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Effectiveness of Hardiness Skill Training in Life Expectancy and Perceived Stress of Addicts in Addiction Treatment Centers across Alborz Province

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Abstract

The present research was conducted aiming at examining effectiveness of hardiness skill training in life expectancy and perceived stress of addicts in addiction treatment centers across Alborz province. The present research consists of all the addicts at addiction treatment centers across Alborz province. With regard to Morgan table, 210 individuals were selected as sample that 65 individuals have been found with highest stress level and lowest life expectancy after performing life expectancy and perceived stress questionnaire among which 40 individuals were selected via simple random method, and ultimately 20 individuals attended as experimental group and 20 individuals attended as control group.

Statistical methods including mean, standard deviation, minimum and maximum variance of scores were used to display demographic characteristics of both groups. Covariance test has been used to compare status of groups with themselves before and after performing training classes and performing independent variables and comparing status of groups with each other before and after performing independent variable. Statistical analysis was made via software SPSS18.

Experimental group received 3 months training during 10 sessions and control group received no training, that post-test was performed for both groups after ending the training program. The results obtained from covariance analysis indicated that hardiness training had a significant effect on life expectancy and perceived stress at $p<0.01$ in experimental group.

It can be concluded that training hardiness affects improvement in perceived stress and increase in life expectancy.

Keywords- hardiness, life expectancy, perceived stress

Introduction

Addiction is one of the biggest problems that people in our community are grappling with it, harmed to the individual and the community. With advancement in science and technology, new ways are proposed for people's addiction that prevention from it becomes so difficult. Until the late 1970s, numerous studies had been conducted in which life stressful events as a detector factor had been considered in emergence of physical and psychological diseases (Kobasa, 1979). An objective relationship between stress and disease has been an idea taken into huge consideration (Kobasa, 1979). Numerous studies have been conducted in this context, indicated that stressful events affect emergence of mental diseases (Sappington, 1989, quoted from Shahi, 2006). In popular magazines, readers who had high stress were suggested with avoidance from avoid situations to stay healthy, but with increasing stress in life is consistent with increased opportunities and potential sources but increase of stress comes with increase of potential opportunities and resources in life(Kobasa, 1979). By avoidance from stress, the person might lose the opportunities to have a better life. Under pressure conditions, the person can grow and evolve (Roger, quoted from Najarian & Davoudi).

Research has shown that stressful events together with suppression ability or proper dealing with them increase the person's flexibility and competence (Ostovar, quoted from Dadsetan, 2007). Correlation between stress and diseases ranges from 0.2 to 0.87. Most of these correlations is under 0.3. It has been very low in some studies (Kobasa, 1979). A probable elaboration of these data refers to the individuals who have high scores in stress and have not affected by disease (Beasly et al. 2003). This assumes the adjusting factors and variables and individual differences in relationship between stress and disease (Ostovar, quoted from Dadsetan, 2007). Kobasa(1979) has put the personality as a confounding variable in relationship between stress and disease. At the early research on hardiness, he investigated this point that the individuals who experience a high degree of stress without disease have a different personality structure than the individuals who become ill under stressful conditions. With regard to theory of Suzanne Kobasa(1979) & Salvatore Maddi(1977), the existing differences in terms of individual control are the only reason for why some people become ill while they are affected by stress and some not. They stated that a larger series of personality traits named hardiness affect this (Sarafino, 2002, quoted from Mirzaei, 2008). In other words, hardiness refers to a type of personality trait which is assumed as a factor to improve health. Kobasa(1979) has known hardiness as a combination of beliefs about himself and the world which immunes the person against internal and external pressures. Indeed, this feature refers to the ability for suitable processing of internal and external stimulants. Concept of hardiness should not be merely summarized in Special Forces for mental pressures but this construct precedes the person in difficult conditions and assists him to leave the threatening events behind with further success. Hardiness refers to the ability for proper understanding of surrounding conditions and the ability for proper decision making about oneself (Kobasa, 1997). Kobasa & Maddi(1997) believe that hardiness serves as the mediator between stressful event and disease and reduces the possibility for symptoms. This major interaction indicates that if the person faces severe stressful events, he should be strict to stay healthy (Kiamarthi, Abolghasemi, 2006). Schneider, founder of the theory of hope and treatment, has defined hope as follow represented it as a construct including two concepts.

