Abstract

Objective: The aim of this study was to model the structural relationships between spiritual intelligence and addiction potential with mediating role of meta-cognitive beliefs and educational hardiness in Azad University students of Tehran. **Method:** A descriptive-correlational research method with a causal nature was used in this study. The statistical population of this study consisted of all students of Azad University of Tehran in the academic year of 2016-17. From among this population, 361 students were chosen via random cluster sampling method and responded to Zargar's Addiction Potential Scale, Halton & Wells's Metacognition Questionnaire, King's Spiritual Intelligence Self-Report Inventory, and Benishek & Lopez's Academic Hardiness Scale. **Results:** Using structural equation modeling and path analysis, spiritual intelligence, with mediating roles of metacognitive beliefs and educational hardiness could explain 10% of addiction potential among students of Azad University of Tehran. Additionally, spiritual intelligence had a direct effect on addiction potential. **Conclusion:** Considering the predictive power of the mentioned variables, one can use the findings of this study for developing addiction prevention programs and formulating educational interventions in addiction withdrawal clinics.

Keywords: spiritual intelligence, meta-cognitive beliefs, academic hardiness, and addiction potential

Causal Relationship between Spiritual Intelligence and Addiction Potential with the Mediating Role of Meta-Cognitive Beliefs and Academic Hardiness

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Introduction

Addiction is the person's comprehensive suffering from a substance or narcotics, in such a way that it makes him physically and psychologically dependent and affects all his individual and social behaviors. Today, addiction, as the most important social damage, has attacked on the human community. Due to the progressive nature of addiction in all aspects of life, in addition to its physical and psychological impacts on the addict, the health of the society has also been damaged socially, economically, politically, and culturally; it has also influenced all age groups. (Badri Gargari, 2014). Previous studies have shown that various psychological factors play a significant role in the individual's suffering from addiction and addiction potential (Moazen Nasab, & Javdan, 2017). For example, the deterrent role of spirituality and religion can be mentioned in getting infected by addiction and drug abuse. Religion and spirituality have a great influence on all aspects of life, and the relationship between religion and addiction has been an important subject matter and has reached to acceptable results (Garcia, Babarro, & Romero, 2017). For instance, Raiya, Pargament, Mahoney, & Stein (2008) have stated that religion creates a sense of well-being and, according to Mackie & Smith (2000), can influence on the human behavior. Having religious beliefs is one of the factors that can be effective in preventing and reducing psychological disorders, and also its related problems such as suicide, drug addiction, depression and anxiety. In this regard, spiritual intelligence is one of the relatively new structures in the area of psychology of religion, which has recently been considered by the researchers as one of the positive and protective factors associated with substance use and other psychological damages (Dev, Kamalden, Geok, Ayub, & Ismail, 2018) among the youth (Sohrabi, & Naseri, 2012).

Spiritual intelligence is a set of abilities, capacities, and spiritual sources that its application increases the adaptability (Nourbakhsh, & Molavi, 2015). According to King (2008), spiritual intelligence has four components of existential thinking, personal meaning production, conscious state expansion, and transcendental awareness. Marashi, et al. showed that there is a negative relationship between spiritual intelligence and addiction preparedness. People with lower spiritual intelligence are more likely to be addicted (Marashi, Na'ami, Bashlideh, Zargar, Ghobari Bonab, 2012). Research on the etiology of substance abuse have also mentioned other factors such as personality traits and have addressed the strong role of the individuals' personality traits in interaction with other environmental factors in the onset and continuation of the problematic use of drugs (Carou, Romero, & Luengo, 2017). Among these traits, the psychological hardiness can be mentioned. Psychological hardiness has been assumed as a multi-components construct, including commitment, control, and challenge. From the psychodynamics perspective, all people have some degrees of psychological hardiness (Benishek, & Lopez, 2001). In that study, the

emphasis has been on the academic hardiness as a framework for understanding how students can react to the academic challenges (Benishek, & Lopez, 2001). Psychological hardiness makes individuals able to have a proper performance against the stressful events and full of tension situations of life. Psychological hardiness creates a particular internal attitude that affects people's way of coping with different life issues (for example, academic, occupational, social challenges, etc.) (Moradi, Ebrahimi, & rad, 2018). Kobasa, Maddi, & Kahn (1982) considered the construct of hardiness as a source of resistance in confrontation with the stressful events of life. In fact, it can be stated that the individuals with a high level of psychological hardiness are less likely to suffer from physical and psychological damages such as addiction against the environmental stressful events. Hardness is a fundamental feeling of control that allows a person with hardiness to draw and have access to a list of strategies that ultimately lead to the development of optimistic visions against the stressful events (Yasaminejad, Golmohammadian, & feli, 2011). Therefore, the hardiness feature can reduce the addiction potential in humans and act as a protective factor.

Although some theories pertaining to drug use and the tendency toward drug use concentrate on the individuals' personality traits (Modaresifard, & Maredpour, 2016), in other theories, such as cognitive-behavioral theory, it is assumed that the tendency to drug use and dependency on it is a learnt behavior that is acquired through conditioning and cognitive mediators (Gorman, 2001). For substance dependency, cognitive interventions also focus on cognitive mediators, which mainly include identifying and modifying the drug-related experiences and extracting and rebuilding beliefs and fundamental cognitions (Parks, Marlatt, & Anderson, 2004). One of the new approaches in the area of etiology and treatment of many psychological disorders such as addiction is Wells's Metacognitive Model (Wells, & Matthews, 2009, quoted from Ghadimi, Karami, and Yazdanbakhsh, 2014). It suggests that the psychological disorders and addiction are created and maintained through the sustained pattern of thinking (worry or rumination), attention strategies associated with monitoring and threats, avoidance, and thought suppression, which together lead to the formation of a cognitive-attention syndrome. This syndrome results in failure in correcting the maladaptive beliefs with self and increasing the access to negative information about self (Ghadimi, et al., 2014).

