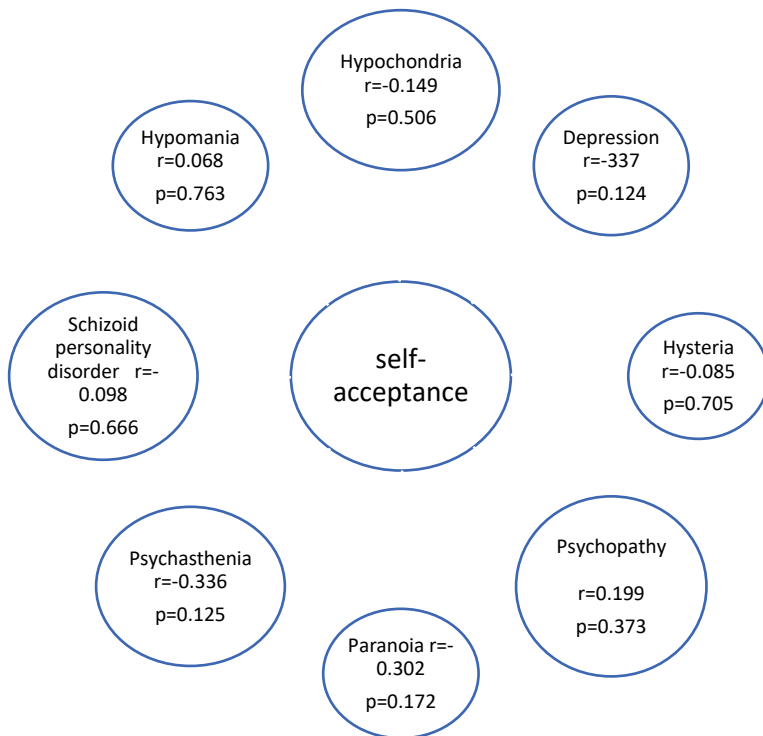
**Fig. 10** Correlation pleiad of «self-acceptance» indicators with personal psychological manifestations indicators according to the MMPI method (Mini-Mult) where there were no addicted relatives (based on the authors' own conception).

It is worth noting that among the indicators of «self-acceptance» in families where there were addicted relatives, correlations were not observed (see Table 12, Fig. 11).

**Table 12** Indicators of «self-acceptance» of subjects with no addicted relatives

Scale	Subscale	Hypochondria	Depression	Hysteria	Psychopathy	Paranoia	Psychasthenia	Schizoid personality disorder	Hypomania
Self-acceptance	Pearson's correlation	-0.149	-0.337	-0.085	0.199	-0.302	-0.336	-0.098	0.068
	Value (2 side)	0.506	0.124	0.705	0.373	0.172	0.125	0.666	0.763
	N	22	22	22	22	22	22	22	22

*Compiled by the authors*



**Fig.11** Correlation pleiad of «self-acceptance» indicators of subjects with no addicted relatives (based on the authors' own conception).

Consequently, the respondent's self-acceptance is associated with other factors that are not related to personality traits, regardless of these characteristics, self-acceptance is presented.

Afterward, the indicators of «self-rejection» interrelation are considered. Hypothesis: suppose that such indicator as «self-rejection» is associated with the respondent's personality traits with no addicted relatives (see Table 13, Fig. 12) and is not be associated with the participants' personality characteristics in whose family there were addicted relatives (see Table 14, Fig. 13).

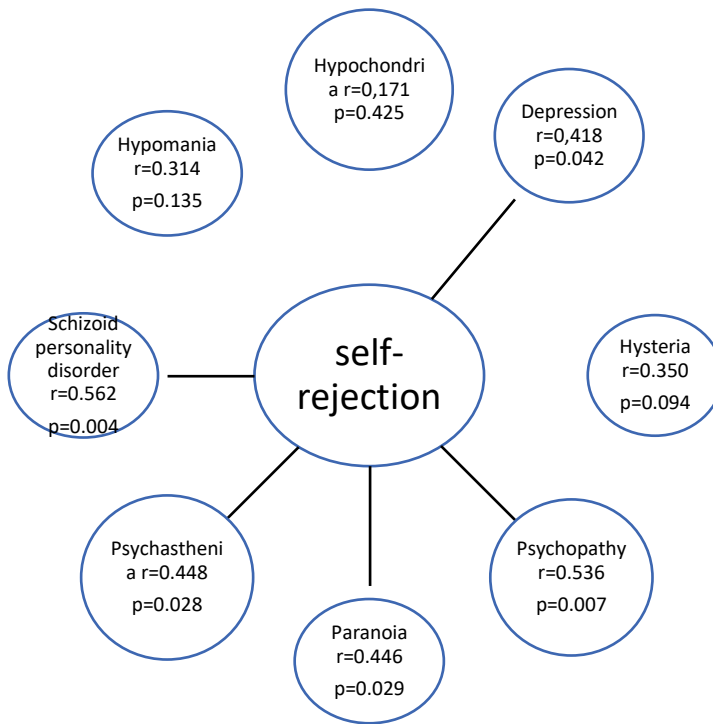
**Table 13** Indicators of «self-rejection» of subjects with no addicted relatives