-The ability to design the pathways towards desirable goals despite existing and agency barriers or necessary motivation factor to use this pathway. According to Schneider and Peterson(2005), hope refers to one of the life features that obliges us to search a better future. Drug problem has been mentioned as one of the serious problems worldwide to which various outlooks have been drawn from various economic, social, political and physiological perspectives. The more technology progresses, diversity of these drugs increases so far as today diversity of these drugs goes beyond in such a way that their detection is hardly possible. On the other hand, as a result, prevalence of these drugs and increasing number of those who invest on them have largely increased. Currently, addiction has been regarded as the global problem prevailed worldwide. Iran has the youngest population of the world so that over 50% of population develops from children, youth and adolescents. This young population can be considered a potential capital for development of country. Yet if sufficient attention is not paid to training development and health of this population, this population will be a threat to future of country (Mohajer Darabi, 2008).

Research method

In the present research, Ancova test is used to examine the hypothesis under life expectancy of the individuals who are subjected to hardiness test and the individuals who are not subjected to hardiness test.

With regard to the standard deviation in post-test of control group, it can say that scores of more than half of respondents range from 15.73 to 20.27. It is clear that range of scores in

experimental group is greater than control group, indicating increase of expectancy in experimental group.

Table 1. Pre-test and post-test plan with control group (Delavar, 2004)

	Pre-test	Independent variable	Post-test	Random selection
Experimental group	T1	0	T2	R
Control group	T2	-	T2	R

Table 2. Distribution of mean of scores of perceived stress of respondents in terms of post-test and pre-test

Standard deviation	Mean	No	Test	Group
3/89 3/8	26/6 39/45	20 20	post-test pre-test	Experimental
5/9 4/8	43/5 41/65	20 20	post-test pre-test	Control

With regard to the standard deviation which is the square of difference of mean, it can say that scores of more than half of the respondents range from 22.71 to 30.49. further it ranges from 37.6 to 49.4 with standard deviation of 5.9.

Table 3. Distribution of mean and standard deviation of life expectancy and perceived stress per groups

Group	Test	Mean	Standard deviation
Experimental	Expectancy post-test	28.15	2.3
	Expectancy pre-test	17.5	2.03
	Perceived stress post-test	26.6	3.89
	Perceived stress pre-test	39.45	3.8
Control	Expectancy post-test	18	2.27
	Expectancy pre-test	17.95	2.3
	Perceived stress post-test	43.5	5.9
	Perceived stress pre-test	41.65	4.8

Table 3 displays mean and standard deviation of respondents in post-test and pre-test per groups.

Table 4 displays mean and standard deviation of dependent variables which have been adjusted under influence of pre-tests. Results indicate that mean of experimental group has changed from 28.15 to 28.23 in life expectancy post-test and has changed from 26.6 to 26.74 in perceived stress.

Table 4. Distribution of adjusted mean and standard deviation of post-test

Group	Test	Mean	Standard error
Experimental	Expectancy post-test	28.23	0.531
	Perceived stress post-test	26.74	1.16
Control	Expectancy post-test	17.91	0.531
	Perceived stress post-test	43.35	1.16

One of the important assumptions in covariance analysis includes linearly relationship between dependent variable and auxiliary random variable (Almasifard, 2013). In other words, firstly the relationship between two variables is specified so as to remove effect of this relationship by performing covariance analysis. Here, it seems that there is such a linear relationship between dependent variables of life expectancy, perceived stress and auxiliary random variable. Slope of regression lines is the same in both groups. Value of R square indicates that there is a correlation between dependent variable and auxiliary random variable. With regard to this assumption, we can make covariance analysis.

Table 5. Assumption under regression line slope

Source of variations	Sum of squares	Freedom degree	Mean of squares	f	Sig	Test power
Life expectancy pre-test	7.682	1	7.682	1.455	0.236	0.217
Perceived stress pre-test	16.767	1	16.167	0.445	0.509	0.1

Another assumption lies on the status of regression line slope between group and Covariate, i.e. there must not be correlation between covariate and agent variable. To understand whether correlation exists or not, f-test has been used. Significant f-value has not been displayed in expectancy and group pre-test ($P>0.05$).

Not significant f implies that there is no correlation between covariate and agent variable. Significant f-value has not been displayed in the correlation between group and perceived stress pre-test, i.e. homogeneity of regression slope based on f-test has not been put under question. Therefore, we can make covariance analysis.

Table 6. Homogeneity test of variance of dependent variables

Dependent variable	f	D_1f_1	D_2f_2	Sig
Life expectancy post-test	7.682	1	7.682	1.455
Perceived stress post-test	16.767	1	16.767	0.445

With regard to sig, the assumption under equality of variance in two deponent variables has not been put under question. In other words, it can conclude that variance of two variables is equal in the groups ($P>0.05$).

Table 7. Box's test to examine equality of covariance Leven's test has been used to determine whether this assumption is true or not.