Metacognitive beliefs are the beliefs that a person has about his thinking and its processes (Janeck, Calamari, Riemann, & Heffolinger, 2003; quoted by Sa'ed, Yaghoubi, Roshan, & Soltani, 2011). Drug dependency in short term acts as an adaptive coping strategy to regulate emotion, but it is considered as maladaptive in the long term as it causes dependency and generating negative emotions (Spada, Nikcevic, Giovanni, & Wells , 2007; Spada , Zandvoort, & Wells , 2007). Several studies have shown that there is a relationship between metacognitive beliefs and addiction potential as well as drug dependency

(Spada, & Wells , 2008; Hajloo, Sadeghi, Nadinloei, & Habibi, 2014). Moreover, research show that meta-cognition and spiritual intelligence are related to each other in many components. Canada, Murphy, Fitchett, Peterman, & Schover (2008) found that cognitive strategies of positive coping with against life events in people with higher spiritual intelligence are more than those with low spiritual intelligence. Karri, Stanley, Cohen, & Hicks (2007) found that people with high spiritual intelligence use meta-cognitive processing more and individuals with low spiritual intelligence use negative meta-cognitive processing more.

Although several studies have examined the relationships and contribution of each components of the spiritual intelligence, academic hardiness, and meta-cognitive beliefs in addiction or addiction preparedness, the causal effect of the relationship between these variables in an interaction model on addiction potential has not been studied so far. The action on addiction has not been investigated. Previous studies have shown that spiritual intelligence, meta-cognitive beliefs, and academic hardiness have a certain degree of impact on addiction and addiction preparedness. However, since the individuals' psychological organization is multidimensional, and the tendency toward substances is influenced by a set of factors not one or two factors, it is necessary to examine the effects of such factors by using the conceptualization of multivariate models. By doing so, not only the one-to-one effect of these variables, but also their cumulative effect by considering the moderating or mediator factors are examined precisely. The current study aims to investigate the causal model of addiction potential by considering the role of spiritual intelligence in university students. It seeks to answer the question of whether the spiritual intelligence by mediating meta-cognitive and academic hardiness is able to predict addiction potential in university students. Investigating the variables mentioned in the current study in the form of the causal model and the effectiveness of each of them in the proposed model according to Fig. 1 can help to develop new knowledge in this field.

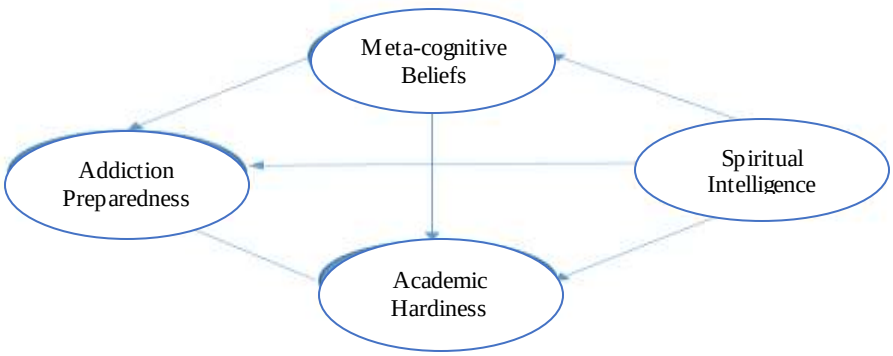

Fig. 1: The Conceptual model of the Relationship between Spiritual Intelligence and Addiction Potential by Mediating Meta-cognitive Beliefs and Academic Hardiness

Method

Population, sample, and sampling method

Regarding the purpose, the present study was of fundamental type, and had a descriptive-correlational method with a causal nature. Data analysis was performed using the structural equation modeling which is based on covariance and AMOS software. This approach is used to estimate the coefficients of paths and factor loadings by minimizing the difference between a sample-based covariance matrix and a model-based covariance matrix. The population of the study consisted of all university students of Azad University of Tehran who were studying in the academic year of 2016-17. A multi-stage cluster sampling method was used to select the sample. From among the Azad Universities of Tehran, Azad University of Tehran (the Central Branch) was randomly selected and then, the research sample was randomly completed in different faculties of the same university. Since there were 15 clear factors in the current study, and regarding the minimum sample size required for factor analysis (20 samples for each factor) (Habibi, 2012), the minimum sample required for this study was 300 people. Considering the possibility of loss and the aim of reducing the probability of the second type error, the sampling process continued until 361 people were chosen. The method of collecting information was the field method.

Instruments

1. Addiction Potential Scale: This questionnaire was developed according to the psychological, social, and cultural conditions of the Iranian society by Zargar (2008). It is made of the two factors, 36 items, and 5 lie detector items. In the first factor (active potential), the majority of the items are related to antisocial behaviors, the desire to use drugs, positive attitude toward drugs, depression, and emption seeking respectively. In the second factor (passive potential), most of the items are associated with lack of self-expression and depression. Scoring is done based on a continuum ranging from zero (totally disagree) to three (totally agree). The foreign version of the Addiction Potential Scale is one of the three subscales of the Minnesota Multiphasic Personality Inventory which has been developed by Weed & Butcher (1992) (quoted by Haji Hassani, Shafi Abadi, Pirsaghi, Kianipour, 2012). In Iran, the internal consistency of this scale in the study of Zargar and Ghaffari (2009) was 0.90 and Cronbach's alpha of the first and the second factor were 0.91 and 0.75 respectively; its criterion and construct validity were acceptable. In this study, Cronbach's alpha was 0.87.

