

Comparing Sensory Information Processing and Alexithymia between People with Substance Dependency and Normal

Sajjad Bashapoor PhD¹, Seyyedeh Tayebeh Hosseini-Kiasari MSc², Somayeh Daneshvar MSc², Zeinab Kazemi-Taskooh MSc³

Original Article

Abstract

Background: Sensory information processing and alexithymia are two important factors in determining behavioral reactions. Some studies explain the effect of the sensitivity of sensory processing and alexithymia in the tendency to substance abuse. Giving that, the aim of the current study was to compare the styles of sensory information processing and alexithymia between substance-dependent people and normal ones.

Methods: The research method was cross-sectional and the statistical population of the current study comprised of all substance-dependent men who are present in substance quitting camps of Masal, Iran, in October 2013 (n = 78). 36 persons were selected randomly by simple randomly sampling method from this population as the study group, and 36 persons were also selected among the normal population in the same way as the comparison group. Both groups was evaluated by using Toronto alexithymia scale (TAS) and adult sensory profile, and the multivariate analysis of variance (MANOVA) test was applied to analyze data.

Findings: The results showed that there are significance differences between two groups in low registration ($P < 0.020$, $F = 5.66$), sensation seeking ($P < 0.050$, $F = 1.92$), and sensory avoidance ($P < 0.008$, $F = 7.52$) as a components of sensory processing and difficulty in describing emotions ($P < 0.001$, $F = 15.01$) and difficulty in identifying emotions ($P < 0.002$, $F = 10.54$) as a components of alexithymia. However, no significant difference were found between two groups in components of sensory sensitivity ($P < 0.170$, $F = 1.92$) and external oriented thinking style ($P < 0.060$, $F = 3.60$).

Conclusion: These results showed that substance-dependent people process sensory information in a different way than normal people and show more alexithymia features than them.

Keywords: Sensory information processing, Alexithymia, Substance dependent people

Citation: Bashapoor S, Hosseini-Kiasari ST, Daneshvar S, Kazemi-Taskooh Z. **Comparing Sensory Information Processing and Alexithymia between People with Substance Dependency and Normal.** *Addict Health* 2015; 7(3-4): 174-83.

Received: 11.05.2015

Accepted: 07.08.2015

1- Associate Professor, Faculty Member, Department of Psychology, School of Education Sciences and Psychology, University of Mohaghegh Ardabili, Ardabil, Iran

2- Department of Education Sciences, School of Education Sciences and Psychology, University of Mohaghegh Ardabili, Ardabil, Iran

3- Department of Psychology, School of Education Sciences and Psychology, Allameh Tabataba'i University, Tehran, Iran

Correspondence to: Sajjad Bashapoor PhD, Email: bashapoor_sajjad@uma.ac.ir

Introduction

Substance-dependency is an important problem of general health. Based on available estimates, there are 22/6 million people abusing stimulants in the USA.¹ The number of substance abusers is about 190 million people in the world, and according to official statistics, there are 2 million people with substance-dependency in Iran that the number is increasing, and the mean age of this population is also reported about 18 years old. Evidence show that about 11 million people of Iran population are grappling with their own or their relative's addiction problem.²

Substance-dependency can be defined as a steady-state in which individual capability for regulating the compulsive behavior of substance seeking is decreasing without considering the risk of serious negative consequences of this behavior.³ Factors associated with substance abuse are different and numerous. One of the models which explain the etiology of addiction is the bio-psycho-social model. In this model, addiction has been introduced as a disease with multifactorial etiology, and a set of risk factors has been presented as the predisposing factor of substance abuse initiation and persistent of it. It is worth noting that the importance of these risk factors in substance consuming initiation varies based on individual age, environment and many other agents.⁴

Addiction is a complex disease with some features such as compulsive behaviors, irresistible temptation, substance seeking behavior and its continuous consumption even in situations that the negative consequences of its consumption on brain function causes a wide range of behavioral, psychological, social, and physiological dysfunction, which prevents physical and mental natural behavior and performance in substance-dependent people.⁵

According to clinical experiences and research evidence, it seems that people with substance use disorders process sensory information different from normal ones. Sensory processing can be the main psychological element, which shows the base of people way of perception and reaction toward environmental stimuli. Sensory processing refers to the way that central and peripheral nervous systems manage the incoming sensory information.⁶

Research on responses to environmental changes has shown that, when faced with a new stimulus, individuals adopt one of two strategies: approach and exploration, or cautious attentiveness that may lead to avoidance. Aron and Aron⁷ suggest that one's choice of strategy is related to the manner in which sensory information is transmitted to, and processed in the brain, which they refer to as sensory-processing sensitivity (SPS). According to the definition, SPS is the tendency to the deep and strong processing of different sensory stimuli. They considered the SPS as a coherent structure whereas recent studies show that this structure is made of some other structures.

