



Predicting academic achievement based on dimensions of time perspective among university students

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ABSTRACT: The purpose of this research was to investigate role of time perspective in prediction of students' academic achievement. In this descriptive correlation study, 380 students (188 males & 192 females) from the statistical population of students from all sections of Arak University during 2015 were selected through cluster random sampling method and filled in the questionnaire of time perspective Inventory (ZTPI-15). Academic achievement was assessed through their total score average. The results indicated that academic achievement had a significant positive relationship with future and positive past ($P < 0/01$) and there was no significant relationship between academic achievement and other dimensions of time perspective (negative past, present-hedonistic, present-fatalist). Regression analysis showed that future, negative past and positive past could predict academic achievement among university students ($P < 0/01$). In general, it can be concluded that students with high academic achievement consider more future and positive past, and focus less on the past negative experiences.

Keywords: academic achievement, time perspective, university student

INTRODUCTION

One of the outstanding features of the 21th century is the rapid and unpredictable changes of most of functional dimensions of societies evaluating each human activity at a time framework. As Casstells (2005), Eriksen (2004) and Bauman (2007) and other modern researchers have suggested, individuals' personal experience of time is one of the functional dimensions in which rapid changes are made. Nowadays, various researches are conducted concerning individuals' personal experience of time, but the dimensions and the relation of many psychological variables to this cognitive are still unknown and unclassified (Boniwell & Zimbardo, 2004).

Previously, conducted researches regarding the concept of time were mainly focused on the particular and applied parameters of human life such as reaction time (Spievak & Murtagh, 2009), time perception (Naatanen *et al.*, 2004), time management and planning (Adams & Jex, 1999; Hellsten & Rogers, 2009) and emotional time experience (Parker, 2003), but in recent decades, another range of researches relevant to time was manifested especially researches regarding psychological Time Perspective (TP). This term was suggested when Zimbardo *et al.* conducted researches in this regard especially after 1990s. Generally, researches pertinent to TP date back to the beginning and middle of the twentieth century, but in Iran, like some other countries, it is taking its initial step. For this reason, there's no such a comprehensive theoretical

paradigm in order to found the future applied and based researches on it in this field. Therefore, various questions are to be investigated in this field: questions regarding TP, number of possible perspectives, position of TP among other conceptual phenomena of psychology, treatment interferences and TP-based man's reformative changes attracting researchers' mind. TP is defined as our personal and often unconscious view that we have toward time, a process classifying the constant life current in the form of time classes and giving order, direction, consistency and meaning to life (Zimbardo & Boniwell, 2004). TP is a behavioral cognitive concept showing individual's orientation and view to the past, present and future. Worrell and Mello (2009) pointed out that TP appropriately measures both positive and negative views to the past, present and future. Zimbardo and Boniwell (2008) also identified six dimensions of theory distinct from TP including negative past, positive past, fatalistic present, hedonistic present, future and transcendental future. According to Zimbardo and Boniwell (2008), individuals with present perspective may be holistic, hedonistic and fatalistic present. Individuals with holistic present may immerse themselves completely into the present regardless of the future or the past attachments. Since in applied researches, more specialized components of TP are emphasized, fatalistic and hedonistic dimensions are emphasized and holistic present was eliminated. Fatalism is one of the present-oriented fields of TP.

Fatalistic individuals are those who believe that their future is pre-determined and are in uncontrollable conditions. Fatalism may make individuals involved in sexual indiscipline and drug abuse, because individuals are disappointed with change in the future. In addition, teenagers and adolescents with fatalistic present perspective are depressed and of low-energy that do not do anything for the progress of their work (Zimbardo & Boniwell, 2008). Individuals with hedonistic present are individuals who enjoy their all present movements. They enjoy now, while have little attention to the future. They follow modernism and may follow risky behaviors merely due to seeking pleasure. The TP of negative past is defined by rebuilding the negative events of the past as a disordered and unstructured frame. The TP of positive past is defined by rebuilding the past events optimistically. The TP of future is defined based on adjusting goal, consciousness, and fixed performance and relevant to the future consequences. Reward in the future is a motivation for today's activity (Drake *et al.*, 2008; Zimbardo & Boniwell, 2008).

The research results from 1986 to now include more than 200 definitions of TP that its analysis results in two distinct and main conceptual dimensions. The first dimension includes future-oriented TP, future-based orientation, planning and designing the future or goals for the future. In this dimension, TP has a cognitive and motivational structure for change. The second dimension emphasizes this concept of TP when TP is a multidimensional phenomenon. In the second dimension, TP, on the basis of conceptual definitions, means part of mind and a process that individuals share their cognitive experience in the dimensions of the future, present and past (Zimbardo & Boniwell, 2008). Researches use TP as a key variable that how orientation against it is relevant to individuals' views and behaviors. Nowadays, the main part of TP researches is the relation between the present and future TP, other psychological constructs, their behavioral consequences and little attention to the past orientations.