2. Meta-cognition Questionnaire: The initial form of this questionnaire was 65 items that was designed by Cartwright-Hatton and Wells (1997) to investigate worries and the intrusive thoughts. The utilized version of Cartwright-Hatton and Wells meta-cognitive questionnaire consists of 30 items that later was created by Cartwheel Hatton and Wells (2004), similar to the original form, in order to measure the meta-cognitive beliefs (Wells , 1997,1995; quoted by Cartwright-Hatton & Wells , 2004). This questionnaire consists of five subscales

of cognitive confidence, positive beliefs about worries, cognitive self-consciousness, dangerous and uncontrollable thoughts, and the need to control thoughts (Cartwright-Hatton & Wells , 1997; quoted by Wells & Carter, 2001). Responses are calculated based on the 4-point Likert scale (totally disagree (1) to totally agree (4)). The minimum score obtained in this test is 30, and the maximum is 120; the total score of metacognition is obtained from the sum scores of the subscales. The Cronbach's alpha coefficient for the subscales was in the range of 0.72 to 0.93, the test-retest reliability for the total score, after 22 to 118 days, was 0.75, and 0.59 to 0.87 for the subscales (Cartwright-Hatton & Wells , 2004). In Iran, using the Cronbach's alpha coefficient, Shirin Zadeh Dastgiri (2006) reported the internal consistency coefficients as follows: 0.91 for the total scale; for the subscales, it was reported in the range of 0.71 to 0.87. He reported that the test-retest reliability of this test in the 4-week interval for the whole scale was 0.73, and it was in the range of 0.59 to 0.83 for the subscales. In the present study, the internal consistency for the whole scale was 0.82.

3. Spiritual Intelligence Self-report Inventory: Spiritual intelligence self-report inventory was developed by King in 2008 based on the theory of Self, in order to measure the mental abilities of spiritual intelligence. It has 24 items and evaluates the capabilities pertaining to the spiritual intelligence in four main dimensions of ability including the critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. The individuals determine their agreement or disagreement with each of the statements on a 5-point Likert scale. In order to obtain the score of each subscale, the scores of the questions are added; to obtain the total score of the test, the score of all the 24 statements should be added and the 6th statement should be reversely scored. King (2007), in a study on 619 university students, reported that the Cronbach's alpha coefficient of this test was 0.95; the Cronbach's alpha coefficients of the critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion were 0.88, 0. 87, 0.89, and 94/0 respectively (King, 2007). In Iran, Aghababaei, Farahani, and Rahimi Nejad (2010) implemented this test on 580 university students and religious students at Howzeh, and reported that the reliability coefficients for the subscales of conscious state expansion, personal meaning production, transcendental awareness, critical existential thinking, and total test were 0.75, 0.75, 0.70, 0.70, and 0.88 respectively. In that study, Cronbach's alpha for the whole scale was also 0.85.

4. Academic Hardiness Scale: This questionnaire was developed by Benishek and Lopez (2001) and measures the components of commitment, challenge, control of effort, and control of affect. Benishek and Lopez (2001) reported that the internal consistency of this scale was 0.82; for each of the components of commitment, challenge, control of effort, and control of affect, it was 0.91, 0.88, 0.91, and 0.81 respectively. In Iran, this test has been translated and the total Cronbach Alpha has been reported to be 0.83. It has 40 items and the scoring is

based on totally disagree (1) to totally agree (5). The scoring in items 1-15-16-17-20-21-22-27-29-32-35-37-39 is reversed. In this test, the high score indicates high academic hardiness (Zaghibi Ghannad, 2013). The total Cronbach alpha in the current study was 0.81.

Results

The participants' mean age was 24.01 (standard deviation=12.7 years). The youngest subject was 18 years old and the oldest was 62 years old. 195 people (54.3%) were female and 164 people (45.7%) were male. 292 people (83.9%) were single and 56 people (16.1%) were married. 89 people (24.7%) were studying in Faculty of Fundamental Sciences, 95 (26.3%) in Faculty of Engineering, 91 (25.2%) in arts, and 86 (23.8%) in Faculty of Humanities. The descriptive statistics of the studied variables are presented in Table 2.

Table 2: Descriptive Statistics of the Studied Variables in the Sample Group

Variables	*Mean*	*SD*	*Skewness*	*Kurtosis*	*Minimum*	*Maximum*
Total cognitive beliefs	68.04	13.41	0.19	0.97	30	120
Cognitive conflict	12.04	3.9	0.319	-0.458	6	24
Positive beliefs	12.14	3.75	0.571	0.252	6	24
Cognitive self-consciousness	16.04	3.63	0.057	-0.220	6	24
Danger and uncontrollability of thoughts	13.71	4.11	0.329	-0.096	6	24
The need to control thoughts	14.15	3.55	0.049	0.183	6	24
Total academic hardiness	126.3	13.81	0.51	0.32	94	176
Commitment	12.97	3.18	0.225	-0.375	4	20
Challenge	60.27	6.86	0.488	0.138	43	87
Control of effort	20.27	4.95	0.304	0.338	7	35
Control of affect	32.86	5.45	0.270	0.562	14	50
Addiction potential	33.49	19.47	0.79	0.41	0	105
Passive addiction potential	10.95	4.46	-0.051	-0.194	0	24
Active addiction potential	22.53	16.51	0.870	0.316	0	81
Total spiritual intelligence	54.56	17.62	0.03	-.30	7	96
Critical existential thinking	16.42	6.1	-0.096	-0.520	0	28
Personal meaning production	11.46	4.6	-0.167	-0.525	0	20
Transcendental awareness	15.74	5.25	-0.071	-0.224	0	28
Conscious state expansion	11.05	4.2	-0.010	-0.322	0	20

The correlation matrix of the studied variables is presented in Table 2.