Smolewska et al.⁸ in their study discover and validate a three-factor model of sensory processing style (ease of stimulation), low sensory threshold, and aesthetic sensibility. Recently, a four-factor model of sensory processing has gained a growing popularity, especially in the field of professional treatment; this model which is developed by Dunn,⁶ has put the sensory processing in four categories of low registration, sensory sensitivity, sensory avoidance, and sensory seeking. Dunn⁶ assumed that sensory processing is dependent to two main factors: 1. individual sensory threshold that can be high or low (how much stimulation is needed for the individual to respond to the stimulus), 2. Individual response strategy that can be active or passive. Having a high sensory threshold and passive response style are categorized as the low registration (e.g., those who report that they do not respond to sensory information), while having high sensory threshold and active responding are categorized as the sensory seeking (e.g., those who report that are looking for sensory information). Having low threshold and passive responding mode are categorized as sensory sensitivity (e.g., these people report that are strongly influenced by sensory stimuli), While having a low sensory threshold and active responding are categorized as sensory avoidance (e.g., those who report that they severely avoid sensory experiences which are potentially strong).

Studies have shown that different aspects of sensory processing are associated with negative clinical consequences. Sensory processing style is correlated with structures of behavioral inhibition,⁹ introversion¹⁰⁻¹² and shyness.¹³ There

is a correlation between sensory processing style with introversion and sensation seeking in Aron and Aron study.⁷ It is known that low sensory threshold and sensory sensitivity are correlated with social phobia,¹⁴ avoidant personality disorder,¹⁵ anxiety, and depression,¹⁶ perceived stress and less mental health.¹⁷ LaBrie et al. have shown that sensation seeking is the predictor of alcohol consumption.¹⁸ Franklin et al. came to the conclusion that children with fetal alcohol syndrome show more problematic behaviors and sensory processing disorders, and sensory processing deficits along with problematic behaviors occur in a high proportion in this group.¹⁹

Research background shows that there is a positive relationship between sensation seeking and problematic alcohol consumption.¹⁸ Dervaux et al. result have also shown that the high level of sensation seeking is related to substance abuse in people with schizophrenia.²⁰ Yalachkov et al. showed that activations of sensory and motor brain regions in response to substance-associated cues in addicted people could predict relapse and correlate with craving, the severity of dependence and automatized behavioral reactions towards substance-related stimuli.²¹ The results of Nguyen et al.²² showed that while some of the sensory perceptual metrics, which are normally impacted in chronic alcoholism (e.g., reaction time and threshold detection) were relatively insensitive to change with increased alcohol consumption in young non-alcoholic individuals.

Evidence shows that substance-dependent people have inadequacy in emotional information processing and also have a high level of alexithymia. Alexithymia, which was discussed by Taylor and Bagby,²³ and Sifneos et al.²⁴ for the first time is the inability in cognitive processing of emotional information and emotional regulation and difficulty in identifying feelings and external orientation thinking. There are specific characteristics for describing this structure features: a person suffering from alexithymia manifest poverty of ideas and associations in his dreams. In an emotional aspect, lack of this capacity results in failure in identifying and describing internal emotions and bringing them into words and the language is also devoid of emotional colors.²⁵ The level of alexithymia is reported in normal population about 9-17% for

men and about 5-10% for women,²⁶ while this statistic reaches more than 70% in some clinical groups.²⁷ Many of researchers express that alexithymia expose people to higher risk of psychiatric and medical disorders.²⁸⁻³²

In this context, some studies have been performed that examined this structure in clinical samples and manifested its significance in a range of diseases, and among these we can mention the prevalence of alexithymia in substance and alcohol abusers.^{33,34} Other studies reported the high rate and level of alexithymia in adult substance abusers and some other studies have also shown that substance abusers take substance to compensate their emotional awareness deficits.²⁹ de Berardis et al. found that people with alexithymia are exposed to a higher risk of internet addiction.³⁵ Hamidi et al. in their study on comparing alexithymia between people with substance use disorder and normal ones came to this conclusion that there is a significant difference in alexithymia overall score between people with substance use disorder and normal ones.³⁶

