Abstract

Objective: This study aimed to compare psychological capital and metacognitive beliefs between drug-dependent students and normal students. **Method:** The present study was of a causal-comparative nature. The students of Azad University of Tabriz in 2013 constituted the study population. Then, two groups of 50 drug-dependent and normal students were selected through convenience and cluster sampling methods, respectively. Cartwright-Hatton and Wells' Metacognitions Questionnaire (MCQ-30) and also Luthans' Psychological Capital Questionnaire (PCQ-24) were used for data collection purposes. **Results:** The results showed that there was a statistically significant difference between the two groups in terms of psychological capital and metacognitive beliefs. This means that drug-dependent students suffer lower psychological capital and impaired metacognitive beliefs**. Conclusion:** According to the obtained results, it is feasible to diminish students' tendency towards drug use with the growth of psychological capital and the implementation of programs on metacognitive beliefs.

Keywords: Psychological Capital, Metacognitive Beliefs, Addiction, University Students.

On the Comparison of Psychological Capital and Metacognitive Beliefs between Drug-Dependent Students and Normal Students

Davood Akbarzadeh, Hasan Akbarzadeh, GHolamHossein Javanmard

Davood Akbarzadeh
M.A. in Educational Psychology
University of Tabriz
Tabriz
Iran
E-mail: zakeri.ba65@gmail.com

Hasan Akbarzadeh
M.A. in Jurisprudence and Islamic Law
Iran

GHolamHossein Javanmard
Assistant Professor of Psychology Department
Payame Noor University of Bonab
Iran

Research on Addiction Quarterly Journal of Drug Abuse
Presidency of the I. R. of Iran
Drug Control Headquarters
Department for Research and Education

Vol. 8, No. 31, Autumn 2014
http://www.etiadpajohi.ir/

Introduction

Addiction severely exhausts the health, safety, and economy of the world nations (Caetano & Cunradi, 2002). The increasing tendency to drug use is one of the major social problems. Drug use and its unpleasant negative effects are one of the most important mental challenges and one of the worst social ills. In recent years, drug use is not only observed in adults but it is also observed among university students passing a critical period (Botvin et al., 2000). In general, addiction is a biological, psychological, and social disease where several factors are effective in the etiology of drug abuse and addiction which will eventually lead to the start of drug use and addiction (Rahimi Movaghar, 1997). It is not an easy task to have a comprehensive definition of addiction since many factors affect the type, shape, size, and consequences of addiction. Addiction, in broad terms, is defined as the behavior that dominates individuals by becoming a habit so that their healthy behaviors are fully or partially influenced. In practice, the term addiction is referred to as repeated and excessive use of narcotic drugs, alcohol, and stimulants. Addiction is a psychological and sometimes physical condition caused by the impact of drugs on a living organism and necessarily makes specific behaviors and reactions prominent in the organism. It is always followed by an excessive predilection for permanent or periodic use of drugs so that one can experience the effects of that drug or apparently eliminate the discomfort resulting from not taking that drug (Karimpour, 1986).

With a realistic look at the issue of drug addiction, it can be easily perceived that using opioid drugs has existed centuries ago and, now, a huge number of men and women, especially from mid-teens start taking drugs and have become dependent on it. This problem is one of the most important social ills that endangers the mental health of the individuals and society as well. This problem is of more importance among the young and educated class of each society, since this segment of the population is indeed main capitals of the society in the production of science and technology and is also considered as the fundamental pillars of development in terms of human resources. In addition, adolescence is known as the riskiest period for substance abuse and addiction due to its special physical and mental characteristics. Therefore, addiction naturally imposes the strongest damage on societies by ruining the young, active, efficient, and largely educated people (Esmaeali, Safatiyan, Motavalli, & Mohseni, 2000).

Various studies have been done about substance abuse from psychological point of view. One of the areas mostly touched upon is psychological capital and its components. Psychological capital is one of the positive indicators of psychology that is defined as having such features as people's belief in their ability to achieve success, perseverance in pursuing goals, creation of positive attributions about the self, and tolerance of problems (Luthans, Luthans & Luthans, 2004). Furthermore, psychological capital enables individuals to cope better with stressful situations, undergo tension less than before, enjoy higher

