

Abstract

Objective: This research was conducted to study the relationship between time perspective and tendency to substance abuse in adolescents. **Method:** The number of 405 adolescent female students in Tehran high schools was selected by multistage random sampling method. These participants were then tested by Zimbardo Time Perspective Inventory and Addiction Potential Scale.

Results: Pearson correlation results showed that tendency to substance abuse has a significant positive correlation with past negative, present hedonistic, and present fatalistic while it is negatively correlated with future time perspective. The results of regression analysis also showed that the four dimensions of past negative, present hedonistic, future, and present fatalistic aspects were the predictor variables that had met the conditions of entry into the final regression equation to explain tendency to substance abuse. **Conclusion:** Time perspective is an important and key factor in tendency to substance use. The results of this study suggest that training one person to move towards future time perspective, to delay immediate enjoyment, and to consider the consequences of present actions can be effective in having a balanced time perspective and preventing substance abuse in adolescents.

Keywords: time perspective, tendency to substance abuse, female adolescents

On the Relationship of Time Perspective with Tendency to Substance Abuse in Female Adolescents

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Introduction

Adolescent transformation entails identity, independence, gender, academic performance, and relationships with peers (Cicchetti, & Rogosch, 2002; Erickson, 1968). This period is associated with a host of inconsistent and paradoxical health problems due to rapid physical, psychological, social, cultural, and cognitive changes. Many of the health problems and risky behaviors commence in adolescents at this age in a progressive fashion (Armstrong & Costello, 2002; Crosby, Santelli & DiClemente, 2009). Among people aged 12 years old and older in the United States, 21.6 million individuals (8.2% of the population aged 12 years old and older) suffer from a drug use disorder, 17.3 million people are diagnosed with alcohol abuse or dependence, and 16.9% people are diagnosed with drug abuse or dependence (U.S. Department of Health and Human Services, 2013).

In fact, adolescence is the most common time for the onset of risky behaviors (Tosh & Simmons, 2007), including drug use. Many of the adolescents who take drugs are likely to get involved in other risk behaviors, such as antisocial behavior, delinquency, and sexual behaviors (Ellickson, Collins, Bogart, Klein & Taylor, 2005; Wu, Burns, Stanton, Li, Harris & Galbraith, 2005). Research findings have shown that illicit drug use in some countries has highly increased among school students (Botvin, Dusenbury, Baker, Jame & Ortiz, 2008). Although not many studies have been carried out on the prevalence rate and trend of alcohol consumption, tobacco use, and other drugs among Iranian adolescents, recent studies suggest the increasing tendency of Iranian adolescents to alcohol consumption, tobacco use, and the use of other substances (Taremi & Mehryar, 2009; Rahimi & Sahimi, 2006). The increasing tendency of adolescents to alcohol consumption, tobacco use, and the use of other substances is notoriously worrisome because most of the adolescents who use drugs in the early years of adolescence continue the use of this substance over the coming years. Accordingly, the degree of drug use and, consequently, related problems witness an increasing fashion (Muck, Titus, Zempolich, Fishman, Godley & Schwebel, 2001).

In general, experts in the field of drug prevention emphasize that preventive programs should target children and adolescents at younger ages since the programs that target adolescents before the high school period can help prevent drug abuse in adulthood successfully (Botvin, 2000). For the development of effective prevention programs, the factors influencing this phenomenon should be studied and recognized at first. Drug dependence is a complex phenomenon that is mixed with a variety of social, psychological, and physiological factors and the negligence of each of these factors is tantamount to the ignorance of a big problem. Hence, it is required to gain a meticulous understanding of the biological, psychological, educational, cultural, and economic factors of each

society in order to analyze the roots and origins of drug dependence in the affected individuals (Alizadeh, 2012).

Time perspective is one of the very important psychological factors that predicts high-risk behaviors such as substance abuse. Time perspective is the manner in which people and cultures give meaning to the flow of human experience within the frameworks of specific past time, present, and future (Zimbardo, Keough & Boyd, 1997). In other words, time perspective is a type of stylistic perspective that is related to the way people in the past, present, and future are linked and the way these representations influence their thoughts, and ultimately their behaviors (Zimbardo & Boyd, 2004). Time perspective plays a fundamental role in shaping perception, the formation of expectations, attentional orientation, interpretations, setting and achievement of social goals, motivation, and sense of control (Zambianchi, Ricci Bitti & Paola, 2010). Zimbardo & Boyd (1999) have made a distinction among five different types of time perspective, including future, present fatalistic, present hedonistic, past positive, and past negative. The emphatic tendencies of one's time perspective affect his/her decisions. For example, some people emphasize and focus on the past and can interpret their current situation and decide upon the right answers via recalling previous similar circumstances and considering the gains and losses they have received (reconstruction of the past). On the other hand, the individuals who concentrate on the future embark on assessing the likelihood of desired rewards and real potential of the obstacles and challenges (constructing a function in the future) and, then, make a decision. In this connection, the present approach refers to present hedonistic with little concern about future consequences (Zimbardo & Boyd, 1999; Zimbardo & Boyd, 2008).