The findings of de Haan et al.³⁷ suggested that alexithymia in substance use disorder patients as measured using the Toronto alexithymia scale-20 (TAS-20) is both a state and trait phenomenon. Coriale et al. found that alexithymic alcoholics consumed significantly more alcohol and were less abstinent than non-alexithymic alcoholics.³⁸ Results of Lyvers et al. in study among patients undergoing treatment for alcohol dependence showed that predicted TAS-20 scores were significantly and positively correlated with scores on alcohol use disorders, cognitive-emotional preoccupation with alcohol, anxiety, sensitivity to punishment, and frontal functions.³⁹

The existent findings have showed the relations of sensory processing and alexithymia with some variables related to addiction such as extraversion, behavioral activation system, etc.; but these variables did not compare between substance dependent people and normal. Because of the manner of sensory and emotional information processing affect in determining the type of people's reaction toward environmental stimuli; based on present findings, it can be assumed that substance-dependent people process environmental information in different way which makes them vulnerable to the arousal

stimuli associated with substance consumption, To examine this assumption the current study was performed in order to compare alexithymia and sensory information processing styles in substance-dependent people with normal ones. The current study was performed to compare alexithymia and sensory information processing styles in people with substance-dependency with normal ones.

Methods

The research method was cross-sectional. The statistical population of the current study comprised of all substance-dependent men who are present in substance quitting camps of Masal, Iran, in October 2013 ($n = 78$). 36 persons were selected from this population by simple randomly sampling method. Furthermore, 36 persons were also selected among the normal population as the comparison group, and both groups participated in the survey. For collecting information, the following tools were used.

Adult sensory profile

Adult and adolescence sensory profile was developed by Brown et al.⁴⁰ based on Dunn sensory profile for children.⁶ This is a 60 items self-report scale that measure sensory processing style. Scale questions measure 4 levels of sensory processing, including sensory sensitivity, low registration, sensory avoidance, and sensory seeking. In this questionnaire, subjects are asked to respond the questions in a 5-point Likert scale (never, rarely, sometimes, often, and always). On the validity of the scale, Brown et al.⁴⁰ showed that physiological response is matched with scores of people in these 4 scales by using skin conductance measurements. People with high scores in sensory sensitivity respond stronger to primary drivers and act slowly in habituation while those with high scores respond stronger in sensory avoidance and habituate rapidly. Response range for people in low sensory registration and sensory seeking tend to be poor, and the habituation for low sensory registration is rapid. The ability to distinguish these four levels by measuring skin conductivity and the range and effort of habituation provide the construct validity of this instrument. Brown et al.⁴⁰ reported the subscales internal consistency of the questionnaire in the range of 0.60-0.78. Coefficient α of the current study for the whole scale was 0.87,

and for subscales of low registration, sensory seeking, sensory sensitivity and sensory avoidance were 0.72, 0.65, 0.75, and 0.71, respectively.

TAS-20

It is developed by Taylor and Bagby²³ and is a self-evaluating with 20 items, which is applied to evaluate alexithymia. The questionnaire includes three aspects of difficulty in identifying feelings (7 items), difficulty in describing feeling (5 items) and external orientation thinking (8 items). Items are rated on a 5-point Likert scale from completely agree (1) to completely disagree (5) and the score 60 or higher is considered as the alexithymia with high intensity and score of 52 and lower is considered as alexithymia with low rate.⁴¹ In Persian version of the scale coefficient α was 0.85 for the whole scale and for subscales of difficulty in identifying feelings, difficulty in describing feelings and external orientation thinking were 0.82, 0.75, and 0.72, respectively.⁴²

Data collection began after having secured permission from the well-being department of the city of Masal and coordinating with substance quitting camp of this city. It is noted that there was only one camp in this city. Then, the list of all people, who present in the camp in October 2013 ($n = 78$), was provided. Afterward, a sample of 36 subjects was selected among them by simple sampling method. After describing study goals for them, they were asked to respond to the questionnaires of TAS-20 and adult sensory profile individually and in the camp place. In the next stage, 36 persons selected by using multistage cluster sampling method among normal people as a normal group. The statistic method used in the study was multivariate variance analysis test (MANOVA), and data were analyzed by SPSS software (version 16, SPSS Inc., Chicago, IL, USA).

Results

36 people with substance-dependency and 36 normal ones participated in the study. Some of their demographical characteristics have been presented below. Table 1 results show the mean and standard deviation of the age and the frequency distribution of the subjects based on their employment status.