Table 2: Correlation Matrix of Research Variables

variables	*Spiritual intelligence*	*Meta-cognitive*	*Hardiness*	*Addiction*
spiritual intelligence	1	-	-	-
Meta-cognitive	-0.034	1	-	-
Hardiness	0.235**	0.114**	1	-
Addiction preparedness	-0.239**	-0.139**	-0.224**	1

*<0.05, **<0.01

As you can see, there is an inverse relationship between addiction potential and other areas of the study. There is also a direct relationship between spiritual intelligence and academic hardiness. There is also a direct relationship between metacognitive beliefs and academic hardiness. However, there is no relationship between spiritual intelligence and metacognitive beliefs. The Goodness of fit indices of the model are presented in Table 3.

Table 3: Checking the Fitness of the Measurement Model after Two Stages of Correction

Goodness of fit indices	χ^2	χ^2/df	*RMSEA*	*GFI*	*IFI*	*CFI*
Initial model	696/503	6/449	0.123	0.842	0.727	0.723
The corrected model 1	321/471	3/004	0.075	0.9	0.9	0.899
The corrected model 2	285/507	2/693	0.069	0.913	0.917	0.916
Acceptable cut-off scores		<3	<0.1	>0.9	>0.9	>0.9

As shown in Table 3, the observed variables measure the latent variables in an acceptable way. The results of the confirmatory factor analysis of the measurement model are presented in Table 4.

Table 4: Parameters of the Measurement Model in Factor Analysis

Parameters	*Parameter estimation*	*Standard parameter*	*Standard error*	*Test statistic*
Spiritual intelligence				
Transcendental awareness	1	0.81		
Conscious state expansion	1.13	0.81	0.07	15.36**
Personal meaning production	1.35	0.87	0.07	17.05**
Critical thinking	1.26	0.85	0.07	16.69**
Addiction potential				
Active addiction	1	0.35		
Passive addiction	1.02	1	0.14	7.15**
Academic hardiness				
Commitment	1	0.62		
Affective	0.42	0.38	0.08	5.24**
Effort	0.69	0.5	0.11	6.32**
Challenge	0.54	0.64	0.08	6.79**
Metacognitive beliefs				
Cognitive conflict	1	0.61		
The need to control thoughts	1.22	0.75	0.13	9.39**
Positive beliefs	1.03	0.64	0.11	9.06**
Danger and uncontrollability of thoughts	1.28	0.72	0.12	9.76**
Cognitive self-consciousness	0.72	0.45	0.10	9.96**

As you can see, the standard factor loadings are greater than 0.32, which according to Tabachnick and Fidel's view indicate the model's approval. Based on Tabachnick and Fidel's views, the factor loadings of 0.71 are standard, and greater than that are excellent; factor loadings between 0.63 to 0.7 are very good, factor loadings between 0.55 to 0.62 are good, factor loadings between 0.45 and 0.55 are relatively good, factor loadings between 0.32 and 0.44 are low, and factor loadings lower than 0.32 are weak. As illustrated in the above table, the

lowest factor loading belongs to active addiction with the value of 0.35 and the highest factor loading belongs to the personal meaning production of with the value of 0.87. In general, the results indicate that all the observed variables measure their respective latent variables in an acceptable way.

Table 5: Determining the Effects of the Studied Scales without Considering the Mediator Variables

Paths			*Effect*	*Total*	*Standard error*	*C.R.*	*Sig.*
Spiritual intelligence	→	Meta cognitive	0.03	0.03	0.03	0.93	0.35
Spiritual intelligence	→	Hardiness	0.22	0.22	0.05	4.44	0.001
Meta cognitive	→	Hardiness	0.17	0.17	0.06	2.79	0.005
Hardiness	→	Addiction potential	0.51	0.51	0.25	2.03	0.04
Meta cognitive	→	Addiction potential	0.11	0.20	0.27	0.43	0.66
Spiritual intelligence	→	Addiction potential	0.33	0.43	0.15	2.20	0.02

The above table shows that apart from the relationship between spiritual intelligence and metacognitive beliefs and the relationship between metacognitive beliefs and addiction, other relationships had a significant effect on their respective variables; in such a way that the significance of the effect of the relationship between spiritual intelligence and academic hardiness and addiction was observed. Metacognitive beliefs had a significant effect on the academic hardiness; and the academic hardness had a significant effect on the addiction potential. Finally, spiritual intelligence had a significant and acceptable effect on the university students' addiction potential.