Scale	Subscale	Hypochondria	Depression	Hysteria	Psychopathy	Paranoia	Psychasthenia	Schizoid personality disorder	Hypomania
Non-acceptance of oneself	Pearson's correlation	0.171	0.418	0.350	0.536	0.446	0.448	0.562	0.314
	Value (2 side)	0.425	0.042	0.094	0.007	0.029	0.028	0.004	0.135
	N	24	24	24	24	24	24	24	24

*Compiled by the authors*

The quantitative analysis gives grounds to state that there is a positive correlation with some indicators of personality traits, namely: depression ( $r = 0.418$ ,  $p = 0.042$ ), psychopathy ( $r = 0.536$ ,  $p = 0.007$ ), paranoia ( $r = 0.446$ ,  $p = 0.029$ ), psychasthenia ( $r = 0.448$ ,  $p = 0.028$ ), and schizoid personality disorder ( $r = 0.562$ ,  $p = 0.004$ ).





**Fig. 12** Correlation pleid of «self-rejection» indicators of subjects with no addicted relatives (based on the authors’ own conception).

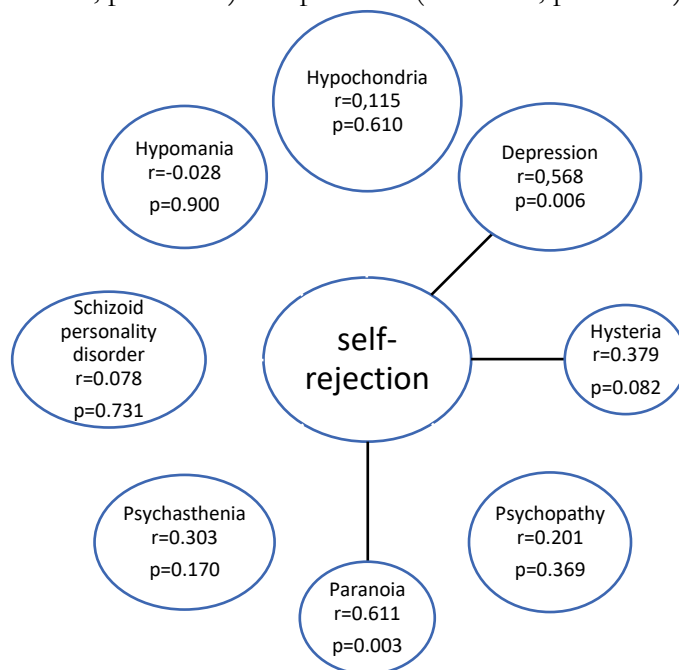
The scale of «self-rejection» shows the degree of individual dissatisfaction with his/her personality traits.

**Table 14** Indicators of «self-rejection» of subjects in whose family there were addicted relatives

Scale	Subscale	Hypochondria	Depression	Hysteria	Psychopathy	Paranoia	Psychasthenia	Schizoid personality disorder	Hypomania
Non-acceptance of oneself	Pearson’s correlation	0.115	0.568	0.379	0,201	0.611	0.303	0.078	- 0.028
	Value (2 side)	0.610	0.006	0.082	0.369	0.003	0.170	0.731	0.900
	N	22	22	22	22	22	22	22	22

*Compiled by the authors*

As the Table 14 shows, a positive correlation is also observed among the indicators of the respondents with addicted relatives, to be exact the correlation of «self-rejection» with: depression ( $r = 0.568$ ,  $p = 0.006$ ), hysteria ( $r = 0.379$ ,  $p = 0.082$ ) and paranoia ( $r = 0.611$ ,  $p = 0.003$ ).



**Fig.13** Correlation pleid of «self-rejection» indicators of subjects with addicted relatives (based on the authors' own conception).

That is, self-rejection is to a lesser extent associated with personality traits in both groups of persons, those where relatives were addicted, and those where there were no addicted relatives.