abilities in the face of problems, gain a better insight about the self, and get less affected by daily events; therefore, such individuals benefit from higher levels of mental health (Robbins, Waters-Marsh, Caccioppe & Millet, 1994). Seligman & Csikszentmihalyi (2000) believe that psychological capital entails positive aspects of human life. They believe that human and social capital are easily visible and can be easily measured and controlled while psychological capital is to a large extent potential and its measurement and development is difficult. Therefore, psychological capital includes those psychological characteristics that contribute to individuals' efficiency and productivity such as self-perception, self-worth, goal-centeredness, and resistance to problems (Goldsmith, Veum & Darity, 1997). Psychological capital is a hybrid and continuous construct which includes four cognitive-perceptual components, namely hope, optimism, self-efficacy, and resilience. These components give meaning to one's life in an interactive and value-based process and cause one's endeavors towards changing stressful situations to continue (Erez & Judge, 2001), prepare one for entry to practice (Judge & Bono, 2001), and guarantee one's strength and tenacity in achieving goals (Parker et al., 2003). In this regard, hope is a positive motivational state followed by setting clear goals in mind for life wherein there exists motivation and need for moving towards goals on the one hand, and there exists the investigation of appropriate ways to achieve goals, on the other hand (Baily & Snyder, 2007). In the same way, self-efficacy is defined as one's belief in his/her abilities to perform a task (Bandura, 2007). On the other hand, optimism means having positive expectations for the results and consequences that are considered as constant, internal, and general factors (Peterson, 2000). Resilience is positive compatibility in response to undesirable conditions. In fact, it is not merely passive resistance to ills or threatening conditions, but a resilient individual is an active participant and creator of his/her own surrounding environment (Waller, 2001).

Research has shown that there is a significant relationship between self-efficacy and substance abuse in adolescents (Dolan, Rosemarie, Martin & Rohsenow, 2008). Vecchio, Gerbino, Pastorelli & Delbove (2007) demonstrated that self-efficacy beliefs lead to the reduction of passivity and individuals' adaptation to problems, stimulate them to challenge problems, and cause them to be inclined to drug use less and less in the face of problems. In this regard, studies have shown that substance abuse is associated with low resilience and poor mental health (Friedli, 2009). It was also shown that people with high resilience enjoy better health status, higher self-esteem, and greater parental support and are less prone to drug use (Buckner, Mezzacappa & Beardslee, 2003). Fredrickson, Tugade, Waugh & Larkin (2003) showed that resilience is interrelated with positive emotions and plays a protective role in propensity to drug use. Those who have a positive explanatory style enjoy higher levels of hope for and satisfaction with life so are less inclined to drug use. The adults who enjoy a high degree of hope view others as sources of support and bases on

which they can rely. These people believe that they can adapt themselves to the challenges of life and are less exposed to drugs. Mercola (2002) concluded that pessimism is accompanied by high levels of anger and anxiety. In the same way, optimists are more sociable, exercise more, enjoy more desirable interpersonal skills than pessimists and they can easily create a supportive social network. These factors cause people not to go for drug use that much. Strassle & Mc kee & Plant (1999) found that optimism is negatively correlated with depression and positively correlated with life satisfaction, physical and mental health, lower incidence of mental disorders, and high self-esteem. Those who have optimistic expectations of health and well-being actually pay more attention to contents and information about risky situations compared to pessimists so that they usually prevent dangers and risky situations. The reason for the optimism of such people is that they turn to more healthy behaviors and habits in comparison with pessimistic people. Optimistic people use more active coping strategies to solve problems rather than to avoid problems.

Metacognition is another mechanism known to affect people's tendency to drug use and dependence. Metacognition can be defined as any knowledge or cognitive process in which assessment, monitoring or cognitive control exist (Moses & Bird, 2002). Piaget used the concept of metacognition for the first time implicitly, as Piaget's formal thinking clearly contains a cognitive nature, since it requires thinking about the propositions, hypotheses and possibilities that have a cognitive nature. However, Piaget did not directly made use of the term metacognition. Flavell was the first psychologist who explicitly entered the term into cognitive psychology (cited in Teimuri, 2009). Wells used the concept of metacognition in therapy for the first time and defined it as "knowledge about cognition" (2000). Similarly, he views metacognition synonymous with one's knowledge about cognitive processes and products. Meta-cognitive processes include assessment, monitoring, control, and regulation of cognitive performance (Feldhusen, 1995). Studies conducted on the assessment of the cognitive features of substance abusers show that the main reason for alcohol and drug use is that they want to regulate a wide range of cognitive events (Spada, Moneta & Wells, 2007). It has also been shown that unpleasant cognitive events are associated with drug use and there is a non-significant relationship between substance use and pleasant cognitive states (Spada, Zandvoot & Wells, 2007). The results of a study by Tonaetto showed that alcoholics or people who have problems with regard to alcohol drinking significantly obtained lower scores on measures of metacognition than ordinary people (1999). Ahmadi Tohour & Najafi (2011) showed that disturbed metacognitive beliefs act as an important psychological factor in predicting the tendency of people to drug use.