Box's test	3.295
f	1.036
D_1f_1	3
D_2f_2	259920.00
Sig	0.375

Result from test indicates that the assumption under equality of variance-covariance matrix comes true (P>0.05). Therefore, we can perform covariance analysis.

Table 8. Wilks' Lambda test

effect	value	f	df	Error d.f	sig	Eta	Test power
Groups	0.111	129.629	2	35	0.000	0.889	1.00
Life expectancy pre-test	0.498	17.62	2	35	0.000	0.502	1.00
Perceived stress pre-test	0.285	43.91	2	35	0.000	0.715	1.00

Results from table above indicate effect size and value of variance of dependent variables via each of factors.

Ultimately, it can come to this conclusion that training has affected expectancy and perceived stress separately and become an effective agent as a combined variable, i.e. 88% of the changes in these variables can be due to training agent.

Result of table 8

Therefore, with regard to calculated Lambda value and Eta coefficient for group variance and their significance in explaining the dependent variable, it can say that training hardiness affects changes in expectancy and perceived stress. Therefore, with regard to the calculated effect size and their significance, it can say that training hardiness affects increase in expectancy. Therefore, with regard to calculated effect size and their significance, it can say that training hardiness affects reduction in perceived stress.

Overview of secondary hypotheses

The first secondary hypothesis: extent of life expectancy of the individuals who are subjected to training hardiness differs from the individuals who are not subjected to training hardiness.

After adjusting mean of pre-test to value (17.72) for life expectancy, since sig is less than calculated f, extent of life expectancy differs in groups.

Table 9. Comparison of mean of groups in dependent variable of life expectancy

Groups	Difference of mean	Standard error	Sig
Life expectancy and control	10.314	0.764	0.000

Results from table 9 indicate that there is a significant difference on expectancy between training group and control group to the extent (10.314) which this difference is significant at 0.001 level. Hence, with regard to significant f-value at P<0.001, it can conclude that training hardiness affects expectancy.

With regard to significant difference of means between training and control groups, it can say that 0.99 confidence level that the research hypothesis is confirmed based on this idea that training hardiness affects extent of increase in expectancy.

The second secondary hypothesis

Extent of perceived stress of the individuals who are subjected to training hardiness differs from the individuals who are not subjected to training hardiness.

After adjusting mean of pre-test to value(40.55) for perceived stress, since sig is less than calculated f, extent of perceived stress differs in groups.

Table 10-comparison of mean of groups in dependent variable of perceived stress

Groups	Difference of mean	Standard error	Sig 0.000
Training perceived stress and control	10.314	0.764	

Results from table 10 indicate that there is a significant difference on perceived stress to extent of -16.6 between training hardiness group and control group, which this difference is significant at 0.001 level. Therefore, with regard to significant f value at $P<0.001$, it can conclude that training hardiness affects reduction in perceived stress. With regard to significant difference of means between training groups and control at 0.99 confidence level, it can say that the research hypothesis under effect of training hardiness on extent of reduction in perceived stress is confirmed.

Discussion

To examine the research hypothesis under "extent of life expectancy of the individuals who are subjected to training hardiness differs from the individuals who are not subjected to training hardiness", Ancova analysis has been used in which a variable is tested. The results indicate that there is a difference of mean(10.314) between life expectancy training group and control group, which this difference is significant at 0.001 level. Therefore, with regard to significant f-value at $P<0.001$, it can conclude that training hardiness affects increase of expectancy. With regard to significant difference of mean between training and control groups, it can say that the research hypothesis under "training hardiness affects extent of increase in expectancy" is confirmed. Mentioned findings under "training hardiness affects extent of life expectancy" are consistent with findings of research by Saeid lu(2009), Sharif(2007), Bastam Nejad(2006), Radmard(2006), Khadem Hosseini(2006), Sharif(2007), Atabaki(2007), Kameli(2007), Aman zadeh(2008), Rahnama(2008), Ilkhani(2008), Mohades(2009). Hardiness has been regarded as one of the important issues taken into consideration in Positive Psychology. The term "hardiness" is used about the individuals who are more resistive against mental pressure and less likely subjected to disease than most of individuals. The individuals who have this feature feel more control on their life and they have more sense of belonging to what they engage in and they accept new changes and beliefs.

New research indicates a bond not just between hardiness and disease but also between hardiness and lifetime. Therefore, having this trait not just secures us against diseases but also causes increase in lifetime. Schneider, founder of the theory of hope and treatment, has defined hope as follow represented it as a construct including two concepts.

-The ability to design the pathways towards desirable goals despite existing and agency barriers or necessary motivation factor to use this pathway. According to Schneider and Peterson (2005), hope refers to one of the life features that oblige us to search a better future. Hope implies

better success and future and a reason for living, when hope exists in mind and heart, there will joy and happiness in life.