Table 6: Determining Direct and Indirect Effects by Considering the Mediator Variables

Paths	*Total effect*		*Direct effect*		*Indirect effect*		*Mediator variable*	*Sig.*
	β parameter	Standard error	β parameter	Standard error	β parameter	Standard error		
Spiritual intelligence-metacognitive	0.031	0.033	0.031	0.033	---	---	---	0.35
Spiritual intelligence-hardiness	0.22**	0.03	0.22**	0.05	0.005	0.006	Metacognitive	0.001
Metacognitive-hardiness	0.17**	0.063	0.17**	0.063	---	---	---	0.005
Hardiness-addiction	-0.51*	0.25	-0.51*	0.25	---	---	---	0.041
Metacognitive-addiction	-0.20	0.15	-0.11	0.27	-0.09	0.05	Hardiness	0.66
Spiritual intelligence-addiction	-0.43**	0.14	-0.33	0.15	-0.10**	0.02	Metacognitive-hardiness	0.027

Results show the predictive power and the effects of each of the studied variables in the hypothesized model. Furthermore, the results of this study reveal that spiritual intelligence by mediating academic hardiness and metacognitive beliefs can explain and predict 10% of the addiction potential in the university students.

Discussion and Conclusion

This study indicated that the variables of spiritual intelligence, metacognitive beliefs, and academic hardiness have a significant effect on addiction potential. These three variables had the ability to predict 10% of the drug potential variable. The examination of this model revealed that the model of the causal relationships of spiritual intelligence with the mediation of metacognitive beliefs and academic hardiness had a desirable goodness of fit. Previous studies, such as the results of the study conducted by Thalbourne (2007), have shown that religious beliefs can influence the individuals' other personality and cognitive constructs. However, so far, no study has investigated the effect of spiritual intelligence relationships by the mediating role of cognitive variables (such as metacognitive beliefs) and personality traits (such as hardiness) in a model. Spiritual intelligence includes having meaning and responsibility toward life and values, having a sanctity in life, having a balanced understanding of the material and spiritual values, and believing in the improvement of the world. Spiritual intelligence is necessarily the basis of effective and efficient performance of rational and emotional intelligence (Emmons, 1999; Zohar & Marshall, 2000). Therefore, logically, spiritual intelligence should play a determining role in addiction, and at the same time should affect other cognitive and personality constructs.

The examination of the model showed that spiritual intelligence has a significant, direct, and negative relationship with the probability of the tendency toward addiction. The more a person has higher spiritual intelligence, the less likely he will be toward drug use and addiction. Previous studies (for example, Marashi et al., 2012) have shown that the individuals with higher spiritual intelligence have more adaptability and protect their psychological health in stressful conditions. This finding means that university students with higher spiritual intelligence are less likely to use substance.

Yong, Hamann, Borland, Fong, and Omar's (2009) study revealed that 85 percent of Thai Buddhists and Malaysian Muslims believed that religious teachings and attitudes had led them to stop smoking. Other studies also represent a negative correlation between having religious attitudes and the tendency toward substance abuse. Among these studies, one can mention the studies conducted by Leigh, Bowen, and Marlatt (2005), Regnerus and Elder (2003), Stewart (2001), and Zargarr et al. (2008).

At the heart of the spiritual intelligence are both the construct of intelligence and the construct of spirituality. It allows the individuals to perceive situations

and conditions better and flexible as much as possible, and, in fact, allows the individuals to see the situations and conditions of life in their control and look for more ability in their own to manage them (Tirri, 2006). Moreover, in explaining the findings of that study, it can be stated that due to the role of spirituality and its domination on all aspects of human life, spirituality plays a determining role in preventing a person from the tendency toward narcotics (Siegle & Senna, 1997). Perhaps the reason for observing the significant relationship between spiritual intelligence and academic hardiness in the present research can be attributed to this. Spiritual intelligence as the ultimate intelligence that represents the semantic issues and includes the psychological adaptability capacities, is based on non-material aspects and includes spiritual sources, values, and characteristics that enhance our performances (Akbari Zadeh, Bagheri, Hatami, & Hajivandi, 2011; Safari, Jenaabadi, 2015). The findings of previous research indicated that having religious attitudes and beliefs is accompanied by reduction of psychological stresses and prevention of high-risk behaviors such as smoking, alcohol and other drugs consumption; religiosity and spirituality decrease the impact of life pressures on the tendency toward drug use, and over time, develop this ability in individuals to reduce the amount of drug use and start the withdrawal process more easily and quickly (Wills, Yaeger, & Sandy, 2003). In other words, the individuals with high spiritual intelligence, in issues such as believing that God helps humans in the difficulties as well as believing that human is a free creature and is responsible for his actions and that he can reach calm through prayer, the reactions of these individuals in coping with psychological pressures are affected; and the high spiritual intelligence plays an influential role in reducing their tendency toward drugs with the purpose of relieving their pains.

Spiritual intelligence was also related to academic hardiness and could significantly predict this variable. Religious people, because of their inner beliefs, evaluate the stressful events differently and show greater compromise and hardiness in different situations. In the current research, spiritual intelligence was also related to the academic hardiness which is consistent with the findings of the studies conducted by Yavari, Nouri, & Hasan Abadi (2015), Sheikholeslami, Sotoudeh Navroudi, Zeinali, & Talebi (2013), Turiano, Whiteman, Hampson , Roberts, & Mroczek (2012), and Sanchez & Nappo (2008). Being religious can moderate the effects of the severe crises in life. The components of the system of giving meaning to life which are influenced by religion (including beliefs, expectations, and goals) act as the central point of a person's emotions and actions (Silberman, 2005); it also leads the person to show greater hardiness against problems, have more control on his behaviors and actions, feel less stressful in the time of tension and less vulnerability treats him, and in fact, he has a better mental health and finally shows a lower tendency toward addiction.