According to studies, it can be stated that those individuals who have difficulty in psychological capital and metacognitive beliefs are more prone to substance abuse and, accordingly, are more likely to turn to crime. On the other hand, the young workforce who should participate in the reconstruction and

development of society is wasted by addiction due to the increasing growth of drug addiction, especially among the youth. Therefore, it is required to do extensive and in-depth studies upon the identification of the factors leading to addiction. According to the above-mentioned points, the main research question here is formulated as: is there any significant difference in psychological capital and metacognitive beliefs between drug-dependent students and normal students?

Method

The present study was of a causal-comparative nature. The students of Azad University of Tabriz in 2013 constituted the study population. In this, study there were two groups of students. One of them was related to special students, that is, the students taking drugs during the past six months. After one month of investigation and presence in the community of students, the researcher recognized 50 of them as eligible participants and distributed the questionnaires among them. The second group consisted of the students who did not have the experience of any narcotics even cigarette. Thus, the statistical sample was selected to include 50 participants based on the variance of the population and sampling formula. It should be mentioned that convenience sampling method was used to select drug-dependent students whereas cluster sampling method was employed to select normal students. All the students lay in the 20-27 age group.

Instrument

1. Psychological Capital Questionnaires (PCQ): This questionnaire was used to evaluate psychological capital. This questionnaire has made use of the standardized values that are widely employed to measure such structures as hope, resilience, optimism, and self-efficacy whose reliability and validity have been verified. The questionnaire is comprised of 24 items, each subscale consists of 6 items to which the participants respond based on a 5-value Likert scale (strongly disagree to strongly agree). Each subscale score is calculated separately and then their sum is considered as the total score of psychological capital. Chi-square of this test is equal to 24.6 and CFI and RMSEA values in this model were obtained .97 and .08, respectively (Luthans & Avolio, 2007). In addition, the reliability of this scale was evaluated through Cronbach's alpha and was obtained .87 in this study.

2. Metacognition Questionnaire: This questionnaire was developed and evaluated by Cartwright-Hatton and Wells (1997) and contains 5 subscales. Responses to the items are scored based on a 4-point Likert scale (disagree (1), slightly agree (2), somewhat agree (3), strongly agree (4)). The minimum of this 30-item scale is 30 and the maximum score is equal to 120. The total score for metacognition is achieved by sum of the subscale scores. This questionnaire

enjoys acceptable validity and reliability. The reliability obtained by Cronbach's alpha for the subscales lies in the range of .72 to .93 and test-retest reliability for the total score was obtained equal to .75 and it was obtained to range from .59 to .87 for its subscales after the interval of 22 to 118 days (Cartwright – Hatton & Wells, 1997).

Results

Descriptive statistics of the research variables are presented in Table 1.

Table 1: Descriptive statistics of the studied variables

Variables	*Drug-dependent*		*Normal*	
	Mean	*SD*	*Mean*	*SD*
Self-efficacy	16.062	2.937	18.49	3.79
Hope	14.937	2.135	15.91	2.86
Resilience	17.275	2.345	18.51	2.96
Optimism	14.237	1.787	15.05	2.38
Uncontrollability/danger	23.3	5.07	15.68	5.32
Positive beliefs about worry	11.36	4.67	9.12	3.93
Cognitive self-consciousness	21.08	3.86	16.48	4.68
Cognitive confidence	10.98	3.23	8.32	3.19
Need to control thoughts	10.28	2.77	7.76	1.61

MANOVA test was run to examine the differences of variables between two groups. One of the assumptions of this test is the equality of covariance which was met in this study as Box's M test results show (Box's M=15.23, F=.92, P>.05). Another assumption for using this test is the equality of error variances. Results of Leven's test indicate the satisfaction of this assumption as presented in Table 2.