Table 2 results show that the difference between substance-dependent people and normal people was significant in alexithymia and sensory

processing styles and the difference is also 78%, which means that 78% of the variance or the difference between these two groups is related to substance abuse effects. Box test results showed that the assumption of homogeneity of variance-covariance is established between group ($F = 1.40$, $P < 0.080$). Levin test results in checking group's variances equality also showed that the variances of all dependent variables between groups are equal to each other.

The results of table 3 show that there are significant differences between the mean scores

of two groups in items of low registration ($P < 0.008$, $F = 5.66$), sensory seeking ($P < 0.050$, $F = 3.81$), sensory avoidance ($P < 0.008$, $F = 7.52$), as a sensory processing styles and difficulty in describing feelings ($P < 0.001$, $F = 15.01$), difficulty in identifying feelings ($P < 0.002$, $F = 10.54$) as a components of alexithymia. However, there are not any significant differences between two groups in items of sensory sensitivity ($P < 0.170$, $F = 1.92$) and external orientated thinking ($P < 0.060$, $F = 3.60$).

Table 1. Demographical information of the subjects groups

Groups	Variables				
	Age (year)	Employment			
	Mean \pm SD	State	Self-employment	Retired	Unemployed
Substance-dependent	30.54 \pm 7.58	1	22	1	12
Normal	29.63 \pm 6.81	3	20	1	11

SD: Standard deviation

Table 2. The results of multivariate analysis of variance (MANOVA) test for traces of group membership

Test name	Value	F	Hypothesis df	Error df	P
Pillai's Trace	0.21	2.44	7	64	< 0.028
Wilks's Lambda	0.78	2.44	7	64	< 0.028
Hotelling's Trace	0.26	2.44	7	64	< 0.028
Roy's largest root	0.26	2.44	7	64	< 0.028

df: Degree of freedom

Table 3. The results of multivariate analysis of variance (MANOVA) for comparing the significance of difference between two groups in dependent variables

Variable	Group	Mean \pm SD	Sum of squares	df	Mean square	F	P	Test potency
Low registration	Substance-dependent	38.05 \pm 9.31	373.55	1	373.55	5.66	0.020	0.65
	Normal	33.50 \pm 6.71						
Sensory sensitivity	Substance-dependent	47.88 \pm 7.79	112.50	1	112.50	1.92	0.170	0.27
	Normal	45.38 \pm 7.31						
Sensory seeking	Substance-dependent	40.27 \pm 9.04	256.88	1	256.88	3.81	0.050	0.48
	Normal	36.50 \pm 7.27						
Sensory avoidance	Substance-dependent	39.63 \pm 8.91	539.01	1	539.01	7.52	0.008	0.77
	Normal	34.16 \pm 7.97						
Difficulty in describing feelings	Substance-dependent	15.38 \pm 3.57	62.00	1	62.00	15.01	< 0.001	0.96
	Normal	12.38 \pm 2.96						
Difficulty in identifying feelings	Substance-dependent	21 \pm 5.11	272.22	1	272.22	10.54	0.002	0.89
	Normal	17.11 \pm 5.04						
External oriented thinking	Substance-dependent	22.19 \pm 4.58	16.12	1	16.12	3.60	0.060	0.46
	Normal	20.27 \pm 3.95						

df: Degree of freedom; SD: Standard deviation

Discussion

Sensory and emotional information processing is the basis of how people react to environmental stimuli; considering the importance of these variables in substance-dependency, the current study was performed for two main objectives. The first one was comparing sensory information processing styles between people with substance-dependency and normal people. The results of the study showed that substance-dependent people take high scores in low registration item rather than the comparison group. This finding is congruent with Gamari-Give and Basharpoor⁴³ results, which showed that there is a significant difference among people with depression, schizophrenia and normal ones in sensory processing styles.

This finding indicates that in people with substance-dependency, available sensory information in the environment are registered in sensory processing system slightly, so comparing to normal people their sensory information system is slow and this can cause them to turn to substance consumption for activating their sensory system. According to these results, it appears that low registration (not noticing stimuli) may at times be a defense against an over sensitive processing system. This issue can lead to use denying and disengaging forms of coping⁴⁴ that are showed higher in addicted people. The study results showed that people with substance-dependency have more sensory seeking rather than normal ones. This result is also compatible with some researches results, which show that substance-dependent people have high sensation seeking.¹⁸⁻²⁰ People with high sensation seeking choose active strategy to respond high neural threshold⁶ and are more likely to use substances, smoke, drink alcohol, drive fast and do more risky activities.⁴⁵ The high sensation seeking scores in addicted people can be representations of their low brain arousal and impulsivity, which makes them vulnerable to substance abuse.