There is considerable evidence that indicates addictive behaviors, such as smoking, drug use, and alcohol dependence are associated with perspective. Those who get involved in these behaviors tend to assign less value to future consequences than other people (Hulbert & Lens, 1988; Sattler & Pflugrath, 1970). Addicts and people with some personality disorders pay less attention to the delayed consequences of actions and decisions. In other words, they have a wrong understanding of the future and this perspective can reduce the value of delaying immediate pleasure (Petry, Bickel & Arnett, 1998). Research has shown that the future perspective has an inverse relationship with substance use (Henson & Carey, 2006; Beenstock, Adams & White, 2010). Zentsova & Leonov (2013) reported that addicted people gain high scores in the factors of past-negative, present-hedonistic, and present-fatalistic. In the same way, Chavarria, Allan, Moltisanti & Taylor (2015) suggested that past-negative and present-hedonistic factors significantly predict the negative consequences of alcohol consumption and drug use. Similarly, McKay, Andretta, Magee & Worrell (2014) indicated that past-negative and present-hedonistic factors are related with more problematic use of drugs. Given that few studies, if any, have been conducted in this field in Iran, the significant role of time perspective, as

an effective factor in substance abuse tendency in adolescents, was examined based on evidence. Therefore, the present study assessed the relationship between time perspective and tendency to substance abuse in adolescents.

Method

Population, sample, and sampling method

A descriptive-correlational research method was employed for the conduct of this study. The statistical population of this study included all high school female students in Tehran in the academic year of 2015-16. In this study, participants were selected through multistage random sampling method in three stages, using the sampling units of educational districts, schools, and classes. From among the population, 405 female students (mean age of 16 years and $SD = 1.01$) were selected in such a way that 81 participants were selected from each district (North, South, East, West, and Center), and 135 sample units were selected from each grade (first, second, and third). The participants in this study responded to the questionnaires in groups in the classroom. Referring to the objectives of the research, the author emphasized the voluntary participation of adolescents in the study. After the distribution of the questionnaires and preceding the response presentation, the researcher read the necessary points (instructions) aloud to the adolescent people and asked them to respond to all the items. In addition, the researcher announced her readiness to answer the possible questions of the participants. In order to avoid possible bias in giving response to the items of the questionnaires and strengthen the reliability of the collected data, the researcher used the counterbalance method. Therefore, the questionnaires were not provided to the participants in a constant and uniform method, but the order of providing the questionnaires was changed and, in this way, the grounds were laid for the maintenance of balance in the reliability of the answers assigned to the questionnaires.

Instrument

1- **Zimbardo Time Perspective Inventory (ZTPI):** This is a self-report questionnaire that contains 56 questions and 5 subscales that measure the attitudes and behaviors related to time. The 5 subscales include past-negative, present-hedonistic, future, past-positive, and present-fatalistic. The items are scored based on a 5-degree Likert scale, considering the extent to which each state is consistent with the participants' opinions. Score 5 indicates complete agreement of the participant with the state and score 1 is indicative of the participant's full disagreement with the state (Zimbardo & Boyd, 2008). Zimbardo & Boyd (1999), reported the Cronbach's alpha coefficients within the range of 0.74 to 0.82 on a sample of 15-to-62-year-old participants. The Cronbach's alpha coefficient for test-retest method has been reported by

Zimbardo & Boyd as follows: 0.70 for past-negative, 0.76 for past-positive, 0.76 for present-fatalistic, 0.72 for present-hedonistic, and 0.80 for future perspective. The convergent and discriminant validity of the questions with other psychological constructs have been reported to be favorable. Nozari (2012) has reported the Cronbach's alpha coefficient of 0.74 for all the subscales. In this study, the Cronbach's alpha coefficients of 0.80, 0.76, 0.72, 0.64, 0.63, and 0.62 were obtained for the total scale, past-negative, present-hedonistic, future, past-positive, and present-fatalistic, respectively.