Table 2: Results of Leven's test investigating the equality of error variances

Variables	*F*	*Sig.*
Self-efficacy	.338	.56
Hope	.820	.37
Resilience	.168	.68
Optimism	.062	.80
Uncontrollability/danger	.710	.40
Positive beliefs about worry	.002	.96
Cognitive self-consciousness	.121	.73
Cognitive confidence	3.528	.13
Need to control thoughts	.472	.47

Therefore, MANOVA was conducted due to the satisfaction of the assumptions and the results indicated a significant difference between the two groups (Wilks' Lambda=.853, F=6.689, P<.001). One-way ANOVA was run to examine patterns of differences as follows.

Table 3: One-way ANOVA for specifying patterns of differences in groups

Variables	*Components*	*Mean squares*	*F*	*Sig.*
Psychological capital	Self-efficacy	235.22	15.744	.0005
	Hope	38.02	5.036	.026
	Resilience	1577.93	6.134	.014
	Optimism	5051.26	5.958	.016
Metacognitive beliefs	Uncontrollability/danger	327.76	6.331	.013
	Positive beliefs about worry	589.06	9.448	.002
	Cognitive self-consciousness	275.62	4.493	.036
	Cognitive confidence	1380.62	27.591	.0005
	Need to control thoughts	270.40	4.719	.031

As it can be seen in the above table, there is a significant difference in all components. Given the descriptive statistics, it can be stated that the mean scores of psychological factors in drug dependent students is lower than that in normal students. On the other hand, drug dependent students' metacognitive beliefs are higher compared to their normal counterparts. This means that the students who take drugs have disrupted metacognitive beliefs.

Discussion and Conclusion

This study was an attempt to compare psychological capital and metacognitive beliefs between drug dependent students and ordinary ones. The results showed that there is a significant difference between the two groups of students in terms of the psychological capital and its subscales. This means that drug dependent students have lower levels of psychological capital and its subscales than their normal counterparts. This result is consistent with the results obtained by Dolan et al. (2008), Vecchio et al. (2007), Friedli (2009), Fredrickson et al. (2003), and Mercola (2002). In terms of optimism in drug users, it should be noted that the optimists predict positive planning attitudes and inclinations towards improvement, seek information, and reconstruct bad situations according to their most positive aspects. Optimists adopt less determinism, blame and escape; do not focus on the negative aspects of situations; and enjoy higher psychological well-being as well. Optimism is

referred to as the tendency to take the most hopeful view which entails one's positive assessment and prediction about outcomes and consequences of life events.

Thus, optimism brings about positive feelings and life satisfaction in various aspects and leads a person to turn to drug use less and less (Peterson, 2000). All human beings are in need of their friends and family's participation and support to feel safe in predicaments; therefore, the higher the degree of social capital and support, the more hopefulness there exists. Hopefulness causes the person to hope to God and other people's support and not to turn to drug use in difficulties. Staats (1986) believes that hope contains a cognitive component (awaiting some events in the future) and an emotional one (for example, hoping these events to be positive and have desired outcomes) wherein the emotional component can predict the occurrence of positive events in the future and, thereby, increase mental health. People who have higher degrees of hope are more committed to their health-related activities. The adults who enjoy a high degree of hope view others as sources of support. These people are of the belief that they can adapt to the challenges of life and turn to drugs less and less.

On the other hand, self-efficacy and its negative degree among drug dependent students can be explained based on self-contempt theory. This theory views the major factor in drug abuse pertinent to the person's public self-esteem. Being repeatedly exposed to negative evaluations and criticisms from others causes loss of self-esteem, self-humiliation, and feelings of inadequacy to be acceptable in certain traits. This may underlie the adolescents' relations with the deviant peers who strengthen their worth in adolescents (Warren, Stein & Grella, 2007).

High levels of resilience assist a person in employing positive emotions and excitements to forget about unpleasant experiences and return to the optimal status. In fact, resilience leads to the reinforcement of self-esteem and successful coping with negative experiences and causes the person to turn to drug use less and less in the face of difficulties and negative emotions. Based on this interpretation, resilience leads to positive adaptability as a mediating mechanism through the enhancement of self-esteem. This explanation implies that the lack of resilience weakens self-esteem and makes the process of coping with negative experiences inefficient. Thus, psychological vulnerability, depression, anxiety, and attitude towards substance use are regarded as consequences of the weakness of resilience. People who have high resilience are more hopeful in the face of threatening conditions and use effective coping styles. Resilience which is a source of support in the face of stressors causes a person to become effectively well adapted with these situations. Resilient people have problem-solving skills, feelings of competence, sincere relationships and secure attachment. These people take advantage of these skills and abilities in the face of hardship and adversity of life and make use of constructive relationships with others as well. This factor alleviates depression, anxiety, and stress; and consequently increases

mental health. Similarly, it causes individuals to turn to drug use less and less in the face of difficulties of life and to use effective ways to reduce their problems (Fredrickson et al., 2003).