The study results showed that substance-dependent people avoid sensations in a greater extent. This finding is also consistent with the results of Carver and White,⁹ Eysenck,^{10,11} Gray,¹² Kagan,¹³ and Neal et al.¹⁴ based on sensory processing styles relationship with introspection, shyness and social phobia. It seems that substance-dependent people choose avoidance as

a way to adapt to the environment that this shows itself in social isolation, social interaction avoidance, choosing solitude etc. Furthermore, sensory avoidant individuals may avoid all situations where coping is necessary. The same may be true in relationships, as relationship avoidance was negatively correlated with adaptive coping strategies, indicating increased relationship avoidance decreases the tendency to cope adaptively. In this case, the lack of appropriate coping skills can make a person susceptible to addiction.

The second objective of the current study was the comparison of alexithymia between people with substance-dependency and normal ones. Results showed that there is a significant difference in items of difficulty in describing feelings and difficulty in identifying feelings between two groups. These results are compatible with the results of Cleland et al.,³³ Hamidi et al.,³⁶ Rybakowski and Ziolkowski,⁴⁶ El Rasheed,⁴⁷ Pinard et al.,⁴⁸ Uzun et al.,⁴⁹ Thorberg et al.⁵⁰ and Bagby et al.⁵¹ Recent researches show that alexithymia is an etiological factor in substance abuse, as patients with substance use disorders turn to substance consumption to deal with the unpleasant states, which is directly because of alexithymia and try to free themselves by the substances.³⁶ Compatible with the current study results, Gamari-Give and Basharpoor also showed that substance-dependent people are suffering from alexithymia more than others.⁴³

In this context, the family history of alcohol abuse and the alexithymic character are two underlying factors in alcohol dependency.⁴⁶ Difficulty in identifying and describing feelings results in experiencing undifferentiated feelings in people suffering from alexithymia. Although these feelings are along with a physiological arousal; because of difficulty in emotional regulation, this arousal remains active and would not disappear. This cycle can play role in symptoms such as impulsivity, emotional instability, thought of suicide, identity confusion etc., that can prone the person to substance use.⁵²

Conclusion

The study results showed that substance dependent people process sensory information in a different way from normal people and have more alexithymia rather than them. Inability in

controlling some confounding variables especially the type of substance used and addiction severity and the limited sample of addicted people referring to substance quitting centers were the main limitations of the current study. So, it is recommended that similar researches would be performed by controlling the type of substance used and the addiction severity. Also, because of this study was conducted in addict people who are present in comp, the results of this study do not apply for substance dependent outpatients. Therefore, repeating this study in substance dependent outpatients is suggested. Furthermore, the self-reports questionnaires were used to gather the data of this study, then, additional studies using objective measures of this variables, such as neuropsychological indices (e.g., reaction time) and behavioral measures (e.g., interpersonal relationships) are necessary to corroborate the present findings. Despite these limitations, the current study provides important preliminary information about the possible influence of SPS on

physical health.

According to the study results, training the strengthening skills of sensory processing for optimizing the activity of two systems of inhibition and excitation and also training the skills of emotion regulation are recommended to people with substance-dependency as a psychological intervention method. Given this, future research may benefit from including these factors, when planning the new therapeutic programs for substance dependency.

Conflict of Interests

The Authors have no conflict of interest.

Acknowledgements

The authors gratefully acknowledge the help of management of fly toward emancipation camp of Masal city for their valuable assistances. Similarly, thank sincerely all the substance dependent and normal people who assisted in performing the study.