2- Addiction Potential Scale (APS): This is one of the subscales of the questionnaire that has been composed of three subscales, namely addiction potential, addiction acknowledgment scale, and alcoholism. These subscales have been extracted from Multidimensional Minnesota questionnaire. This measures addiction potential scale that has been constructed as an index of the personality factors correlated with addiction disorders by Weed, Butcher, McKenna & Ben-Porath (1992) and consists of 39 yes/no questions (Duckworth & Anderson, 1999). Some questions receive score 1 for the yes response but some others obtain score 1 for the no response. The cut-off scores for women and men are equal to 23.13 and 23.37, respectively. In Iran, this test has been validated by Kordmirza where the Cronbach's alpha coefficient of 0.29 was reported for this scale. In a similar study on American university students, Svanum, McGrew & Ehrmann (1994) obtained the Cronbach's alpha coefficient of 0.48 for this scale. Weed et al. (1992) obtained the reliability coefficients of this scale equal to 0.67 in a sample of normal men and 0.77 in a sample of women. Bakhshi & Nikmanesh (2013) reported the reliability for this scale equal to 0.80. In the current study, the Cronbach's alpha coefficient of 0.63 was obtained.

Results

The descriptive statistics of the variables are presented in the following table.

Table 1: Descriptive statistics of the variables under study

<i>Variable</i>	<i>N.</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>SD</i>
Addiction Potential	405	2	24	13.24	3.53
Past-Negative	405	18	50	34.74	6.73
Present-Hedonistic	405	14	73	54.21	7.73
Future	405	16	62	44.87	6.52
Past-Positive	405	9	35	25.27	4.77
Present-Fatalistic	405	10	44	27.51	5.50

The correlation matrix of the variables under study has been presented in the table below.

Table 2: Correlation matrix of time perspective and addiction potential

<i>Variable</i>	<i>Addiction Potential</i>	<i>Past-Negative</i>	<i>Present-Hedonistic</i>	<i>Future</i>	<i>Past-Positive</i>
Addiction Potential	1	-	-	-	-
Past-Negative	0.46**	1	-	-	-
Present-Hedonistic	0.55**	0.48**	1	-	-
Future	-0.23**	-0.12*	-0.15**	1	-
Past-Positive	-0.03	-0.13**	0.07	0.29**	1
Present-Fatalistic	0.44**	0.52**	0.50**	-0.24**	-0.04

*P < 0.05; **P < 0.01

Stepwise regression analysis was used to investigate the predictive role of time perspective dimensions in the anticipation of addiction potential among adolescents as follows.

Table 3: Regression analysis results of addiction potential based on time perspective dimensions

<i>Variable</i>	<i>B</i>	<i>SD</i>	<i>β</i>	<i>t</i>	<i>Sig.</i>	<i>R</i>	<i>R²</i>
Present-Hedonistic	0.17	0.02	0.38	7.97	0.0005		
Past-Negative	0.11	0.02	0.21	4.41	0.0005		
Future	-0.06	0.02	-0.11	-2.84	0.005	0.61	0.38
Present-Fatalistic	0.06	0.03	0.10	2.09	0.03		
Constant	0.82	1.57	-	0.52	0.60		

As it is observed in the table above, present-hedonistic, past-negative, and present-fatalistic are the significant predictors that have a positive role in addiction potential. This means that the higher score in these dimensions will be tantamount to higher levels of addiction potential. Moreover, the future dimension of time perspective is a significant predictor that has a negative role in addiction potential. This means that the higher score in this dimension represents lower levels of addiction potential.

Discussion and Conclusion

This study aimed to investigate the relationship between time perspective and addiction potential. The results showed that addiction potential has a positive relationship with the time perspective dimensions of past-negative, present-hedonistic, and present-fatalistic. On the other hand, it was revealed that addiction potential has a negative relationship with the future time perspective. In other words, addiction potential will increase as the degrees of past-negative, present-hedonistic, and present-fatalistic increase. This finding is consistent with