Thus, the research of correlations revealed such connections as the acceptance of oneself with personal characteristics with addicted relatives; and rejection of oneself with the personal traits of the respondents in whose family there were no addicts. For those respondents who had addicts in the family the connections only with indicators of depression, hysteria, paranoia (the connection is directly proportional) were detected.

It is confirmed that the indices of addicted respondents' self-acceptance are quite high in both cases, regardless of the absence or presence of addicted relatives. However, the former undergo negative addiction with indicators of personality traits, while the latter experience no addiction. Therefore, there is a significant difference between the

respondents, which should be taken into account while providing psychological assistance. As soon as addiction becomes a family disease, co-addicts appear, who take on the symptoms of the disease onto themselves and finally become its hostages.

The consequences of parental addiction lead to children's shame, guilt, self-accusation, auto-aggression, and self-rejection. Recognizing the powerlessness and inability to control the parents' addicted behavior and the impact on the family allows to remove the reason of hate and is a major step towards recovery.

Having conducted a practical study of the socio-psychological rehabilitation of addicts to psychoactive substances, we want to emphasize that addiction governs human life, this applies to both chemical and non-chemical addictions. There is an explanation for this fact that neuroscientists have been working on for many years, studying the nervous system and looking for optimal ways to treat neurological and mental illnesses. Scientists divide the risk factors for substance abuse into biological, genetic, individual, family, social, socio-economic, and so on.

Let us focus on genetic factors. According to the researches (Kushchev, 2012; Moskalenko & Shevtsov, 2000) the presence of a genetic predisposition to the use of psychoactive substances is confirmed by experimental data.

The analysis and comparison of neurochemical studies allowed scientists to conclude about the fundamental unity of the central mechanisms of psychoactive substances addiction development. These mechanisms are based on the role of the stem and limbic structures of the brain, that is, available in those segments where the so-called reinforcement system is located. This system is involved in ensuring the regulation of a person's emotional state, mood, motivational sphere, psychophysical tone, adaptation to the environment, that is, it determines human behaviour and actions in general. The influence of psychoactive substances leads to an intensive release of neurotransmitters from the group of catecholamines, including dopamine from the depot of the reinforcement system, and therefore stimulates a more intense excitation of this system. Such arousal is often accompanied by positively coloured emotional experiences. Repeated use of psychoactive substances leads to depletion of the supply of these neurotransmitters, it turns out to be insufficiently expressed arousal of the reinforcement system. Psychophysically, this is objectified as a mood drop, a feeling of weakness, boredom, depression. Repeated use of psychoactive substances causes an additional release of catecholamines and dopamine from the depot, which temporarily compensates for their deficiency.

Catecholamines and dopamines in the blood are rapidly destroyed, the psychophysical condition deteriorates again and, accordingly, there is a desire to repeat the use of psychoactive substances. This vicious circle is the basis for the formation of psychoactive substances mental addiction. Therefore, there is a reason to ascertain the existence of the unity of biological mechanisms of the development of addiction to the use of psychoactive substances. However, the specific propensity to use a certain type of psychoactive substance is obviously determined by other factors. Thus, based on individual risk factors for the development of psychoactive substances addiction, there is a specific complex called "neuronal and behaviour swagger", the behavioural manifestations of which are an external expression of the above-described specificity of the structure and function of dopamine receptors in the brain (Bakalyuk & Oliynyk, 2011).

Let us highlight the neurological consequences of alcohol dependence and the effect of alcohol on the brain. In clinical practice, the pathology of the nervous system associated with chronic alcohol intoxication is often encountered. The pathology of the nervous system aggravates alcoholic illness: relapses become more frequent and the syndrome of pathological craving for alcohol increases. In alcohol addicts, morphological changes in the structure of the brain are observed: acute swelling of neurons, vacuolar dystrophy, atrophic processes. The plethora of cerebral vessels and sclerosis of their walls are clearly traced. In some patients with alcoholism, petrification, small cysts, and foci of demyelination are visualized in the brain. The area of the neurons of the cortex of the anterior central gyrus of the cerebral hemispheres, the optic tubercle, and the medulla oblongata is reduced by 1.2-1.5 times. At the same time, glial tissue undergoes focal and diffuse proliferation. Glia area in the same parts of the brain increases 1.3-1.4 times (Nikiforov et al., 2017).