References

1. U.S. Department of Health and Human Services. Results from the 2010 National Survey on Drug Use and Health: Mental Health Findings. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2012.
2. Momtazi S. Family and addiction. Zanjan, Iran: Mahdis Publication; 2002. [In Persian].
3. Hyman SE, Malenka RC. Addiction and the brain: the neurobiology of compulsion and its persistence. *Nat Rev Neurosci* 2001; 2(10): 695-703.
4. Radfar R. Reviews of practical on addict introductions. *Journal of Addiction* 2009; 3(9): 87-90. [In Persian].
5. Leshner AI. Principles of drug addiction treatment: a research - based guide. Collingdale, PA: Diane Publishing Company; 2000. p. 3-33.
6. Dunn W. The sensations of everyday life: empirical, theoretical, and pragmatic considerations. *Am J Occup Ther* 2001; 55(6): 608-20.
7. Aron EN, Aron A. Sensory-processing sensitivity and its relation to introversion and emotionality. *J Pers Soc Psychol* 1997; 73(2): 345-68.
8. Smolewska KA, McCab SB, Woody EZ. A psychometric evaluation of the Highly Sensitive Person Scale: The components of sensory-processing sensitivity and their relation to the BIS/BAS and "Big Five". *Personality and Individual Differences* 2006; 40(6): 1269-79.
9. Carver CS, White TL. Behavioral inhibition, behavioral activation, and affective responses to impending reward and punishment: the BIS/BAS scales. *Journal of Personality and Social Psychology* 1994; 67(2): 319-33.
10. Eysenck HJ. A model for personality. Berlin, Germany: Springer-Verlag; 1981.
11. Eysenck H. Biological dimensions of personality. In: Pervin LA, Editor. *Handbook of personality: theory and research*. New York, NY: Guilford Press; 1990.
12. Gray JA. A critique of Eysenck's theory of personality. In: Eysenck HJ, Editor. *A model for personality*. Berlin, Germany: Springer-Verlag; 1981.
13. Kagan J. Galen's prophecy: temperament in human nature. New York, NY: Basic Books; 1994.
14. Neal JA, Edelmann RJ, Glachan M. Behavioural inhibition and symptoms of anxiety and depression: is there a specific relationship with social phobia? *Br J Clin Psychol* 2002; 41(Pt 4): 361-74.
15. Meyer B, Carver CS. Negative childhood accounts, sensitivity, and pessimism: a study of avoidant personality disorder features in college students. *J Pers Disord* 2000; 14(3): 233-48.
16. Liss M, Timmel L, Baxley K, Killingsworth P. Sensory processing sensitivity and its relation to parental bonding, anxiety, and depression. *Personality and Individual Differences* 2005; 39(8): 1429-39.