Findings showed that spiritual intelligence did not have a significant relationship with metacognitive beliefs. The literature on the relationship between spirituality and metacognitive beliefs has contradictory results (Silberman, 2005). It is accepted by most researchers that the higher the individual's level of religiosity, the meaning that he gives to himself and the world around him will be more accompanied by a sense of being valuable and purposefulness; in such a way that in the time of the appearance of stress and tension acts like a shield or protection. Through his cognitive beliefs, the individual moderate the psychological stress. This point was shown in the present study so that metacognitive beliefs were related to the academic hardiness variable and predicted it significantly. Of course, more future research is needed to further clarify the relationship between spiritual intelligence and metacognitive beliefs. In the end, considering that strengthening religious beliefs at all stages of life is a preventive measure to reduce psychological disorders, the findings of the current study can be taken into account, especially in the framework of drug abuse and addiction prevention programs in adolescents and young university students. These findings suggest that with education and promotion of religious beliefs, it can be expected that the tendency toward drug use in adolescents and young people will be significantly reduced.

One of the limitations of this research is lack of information and previous modeling in the area of examining the relationship between spiritual intelligence constructs and addiction potential. Despite the fact that it was revealed that spirituality can have a significant impact on reducing the likelihood of the tendency toward substance, there was little information about the details of the relationship between such constructs and addiction potential. It is suggested that the hypothesized model in this research be investigated in other groups (e.g., students, employees of the offices and occupations) in order to maximize the generalizability of the results. Since the results of this study revealed that spiritual intelligence and academic hardiness as deterrent factors play a role in addiction prevention, it is recommended that the role of these factors in reducing addiction tendency be investigated in interventional researches and clinical trials. As a practical recommendation, it can be stated that the provision of the necessary trainings with the aim of increasing spiritual intelligence to the students and university students can play a significant role in reducing the growing dependency of these age groups to drug use. Regarding this probability that gender and gender-related factors might be involved in the relationship between spiritual intelligence and academic hardiness with addiction potential, it is suggested that the role of spirituality and spiritual intelligence in the probability of tendency toward drug use among women and men be investigated in subsequent researches.

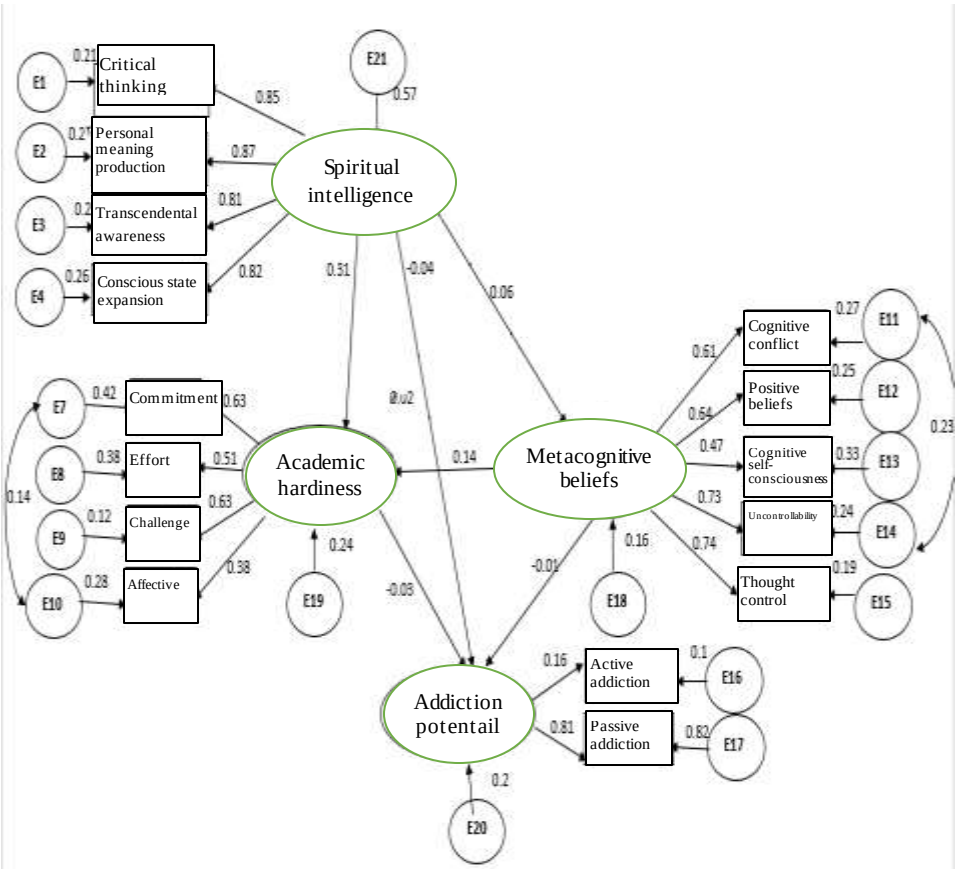

Figure 2: The Extracted Model after Examining the Fitness of the Model with the Data

References

Aghababaei, N., Farahani, H., & Rahimi Nejad, A. (2010). Evaluation of Psychometric Features in the Short-form of Spiritual Intelligence Self-Report Inventory. *Journal of Psychological Sciences 9, (34), 169-180*.

Akbarizadeh, F., Bagheri, F., Hatami, H., & Hajivandi, A. (2011). The Relationship between Spiritual Intelligence, HardIness, and General Health among Nurses. *Journal of Kermanshah University of Medical Sciences. 15, (6), 466-472*.

Badri Gargari, R. (2014). The Impact of Religious Orientation and Religious Coping Methods on Addiction Addictability of University Students in Tabriz University. *Journal of Strategy for Culture, 28, 153-170*.