that of the research carried out by Zentsova & Leonov (2013) where it was reported that addicts gain high scores in the time perspective dimensions of past-negative, present-hedonistic, and present-fatalistic. In addition, this finding is consistent with the finding reported by Chavarria et al. (2015) who argued that present-hedonistic and past-negative significantly predict the negative consequences of alcohol consumption and drug use. It is also consistent with that of the study done by McKay et al. (2014) who indicated that past-negative and present-hedonistic factors are related with the more problematic use of drugs. To explain these findings, one can argue that the past-negative time perspective is related with increased distress and tension (Stolarski, Matthews, Postek, Zimbardo & Bitner, 2013; Van Beek, Berghuis, Kerkhof & Beekman, 2011), which are predictive factors of increased drug use (Kushner, Mackenzie, Fiszdon, Valentiner, Foa, Anderson & Wangensteen, 1996; Rutledge & Sher, 2001). The individuals with a past-negative time perspective usually concentrate on bad or harmful personal experiences. Generally, this orientation means remembering the turbulent past and makes it possible to hold a cynical attitude towards the past and to experience traumatic life events (Boniwell & Zimbardo, 2004). The individuals with a present-hedonistic time perspective live at the moment, enjoy doing high-intensity activities, look for new drives and emotions, and are open to sexual adventures and friendship. They rate a high score to questions such as "Emotion is important in my life". Such people have little concern about the consequences of their actions and act without analyzing and planning on the possible benefits. Generally, this orientation means the enjoyment of immediate pleasure and is correlated with spontaneous pleasure of paying less attention to the risk or concern about the future consequences (Boniwell & Zimbardo, 2004). Finally, both past-negative and present-hedonistic perspectives have a relationship with such factors as negative affect, stress, and risky behaviors like substance use (Chassin, Flora & King, 2004; Sinha & Li, 2007). Another finding of this study is that the increase of future time perspective leads to the reduction of addiction potential. This finding is consistent with the finding reported by Robbins & Bryan (2004) who found that the individuals with past-positive time perspective are less likely to use marijuana, drugs, and alcohol; in addition, there are a lower frequency, a smaller amount of alcohol consumption, and the fewer number of alcohol-related problems in such individuals. This finding is also consistent with that of the study done by McKee et al. (2014), Beenstock et al. (2010) reached the conclusion that people with future time perspective use alcohol in a risky model to a lesser extent and have healthier behavioral patterns. In the same way, Henson & Carey (2006) found that the future time perspective negatively predicts all the variables associated with drug use, which is consistent with the current finding. To interpret this finding, one can argue that the individuals with the future time perspective always see the possible consequences of the decisions and actions they make in the present time. They work exclusively for future

purposes and rewards and often delay the pleasure of the present time and avoid the temptation of wasting time. Such people live in world of cognitive abstraction where the present realities are suppressed for the sake of the perceived reality in an ideal future. In general, this perspective means striving for reaching the long-term goals (Boniwell & Zimbardo, 2004). As a result, it can act as a barrier to drug use. In general, research findings suggest that if an individual's opinion is extremely limited to one time perspective or is excluded and minimized, it may cause malfunctions. Each of the time perspective dimensions should be mixed with another one and should be applied flexibly depending on the situation, needs, and values (Osin, Boniwell, Linley & Ivanchenko, 2009). Boniwell & Zimbardo (2004) argued that it should be attempted to reach what is called a balanced time perspective in order to facilitate the health status.

This orientation statistically means moderate to high scores for the past-positive, present-hedonistic, and future time perspectives, and relatively low scores for past-negative and present-fatalistic factors. This orientation has been operationally defined as the ability to simultaneously maintain the past, present, and future time perspectives. However, it is of high importance to be able to move between the time perspectives and make use of the most appropriate one in a given situation. Zimbardo & Boyd (1999) showed that a balanced time perspective is pivotal for optimal performance. People with this orientation act considering three different time perspectives and do not get biased towards a particular time perspective. Zhang, Howell & Stolarski (2013) concluded that a balanced time perspective is associated with increased life satisfaction, happiness, positive affect, the satisfaction of psychological needs, autonomy, joy, and appreciation as well as reduced negative affect. Other researchers have suggested that a balanced time perspective leads to an increase in mental health (Osin et al., 2009; Drake, Duncan, Sutherland, Abernethy & Henry, 2008). Boniwell et al. showed that people with a balanced time perspective earn higher scores on psychological adjustment than the other individuals. In accordance with the results obtained by Ortuño, Janeiro & Paixão (2011), the younger age group (16 to 20 years) obtained higher scores on present-hedonistic time perspective compared with other age groups, and the 21-to-34-year-old age group gained higher scores on future time perspective. Therefore, according to the recent findings, it seems that the promotion of future time perspective and the individual's inclination to a balanced time perspective is one of the methods for the prevention of substance use in adolescents who are naturally oriented to future time perspective to a lesser extent and are attracted more by present-hedonistic time perspective. The results of this study can be applied in the development of educational programs and interventions to prevent and treat substance use in adolescents. It should be noted that the exclusion of male adolescents into the current research is one of the limitations of this study. Therefore, it is suggested that both genders be used in further research so that

the generalizability of the results can increase. Experts and scholars are also recommended to include the concept of time perspective in the design of training packages and interventions pertaining to the prevention and treatment of substance use among adolescents.

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