17. Benham G. The highly sensitive person: Stress and physical symptom reports. *Personality and Individual Differences* 2006; 40(7): 1433-40.
18. LaBrie JW, Kenney SR, Napper LE, Miller K. Impulsivity and alcohol-related risk among college students: examining urgency, sensation seeking and the moderating influence of beliefs about alcohol's role in the college experience. *Addict Behav* 2014; 39(1): 159-64.
19. Franklin L, Deitz J, Jirikowic T, Astley S. Children with fetal alcohol spectrum disorders: problem behaviors and sensory processing. *Am J Occup Ther* 2008; 62(3): 265-73.
20. Dervaux A, Bayle FJ, Laqueille X, Bourdel MC, Le Borgne MH, Olie JP, et al. Is substance abuse in schizophrenia related to impulsivity, sensation seeking, or anhedonia? *Am J Psychiatry* 2001; 158(3): 492-4.
21. Yalachkov Y, Kaiser J, Naumer MJ. Sensory and motor aspects of addiction. *Behav Brain Res* 2010; 207(2): 215-22.
22. Nguyen RH, Gillen C, Garbutt JC, Kampov-Polevoi A, Holden JK, Francisco EM, et al. Centrally-mediated sensory information processing is impacted with increased alcohol consumption in college-aged individuals. *Brain Res* 2013; 1492: 53-62.
23. Taylor GJ, Bagby RM. New trends in alexithymia research. *Psychother Psychosom* 2004; 73(2): 68-77.
24. Sifneos PE, Apfel-Savitz R, Frankel FH. The phenomenon of 'alexithymia'. Observations in neurotic and psychosomatic patients. *Psychother Psychosom* 1977; 28(1-4): 47-57.
25. Vanheule S, Desmet M, Meganck R, Bogaerts S. Alexithymia and interpersonal problems. *J Clin Psychol* 2007; 63(1): 109-17.
26. Mattila AK, Ahola K, Honkonen T, Salminen JK, Huhtala H, Joukamaa M. Alexithymia and occupational burnout are strongly associated in working population. *J Psychosom Res* 2007; 62(6): 657-65.
27. Bourke MP, Taylor GJ, Parker JD, Bagby RM. Alexithymia in women with anorexia nervosa. A preliminary investigation. *Br J Psychiatry* 1992; 161: 240-3.
28. Czernecka K, Szymura B. Alexithymia-imagination-creativity. *Personality and Individual Differences* 2008; 45(6): 445-50.
29. Taylor G, Bagby R, Parker JDA. Disorders of affect regulation: alexithymia in medical and psychiatric illness. Cambridge, UK: Cambridge University Press; 1999.
30. de Rick A, Vanheule S. Alexithymia and DSM-IV personality disorder traits in alcoholic inpatients: A study of the relation between both constructs. *Personality and Individual Differences* 2007; 43(1): 119-29.
31. Rufer M, Hand I, Braatz A, Alsleben H, Fricke S, Peter H. A prospective study of alexithymia in obsessive-compulsive patients treated with multimodal cognitive-behavioral therapy. *Psychother Psychosom* 2004; 73(2): 101-6.
32. de Gucht V. Stability of neuroticism and alexithymia in somatization. *Compr Psychiatry* 2003; 44(6): 466-71.
33. Cleland C, Magura S, Foote J, Rosenblum A, Kosanke N. Psychometric properties of the Toronto Alexithymia Scale (TAS-20) for substance users. *J Psychosom Res* 2005; 58(3): 299-306.
34. Haviland MG, Hendryx MS, Shaw DG, Henry JP. Alexithymia in women and men hospitalized for psychoactive substance dependence. *Compr Psychiatry* 1994; 35(2): 124-8.
35. de Berardis D, D'Albenzio A, Gambi F, Sepede G, Valchera A, Conti CM, et al. Alexithymia and its relationships with dissociative experiences and Internet addiction in a nonclinical sample. *Cyberpsychol Behav* 2009; 12(1): 67-9.
36. Hamidi S, Rostami R, Farhoodi F, Abdolmanafi A. A study and comparison of Alexithymia among patients with substance use disorder and normal people. *Procedia - Social and Behavioral Sciences* 2010; 5: 1367-70.
37. de Haan HA, van der Palen J, Wijdeveld TG, Buitelaar JK, de Jong CA. Alexithymia in patients with substance use disorders: state or trait? *Psychiatry Res* 2014; 216(1): 137-45.
38. Coriale G, Bilotta E, Leone L, Cosimi F, Porrari R, de Rosa F, et al. Avoidance coping strategies, alexithymia and alcohol abuse: a mediation analysis. *Addict Behav* 2012; 37(11): 1224-9.
39. Lyvers M, Lysychka O, Thorberg FA. Alexithymia and drinking in young adults: The role of alcohol-related intrusive thoughts. *Personality and Individual Differences* 2014; 57: 70-3.
40. Brown C, Tollefson N, Dunn W, Cromwell R, Filion D. The adult sensory profile: measuring patterns of sensory processing. *Am J Occup Ther* 2001; 55(1): 75-82.
41. Evren C, Cinar O, Evren B. Relationship of alexithymia and dissociation with severity of borderline personality features in male substance-dependent inpatients. *Comprehensive Psychiatry* 2012; 53: 854-9.
42. Besharat MA. Reliability and factorial validity of a Farsi version of the 20-item Toronto Alexithymia Scale with a sample of Iranian students. *Psychol Rep* 2007; 101(1): 209-20.
43. Gamari-Give H, Basharpoor S. Comparison of sensory and semantic information processing in patients with schizophrenia, major depression and

- normal individuals. *Journal of Clinical Psychology* 2010; 2(1): 17-25. [In Persian].
44. Carver CS, Scheier MF, Weintraub JK. Assessing coping strategies: a theoretically based approach. *J Pers Soc Psychol* 1989; 56(2): 267-83.
45. Schultz DP, Schultz SE. *Theories of personality*. Belmont, CA: Wadsworth Thompson Learning; 2000.
46. Rybakowski J, Ziolkowski M. Clinical and biochemical heterogeneity of alcoholism: the role of family history and alexithymia. *Drug Alcohol Depend* 1991; 27(1): 73-7.
47. El Rasheed AH. Alexithymia in Egyptian substance abusers. *Subst Abus* 2001; 22(1): 11-21.
48. Pinard L, Negrete JC, Annable L, Audet N. Alexithymia in substance abusers: persistence and correlates of variance. *American Journal on Addictions* 1996; 5(1): 32-9.
49. Uzun O, Ates A, Cansever A, Ozsahin A. Alexithymia in male alcoholics: study in a Turkish sample. *Compr Psychiatry* 2003; 44(4): 349-52.
50. Thorberg FA, Young RM, Sullivan KA, Lyvers M. Alexithymia and alcohol use disorders: a critical review. *Addict Behav* 2009; 34(3): 237-45.
51. Bagby RM, Taylor GJ, Parker JD. The twenty-item Toronto alexithymia scale--II. Convergent, discriminant, and concurrent validity. *J Psychosom Res* 1994; 38(1): 33-40.
52. Basharpoor S, Tolo Mehmandoostolya A, Narimani M, Atadokht A. Relation of emotion processing styles and alexithymia with symptoms of borderline personality disorder. *J Babol Univ Med Sci* 2014; 16(7): 55-62. [In Persian].