Benishek, L. A., & Lopez, F. G. (2001)**.** Development and Initial Validation of a Measure of Academic Hardiness. *Journal of Career Assessment, 9(4), 333-352***.**

Canada, A.L.; Murphy, P.E.; Fitchett, G.; Peterman, A.H.; Schover, L.R.(2008), 3-factor Model for the FACIT-Sp. *Psycho oncology, 17, 908-916***.**

Carou, M., Romero, E., & Luengo, M. Á. (2017). Profiles of Drug Addicts in Relation to Personality Variables and Disorders Perfiles de Drogodependientes en Relación con Variables y Trastornos de Personalidad. *Adicciones, 29(2), 113-124*.

Dev, R. D. O., Kamalden, T. F. T., Geok, S. K., Ayub, A. F. M., & Ismail, I. A. (2018). Spiritual Intelligence on Health Behaviors among Malaysian University Students in a Malaysian Public University: The Mediating Role of Self-efficacy. *Malaysian Journal of Movement, Health & Exercise, 7(2): 53-64*.

Emmons, R. A. (1999). *The psychology of Ultimate Concerns: Motivation and Spirituality in Personality*. New York: Guilford Press.

Garcia, S. D. O., Babarro, J. M., & Romero, M. D. L. P. T. (2017). Spiritus contra Spiritum: Including Spirituality in Addiction Treatments for Recovery, a Systematic Review. *Universal Journal of Psychology, 5(2), 66-87*.

Ghadimi. A., Karami, J., & Yazdanbakhsh, K. (2014). The Relationship between Primary Maladaptive Schemas and Metacognitive Beliefs with Addiction Potential. *Journal of Fundamentals of Mental Health, 17 (2), 67-73*.

Gorman, D. M (2001). Develepmental processes. In, Heather, n., T. J. Peters, T. J, &. Stockwell, T. (Eds), *International Handbook of Alcohol Dependence and Problems*. Chichester: Willy.

Habibi, A. (2012). *Structural Equation Modeling and Factor Analysis*. Jihad Daneshgahi Publications, Tehran.

Haji Hasani, M., Shafi Abadi, A., Pirsaghi, F., & Kianipour, O. (2012). The Relationship between Aggression, Assertiveness, Depression, and Addiction Potential in Female Students of Allameh Tabbatabai University. *Journal of Knowledge and Research in Applied Psychology, 13, (3), 65-74*.

Hajloo, N., Sadeghi, H., Nadinloei, K. B., & Habibi, Z. (2014). The role of Meta-cognition in Students' Addiction Potential Tendency. *International journal of High Risk Behaviors & Addiction, 3(1)*.

Karri. B, Stanley H. Cohen, Hicks.J. (2007) Spirituality and Cognition: Does Spirituality Influence What We Attend to and Remember?, *Journal of Adult Development Volume 14, Numbers 1-2, 1-5*.

King, D. B. (2007). *The Spiritual Intelligence Project*. Trent University, Canada. Available from: www.dbking.net.

King, D. B. (2008). *Rethinking Claims of Spiritual Intelligence: A Definition, Model, & Measure*. Unpublished Master's Thesis, Trent University, Peterborough, Ontario, Canada.

Kobasa, S.C., Maddi, S.R., & Kahn, S. (1982). Hardiness and Health: A Prospective Study. *Journal of Personality and Social Psychology, 42(1), 168-177*.

Leigh, T. Bowen, S & Marlatt, A. (2005). Spirituality, Mindfulness and Substance Abuse. *Addictive Behaviors, 30, 1335–1341*.

Mackie, D. M. & Smith, E. R. (2000). *Social Psychology*, Psychology Press.

Marashi, A., Na'ami, A., Bashlideh, K., Zargar, Y., & Ghobari Bonab, B. (2012). The Effect of Spiritual Intelligence Training on Psychological Well-being, Existential Anxiety, and Spiritual Intelligence in University Students of Ahwaz Oil University. *Psychological Achievements of Shahid Chamran University, Ahvaz, 19, (1), 63-80*.

Moazen Nasab, M., & Javdan, M. (2017). Investigating the Relationship between Intellectual Personality and Readiness for Addiction in Adolescents of Secondary Schools. *Journal of Changed Teacher's University Natural Science Edition. 23:132-137*.

Modaresifard, F., & Maredpour, A. (2016). On the Relationship between Personality Traits and Coping Strategies with Abstinence Self-efficacy in Addicted Youths. *Quarterly Journal of Research on Addiction, 39, 213-230*.

Moradi, A., Ebrahimi, M. E., & Rad, I. S. (2018). The Relationship between Psychological Hardiness, Demographic Variables, and Mental Disorders of the

Nursing Staff at Be'sat Hospital, Hamadan. *Journal of Research in Medical and Dental Science, 6(3), 198-205*.

Nourbakhsh, A., & Molavi, H. (2015). The Relationship between Spiritual Intelligence and Religious Beliefs with Feelings of Inferiority and Violence among University Students. *Knowledge and Research in Applied Psychology, 16, (1), 4-12*.

Parks, G. A., Marlatt, G. A., & Anderson, B. K. (2004). *Cognitive-behavioral Alcohol Treatment. In N. heather and T. Stockwell (Etd). Treatment and Prevention of Alcohol Problems*. Chichester: Willy.

Raiya, H. A., Pargament, K. I., Mahoney, A., & Stein, C. (2008). A Psychological of Islamic Religiousness: Development and Evidence for Reliability Measure and Validity. *International Journal for the Psychology of Religion, 18, 291 - 315*.