Another finding of the present study was that drug dependent persons had higher mean scores in metacognitive beliefs. This means that they have disturbed metacognitive beliefs. This finding is consistent with findings from studies carried out by Spada et al. (2007), Tonaetto (1999), and Wells (2009). In this regard, it can be argued that that people with substance dependence might encounter emotional disorders due to their specific metacognitive beliefs (e.g., metacognitive beliefs about the mind control or negative metacognitive beliefs). These metacognitive beliefs lead the individual to experience cognitive attentional syndrome in difficult situations. When this syndrome is activated, coping strategies such as drug dependence will be activated and, thereby, the conditions for drug dependence will be provided more than ever. The studies conducted to assess the cognitive characteristics of drug abusers show that one of the main reasons for alcohol and drug use is that the users do so to regulate a wide range of cognitive events. The analysis of metacognitive effects shows that psychoactive drugs play an important role in mitigating the cognitive incidents resulting from emotions and excitation such as anger, stress, and anxiety. Undoubtedly, unpleasant emotional state existing in addicts is associated with many metacognitive consequences. These types of cognitive events that have been frequently touched upon in studies are known as the most important predictor of drug use. In fact, drug users are not able to tolerate unpleasant circumstances and stressful situations and their sensitivity to mental and emotional problems causes them to turn to psychotropic drugs for the regulation of their cognitive experiences. Metacognitive knowledge refers to the ideas and beliefs that people hold about emotional states and cognitions (Spada et al., 2007).

The present study was limited to the students of Islamic Azad University of Tabriz; therefore, caution should be exercised in generalizing the results to other groups. Meanwhile, since psychological capital and metacognitive beliefs are of higher importance in vulnerability compared to substance dependence disorders; therefore, it is possible to pave the way for the decrease of drug dependence through appropriate intervention and treatment programs towards the modification of these metacognitive factors. It is suggested that next researchers select their samples from rehabilitation centers to confirm and further support these findings so that they can hereby investigate the role of psychological capital and metacognitive beliefs in substance dependence with greater confidence. However, due to the high prevalence of addiction in the student community, it is suggested to prevent the spread of this scourge with the creation of training centers of life skills, development of addiction counseling centers, and establishment of training, cultural, and artistic centers and classes. On the other hand, another point to be considered in future studies is doing longitudinal

research and experimental designs to examine the role of inefficient metacognitive beliefs in the perpetuation of substance dependence disorder.

References

Ahmadi Tohour, M. & Najafi, M. (2011). On the comparison of metacognitive beliefs and ambiguity tolerance among addicts, smokers, and ordinary people, *Journal of Clinical Psychology, 3 (4),* 45-65.

Baily, T.C., Snyder, C.R. (2007). Satisfaction with life and hope: a look at age and marital status. *Psychological Record, 57, 2,* 233-240.

Bandura, A. (2007). *An agentic perspective on positive psychology*. In S.J. Lopez (Ed.).The science of human flourishing. New York: Pager

Botvin, G. J., Griffin, K. W., Diaz, T., Scheier, L. M., Williams, C. & Epstein, J. A. (2000). Preventing illicit drug use in adolescents: Long- term follow-up data from a randomized control trial of school population, *Addictive Behaviors, 25,* 769-774.

Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development & Psychopathology, 15(1),* 139-162

Caetano, R., Cunradi, C. (2002). Alcohol dependence: A public health perspective**.** *Addiction, 97,* 633-645.

Cartwright – Hatton, S, Wells A. (1997). Beliefs about worry and intrusions: the met cognitions questionnaire. *Journal of Anxiety Disorders, 11,* 279 – 31

Dolan, S. L., Rosemarie A. Martin, R. A., and Rohsenow, D. J. (2008). Self-efficacy for cocaine abstinence: Pretreatment correlates and relationship to outcomes. *Addictive Behaviors, 33(5),* 675-688

Erez, A., Judge, T. (2001). Relationship of Core Self-Evaluations to Goal Setting, Motivation, and Performance. *Journal of Applied Psychology, 86(6),* 1270-1279.