The negative effect of alcohol on the brain is also due to the fact that alcohol intoxication impairs the access of oxygen to neurons – structural and functional units of the nervous system. At the same time, the following external displays of disturbances in the brain functioning are observed: the conditioned reflexes of a person developed as a result of life circumstances are suppressed; complex movements are formed much more slowly than usual, coordination is disturbed, it is difficult for a person to control his/her behaviour; inhibition processes predominate overexcitation processes in the central nervous system, and as a consequence – a retarded reaction; attention is sharply reduced and memory deteriorates; deteriorating perception of the senses; the processes of thinking, orientation in space are disturbed, the critical attitude to oneself decreases; there is an inadequate assessment of the

events happening around, and on the basis of which there is the overestimation of one's capabilities.

In acute alcohol intoxication, both behavioural and cognitive symptoms are assessed: inhibition, conflict, aggressiveness, affective lability, impaired attention, decreased mental capabilities, as well as neurological symptoms: uncertainty/unsteadiness of gait, Romberg's approving test (neurological testing, which is used to assess static coordination of a person with alcohol intoxication suspicion), dysarthria, nystagmus (involuntary eye movements), impaired consciousness (Nikiforov et al., 2017). Thus, the neurological problems of alcoholism complicate the course of alcoholic illness, provoke frequent relapses, increase the syndrome of pathological craving for alcohol. At the same time, neurological pathology in such alcohol addicts is characterized by frequent exacerbations and breakdowns. Alcohol abuse leads to degradation, personality disintegration, and dementia, the destruction of family relationships. Parfenov V. A. (2010) remarks that regular consumption of more than 70 g of pure ethanol per day increases the risk of stroke, and the more pronounced the degree of alcohol abuse, the higher the risk of stroke.

Adverse effects on a person using drugs can be classified into three levels. The first level is when the body is able to recover after stopping drug use. However, if you resume consumption, the body immediately returns to its previous state. The second level is already more difficult for the restoration of the body, that is, there is an opportunity to heal, but not to cure. The third level is characterized by inevitable consequences for the body, these are the consequences affecting the maintenance of life only under the condition of special palliative treatment.

Drug use negatively affects the work of a complex organ in the human body – the brain. The brain is responsible for a person's actions, emotions, thoughts, movements, and behavior. A narcotic substance that enters the human body affects the functioning of the brain – it disrupts the circulatory system of the brain, the information transmission system, that is, it affects the receipt, processing, and transmission of information. Toxic encephalopathy – brain damage, manifested in the form of decreased intelligence, memory loss, impaired ability to think, speak clearly, concentrate, make decisions, and complete tasks. Headaches and dizziness affect behavior, language, and the ability to control one's actions.

Despite the variety of drugs on the market – they have the same action – to cause a feeling of happiness, harmony, and well-being in the brain. The most powerful effect of drugs is directed at the nucleus that is responsible for the feeling of short-term or long-term satisfaction (food,

communication with loved ones, etc.). In a person who uses drugs, the release of dopamine, which induces a natural feeling of harmony, happiness, and well-being, is impaired. That is, the ability to feel pleasure, happiness without drugs is weakened. This is the reason why people use drugs because they feel depressed, lethargic, empty, they lack the ability to enjoy what pleased them before.

## **Conclusion**

In the course of the empirical study, a comparative and correlation analysis of indicators was carried out according to the results of four methods: diagnosis of personality disorders using the MMPI questionnaire («Mini-Mult»), diagnosis of social and psychological adaptation of K. Rogers-R. Diamond, the methodology for diagnosing interpersonal relations by T. Leary, life-sense orientation test by D. Leontiev.

It has been grounded the main differences between the respondents according to various characteristics as follows: the presence and absence of addictive relatives, alcohol and drug addiction, use of up to 10 and over 10 years. It has been confirmed statistically the correlation inversely proportional addiction of the indicator of socio-psychological adaptation «self-acceptance» with all indicators of personality traits, among those who did not have addicted relatives. The results of the experiment open up the prospects of counselling this particular group of people, as such that is exposed. Furthermore, it is also easier for those respondents to set up life goals besides they possess an internal locus of control. It should be noted that if the necessary qualities such as self-confidence, reducing feelings of guilt, and shame are acquired, the respondents will be able to launch motivation by themselves, to modify their future life, to make life choices consciously.

Thus, the analysis of the results presented in the article allows us to state that despite the fact of existing a lot of mental disorders that significantly complicate, and sometimes make psychotherapy among addicts impossible, those who have been using psychoactive substances for a shorter period and who did not have / haven't got relatives who have used psychoactive substances are more likely to recover.

The information concerning the negative impact of alcohol and drug use on the human brain is highlighted, behavioral and cognitive symptoms in the use of psychoactive substances are described.

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