Regnerus, M. D & Elder, G. (2003). Religion and Vulnerability among Low–risk Adolescents, *Social Science Research, 32,* 633–658.

Saaed, O., Yaghoubi, H., Roshan, R., & Soltani, M. (2011). Comparison of Maladaptive Metacognitive Beliefs among Drug Dependent and Non-dependent Subjects. *Quarterly Journal of Research on Addiction, 5, (17), 75-85*.

Safari, H., Jenaabadi. H., Salmabadi, M., & Abbasi, A. (2015). Prediction of Academic Eagerness based on Spiritual Intelligence and Psychological Hardiness. *Journal of Educational Strategies in Medical Sciences, 8, 7-12*.

Sanchez, Z., & Nappo, S. A. (2008). Religious Treatments for Drug Addiction. *Social Science & Medicine, 67, 638-646*.

Sheikholeslami, F., Sotoudeh Navroudi, O., Zeinali, Sh., Talebi, M. (2013). The Relationship between Religious Beliefs, Mental Health, Self-esteem, and Anger in Ordinary and Substance Dependent Individuals. *Journal of Holistic Nursing and Midwifery, 23, 45-51*.

Shirinzadeh Dastgiri, S. (2006). *Comparison of Metacognitive Beliefs and Responsibility among Patients with Obsessive-compulsive Disorder, Generalized Anxiety Disorder, and Normal Individuals*. Master's Thesis in Clinical Psychology, Shiraz University.

Siegle, L. J., Senna, J. J. (1997). *Juvenile Delinquency: Theory, Practice, and Law. 6th ed*. Paol Alto: West Publishing Company.

Silberman, I. (2005). Religion as a Meaning System: Implications for the New Millennium. *Journal of Social Issues, 61(4), 641-663*.

Sohrabi, F. & Naseri, E. (2012). Investigating the Concept and Components of Spiritual Intelligence and Developing an Instrument to Assess it. *Research in Psychological Health, 3, (4), 13-18*.

Spada, M. M, Zandvoort, M., Wells, A. (2007). Meta Cognitions in Problem drinkers, *Cong Ther Res. 31, 709-716*.

Spada, M., M., & Wells, A. (2008). Meta Cognitive Beliefs about Alcohol Use: Development and Validation of two Self-report Scales. *Addictive Behavior, 33, 515-527*.

Spada, M., M., Nikcevic, V, A. Giovanni, B. Wells, A. (2007). Meta Cognition as a Mediator of the Relationship between Emotion and Smoking Dependence. *Addictive Behaviors, 32, 2120-2139*.

Stewart, C. (2001). The Influence of Spirituality on Substance Use of College Students. *Journal of Drug Education, 31*(4), 343-351.

Thalbourne, M. A. (2007). Potential Psychology Predictors of Religiosity. *International Journal for Psychology of Religion, 17, 333 - 336*.

Tirri, K. (2006). Conceptual Definition and Empirical validation of the Spiritual Sensitivity Scale. *Journal of Empirical Theology; 19(1): 37-62*.

Turiano, N. A., Whiteman, S. D., Hampson, S. E., Roberts, B. W., & Mroczek, D. K. (2012). Personality and Substance Use in Midlife: Conscientiousness as a Moderator and the Effects of Trait Change. *Journal of Research in Personality, 46, 295–305*.

Wells, A & Cartwright-Hatton, S. (2004). A Short Form of the Metacognitions Questionnaire: Properties of the MCQ-30. *Behavior Research and Therapy. 42(0), 385–396*.

Wells. A., & Carter, K. (2001). Further Tests of a Cognitive Model of GAD. Metacognition and Worry in GAD, Panic Disorder, Social Phobia, Depression and Non Patients. *Behavior therapy, 32, 85-102*.

Wills, T. A., Yaeger, A. M., & Sandy, J. M. (2003). Buffering Effect of Religiosity for Adolescent Substance Use. *Psychology of Addictive Behaviors, 17(1), 24*.

Yasaminejad, P., Golmohammadian, M., & Feli, B. (2011). Investigating the Relationship between Religious Orientation and Psychological Hardiness in University Students. *Journal of Research on Islamic Education Issues, 19, (12), 119-137*.

Yavari, S., Nouri, R., & Hasanabadi, H. (2015). Structure Model of Substance Use among University Students: The Role of Spirituality, Social Modeling, and Attitude towards Substances. Quarterly Journal of Research on Addiction, 9, 146-164.

Yong, H, Hamann, S, L. Borland, R. Fong, G. T & Omar, M (2009). Adult Smokers' Perception of the Role of Religion and Religious Leadership on Smoking and Association with Quitting: A Comparison between Thai Buddhists and Malaysian Muslims. *Social Science & Medicine, 69, 1025–1031*.

Zaghibi Ghannad, S. (2013). *The Causal Relationship of Progress Emotions and Educational Motivation with Educational Eagerness by Mediating Academic Hardiness in High School Female Students in Dezful*. Master's Thesis, Faculty of Educational Sciences and Psychology, Shahid Chamran University of Ahvaz.

Zargar, Y., & Ghaffari, M. (2009). Simple and Multiple Relationships between Big-Five Personality Dimensions and Addiction in University Students. *Iranian Journal Public Heath, 38, 3, 113-118*.

Zohar, D., Marshall, I. (2000). *SQ, Connecting with Our Spiritual Intelligence*. New York: Bloomsbury Publishing.