مقایسه پردازش اطلاعات حسی و ناگویی خلقی بین افراد وابسته به مواد و افراد عادی

دکتر سجاد بشرپور^۱، سیده طیبه حسینی کیاسری^۲، سمیه دانشور^۲، زینب کاظمی طاسکوه^۳

مقاله پژوهشی

چکیده

مقدمه: پردازش اطلاعات حسی و ناگویی خلقی دو عامل مهم در تعیین واکنش‌های رفتاری هستند. برخی مطالعات بیانگر تأثیر حساسیت پردازش حسی و ناگویی خلقی در گرایش به سوء مصرف مواد می‌باشد. بنابراین پژوهش حاضر با هدف مقایسه سبک‌های پردازش اطلاعات حسی و ناگویی خلقی بین افراد وابسته به مواد و افراد عادی انجام گرفت.

روش‌ها: روش این پژوهش، علی-مقایسه‌ای بود و جامعه آماری آن را همه مردان وابسته به مواد که در شش ماهه دوم سال ۱۳۹۲ به کمپ‌های ترک اعتیاد شهرستان ماسال (ایران) مراجعه کرده بودند، تشکیل دادند. ۳۶ فرد وابسته به مواد به روش نمونه‌گیری تصادفی ساده به عنوان گروه مورد و ۳۶ نفر نیز به همین روش از بین افراد عادی جامعه به عنوان گروه مقایسه انتخاب شدند. هر دو گروه با استفاده از پرسش‌نامه‌های TAS (Toronto alexithymia scale) و نیم‌رخ حسی بزرگسال مورد ارزیابی قرار گرفتند. برای تحلیل داده‌ها از آزمون تحلیل واریانس چند متغیره (MANOVA) استفاده گردید.

یافته‌ها: بر اساس یافته‌های به دست آمده، بین دو گروه در ثبت پایین ($F = 5/66, P < 0/020$)، احساس جویی ($F = 1/92, P < 0/050$)، اجتناب حسی ($F = 7/52, P < 0/008$)، اختلال در توصیف احساسات ($F = 15/01, P < 0/001$) و دشواری در تشخیص احساسات ($F = 10/54, P < 0/002$) تفاوت آماری معنی‌داری وجود داشت، اما بین دو گروه در مؤلفه‌های حساسیت حسی ($F = 1/92, P < 0/170$) و گرایش به تفکر معطوف به سطح ($F = 3/60, P < 0/060$)، تفاوت آماری معنی‌داری یافت نشد.

نتیجه‌گیری: نتایج نشان داد که افراد وابسته به مواد اطلاعات حسی را به شیوه متفاوتی از افراد عادی پردازش می‌کنند و ناگویی خلقی بیشتری نسبت به آن‌ها دارند.

واژگان کلیدی: پردازش اطلاعات حسی، ناگویی خلقی، افراد وابسته به مواد

ارجاع: بشرپور سجاد، حسینی کیاسری سیده طیبه، دانشور سمیه، کاظمی طاسکوه زینب. مقایسه پردازش اطلاعات حسی و ناگویی خلقی بین افراد وابسته به مواد و افراد عادی. مجله اعتیاد و سلامت ۱۳۹۴؛ ۷ (۳-۴): ۸۳-۱۷۴.

تاریخ پذیرش: ۹۴/۵/۱۶

تاریخ دریافت: ۹۴/۲/۲۱

۱- دانشیار، عضو هیأت علمی، گروه روان‌شناسی، دانشکده علوم تربیتی و روان‌شناسی، دانشگاه محقق اردبیلی، اردبیل، ایران

۲- گروه علوم تربیتی، دانشکده علوم تربیتی و روان‌شناسی، دانشگاه محقق اردبیلی، اردبیل، ایران

۳- گروه روان‌شناسی، دانشکده علوم تربیتی و روان‌شناسی، دانشگاه علامه طباطبائی، تهران، ایران

نویسنده مسؤول: دکتر سجاد بشرپور