Esmaeali, I., Safatiyan, S., Motavalli, M. & Mohseni, L. (2000). Addiction among prisoners with University education at Tehran, *Tehran: Proceedings of the Conference on Addiction and young,* 36-63.

Feldhusen, I. F. (1995). Creativity: a knowledge base: met cognitive skills and personality factors. *Journal Create Behavior, 29(4),* 255-68.

Fredrickson, BL., Tugade, MM, Waugh, CE. & Larkin, GR. (2003). A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th. *Journal of Personality and Social Psychology, 84(2),* 365-376

Friedli, L. (2009). *Mental health, resilience and inequalities*. WHO Regional Office for Europe, 1-3.

Goldsmith, A. Veum, J., Darity, W. (1997). Unemployment, Joblessness, Psychological Well-Being and Self-Esteem: Theory and Evidence. *Journal of Socio-Economics, 26,* 133-158.

Judge, T. Bono, J. (2001). Relationship of Core Self-Evaluations Traits – Self-Esteem, Generalized Self-Efficacy, Locus of Control, and Emotional Stability – With Job Satisfaction and Job Performance: A Meta-Analysis. *Journal of Applied Psychology, 86,* 80-92.

Karimpour, S. (1986). *Psychology of Addiction*, Tehran: Amir Kabir Publication.

Luthans, F., Avolio, B. J. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction, *Personnel Psychology, 6,* 138-146.

Luthans, F., Luthans, K., Luthans, B. C. (2004). Positive Psychological Capital: Going Behond Human and Social Capital. *Journal Business Horizons, 47(1),* 45-50.

Mercola, J. (2002). Optimism may protect against heart disease. *Psychosomatic medicine, 82,* 102-111.

Parker, C., Baltes, B., Young, S., Huff, J., Altmann, R., Lacost, H., Roberts, J. (2003). Relationships between psychological climate perceptions and work outcomes: a meta-analytic review. *Journal of Organizational Behavior, 24,* 389-416.

Peterson, C. (2000). The future of optimism. *Journal American psychologist, 55,* 44-55.

Rahimi Movaghar, A. (1997). *Guide to Addiction Prevention and Treatment*, Tehran: Roshd Publication.

Robbins, S., Waters-Marsh, T., Caccioppe, R., Millet, B. (1994). *Organizational Behavior*. Pretence Hall, Australia.

Seligman, M. E. P., Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist, 55,* 5–14.

Spada MM, Moneta GB, Wells A. (2007). The relative contribution of met cognitive beliefs and expectancies to drinking behavior. *Alcohol and Alcohol, 2(42),* 567-574.

Spada, M. M., Zandvoot, M., Wells, A. (2007). Met cognition in problem drinkers. *Cognitive Therapy* and Research, *31(5),* 709-716.

Staats, S. (1986). Hope expected positive affect in an Adult sample. *Journal of Genetic Psychology*. *148(3),* 357-36.

Strassle, C. G; Mckee, E. A. plant, D.D. (1999). Mental health and job and optimism as an indicator of psychological health. *Journal of personality assessment, 5,* 190-199.

Teimuri, M. (2009). *On the relationship between the dimensions of metacognition with anxiety and comparison of the dimensions of metacognition between obsessive-compulsive disorder sufferers and normal people in Shiraz*, M.A. thesis in General Psychology: Unpublished, Islamic Azad University of Marvdasht.

Tonaetto T. (1999). Met cognition and substance use. *Addictive Behaviors,* 24(2), 167-174.

Vecchio, G.M., Gerbino, M., Pastorelli, C., Delbove, G. (2007). Multi- faceted self-efficacy belief as predictors of life satisfaction in late adolescence. *Personality and individual Differences, 43(7),* 1807-1818.

Waller, M. A. (2001). Resilience in ecosystem context: Evolution of the concept. *American Journal of Orthopsychiatry, 71,* 290-297

Warren, J. I., Stein, J. A., & Grella, C. E. (2007). Role of social support and self-efficacy in treatment outcomes among clients with co-occurring disorders. *Drug and Alcohol Dependence, 89(2-3),* 267-74

Wells, A. (2000). *Emotional disorders and met cognition: Innovative cognitive therapy*. Chichester: Wiley.

Moses, L. J., & Baird, J. A. (2002). Meta-cognition. In R.A. Wilson & F.C. Keil (Eds.), The MIT encyclopedia of the cognitive sciences. Cambridge, MA: MIT Press.