Seligman & cskiszentminhalyi (2005) have stated that the psychology during 60 past years has converted to the science of treatment in a large extent. They suggested that the psychologists should not just engage in how to cope with previous life events and treat them but also should assist for understanding what makes the life precious.

Diner (2006) believes that access to material objects just relate to average extent of happiness in life. The study has indicated that the family living conditions and sufficient time for various interests relate to happiness. To examine the research hypothesis under "extent of perceived stress of the individuals who are subjected to training hardiness differs from the individuals who are not subjected to hardiness" is confirmed.

Conclusion

Results indicate that there is a difference of mean on perceived stress between training hardiness group and control group to the extent of -16.6, which this difference is significant at 0.001 level. Therefore, with regard to significant f-value at $P<0.001$, it can conclude that training hardiness affects reduction in perceived stress. With regard to significant difference of means between training and control group at 0.99 confidence level, it can say that the research hypothesis under "training hardiness affects extent of reduction in perceived stress" is confirmed. The mentioned finding about "training hardiness affects extent of perceived stress" is consistent with the findings of research by Rezaei(2009), Moazedian(2008), Asgari(2004), Feizi(2002), Rahmati(2004), Yar Mohammadian(2004). Hardiness refers to a psychological concept which has been introduced as the stress threatening agent for the first time by Salvatore Maddi and Suzanne Kobasa. Hardiness refers to the person's stability in reaction to life events. Hardiness has rooted in existential psychology, having three components including commitment, control and challenge. High extent of each of these three components with their integrative combination protects the individuals against undesirable stress effects and physical and mental disorders and increases their compatibility. Researchers by examining the individuals who have coped against the changes in life and have remained healthy and happy have perceived that these individuals have the traits which differentiate them from others, resulting in increase in compatibility; these traits include sense of control, flexible attitude introduced with hardiness. More specifically, the individuals can develop their individual force by learning and enhancing hardiness so as to enable to cope with the pressures (Ataei, 2009). Large body of research about hardiness examines effect of hardiness on physical health and the rest examines effect of hardiness on mental traits. On the other hand, the studies by researchers indicate acquired hardiness. Therefore, training based on theoretical background of hardiness can affect increase of compatibility, displayed in the present research. Effects of stress occur when insufficient sources are available to cope with situation because the coping style adjusts the relationship between stress and psychological and physical function (Lazarus, 1999). Perceived stress can be a function of objective stress events of coping processes and personality traits. One of personality-cognitive variables by Bennet & Eliot (2008) indicated that perceived stress and depression affects the relationship between explanatory style and disease. However, role of thinking style about the perceived stress like what said about life stressful events was specified. To examine the research hypothesis under "training hardiness affects extent of life expectancy and perceived stress" regarding Eta coefficient and value of Lambda, it can say that training hardiness affects changes in life expectancy and perceived stress.

Therefore, with regard to the effect size, it can say that training hardiness affects increase in expectancy. Therefore, with regard to effect size, it can say that training hardiness affects reduction

in perceived stress. Findings above under “training hardiness affects extent of life expectancy and perceived stress among addicts in addiction health center” are consistent with findings of research by Halford et al. (2007), Ki- Debat (2007) , Hedayati nia(2009), Rezaei(2009), Saei(2009), Rabiei(2008), Tabatabaei(2007) and Mazolumi far(2006). In other words, hardiness refers to a type of personality trait assumed as an agent for improving health. Kobasa(1979) has known hardiness combined of beliefs about oneself and the world which immunes the person against internal and external pressures. Indeed, this feature refers to the ability for suitable processing of internal and external stimulants. Concept of hardiness should not be merely summarized in Special Forces for mental pressures but this construct precedes the person in difficult conditions and assists him to leave the threatening events behind with further success. Hardiness refers to the ability for proper understanding of surrounding conditions and the ability for proper decision making about oneself. Kobasa & Maddi(1997) believe that hardiness serves as the mediator between stressful event and disease and reduces the possibility for symptoms. This major interaction indicates that if the person faces severe stressful events, he should be strict to stay healthy (Kiamarthi, Abolghasemi, 2006). Researchers have examined the relationship between hardiness and the factors such as anxiety, stress, academic performance, locus of control, self-esteem, self-actualization, personality type A, social support, success, mental disorders, sports activities, the immune system, job burnout, lifetime. To sum up, hardiness has a major effect in protection against health during stressful events. The individuals who had high hardiness showed tolerating more failure. According to Kobasa’s definition for Hardiness, major aspects of the living situation of persons can be controlled.

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