One of the issues relevant to TP is the issue of change in man's particular periods especially education period. Education period, owing to the definition of its own particular situation that places man in the multidimensional condition of TP requires future-oriented strategies that individuals plan and set goals for the future based on it. In addition, education period is closely related to the two-dimensional definitions of TP. Analyzing the relation between TP and the psychological factors of the education period especially academic achievement in recent decades have attracted many researchers to itself. Atkinson *et al.* (1998) considers academic achievement the learned or acquired ability resulted from presented subjects or in other words, the learned or acquired ability in educational subjects measured by standardized tests (Seyf, 2005). Totally, academic achievement is the result of various factors that at the first division level,

the division of individual factors, individual differences, educational factors and facilities can be referred. One of the extremely important variables is the role of foresight in the rate of motivation and set of short and long-term goals, avoidance and management of present hedonistic factors and disappointment with the past experience to achieve academic achievement. The need to achievement is investigated as the first motivations (Mc Clelland *et al.*, 1953). Studies relevant to academic achievement and time mostly include specialized and accessible parameters such as teaching time management, view to time and the analysis of their effect on academic performance and achievement. Considering the broad consensus in this regard that TP is a major and vital psychological concept, scientific texts emphasize that TP is a reflection of human behavior, is regulated during life and is affected by various factors such as academic, social, family and cultural issues (Boniwell, 2004; Luyckx *et al.*, 2010).

As a consensus among most of researchers, when TP has a orientational feature that affects individuals' choices, performances and decisions (Luyckx *et al.*, 2010). TP is a useful psychological construct that is pertinent to the academic consequences (Phalet *et al.*, 2004). In this regard, researchers who investigated TP in a public population, emphasize the positive relation between TP dimensions and academic achievement (De Volder & Lens, 1982). For example, Lennings *et al.* (1998) showed that positive attitude towards the future in both high school students and university ones predicts high academic achievement. Zimbardo and Boyd (1998) also reported that emphasis on the future is positively related to students' average and study time. Furthermore, the future TP is related to the average and time that students spend on their assignments (Shell & Husman, 2001). Boyd and Zimbardo (2005) also pointed out that different aspects of the concept of TP can predict obvious behaviors such as study time and achieved scores in examinations. Moreover, Mello and Worrell (2006) showed that academic achievement is negatively related to the fatalistic views to the present and is positively related to the future.

Peetsma and Der Veen (2011) in one study conducted on students concluded that TP especially the present one is directly and significantly related to academic achievement and next decisions in the field of education. Lee *et al.* (2010) in examining the relation between future-oriented goals and urgent educational goals as well as academic performance in high school students concluded that a positive and significant relation exists between present urgent goals and future goals. In addition, a direct and significant relation exists between TP especially the future dimension and motivation for academic performance. Furthermore, Adelabu (2007) by analyzing the relation between TP (present and future) and academic achievement indicated that the present TP predicts academic achievement in female teenagers, while the future TP predicts academic achievement in male teenagers.

Other variables relevant to TP are related to academic achievement. For example, teenagers who predict the future achieve higher score in Piaget's cognitive tests (Green, 1986). Worrell and Hale (2001) also found that students who are more hopeful to the future are less exposed to leave school. Similarly, the future TP is related to academic values and in turn, average (Brown & Jones, 2004).

Since education period especially at university is an extremely appropriate ground to prepare and set individuals' future goals determining their all destiny, their performance in this period can predict their perseverance for their other goals in the future. Thus, it seems indispensable to conduct necessary studies and analyzes for several important reason concerning TP and academic achievement. Firstly, researches relevant to TP in Iran take its initial steps and is not analyzed in relation to other psychological issues. Secondly, education, suggested goals in education and academic achievement at university include cognitive and motivational structure and multidimensional TP according to the two-dimensional definition of TP, which is closely related to it. Thirdly, accuracy and analysis in education at all levels especially at academic level result in achieving results that significantly contributes to the progressive solutions of societies. Therefore, the present research was conducted to investigate the relation between TP dimensions and academic achievement and to determine the role of TP in predicting students' academic achievement.

MATERIAL AND METHODS

Participants-380 undergraduate students (188 males, 192 females) from the Arak University took part as volunteers in the present study (mean age=22.21 and SD=4.23). Participates were asked to complete Time Perspective Inventory, and average was considered as the index of their academic achievement.

Time Perspective Inventory (TPI)-The short form of TPI formulated by Zimbardo and Boyd (2011) is a Likert five-point with 15 items (1= completely false and 5= completely true). This five-dimension TPI evaluates negative past, positive past, hedonistic

present, fatalistic present and future. The Persian version of this scale is normalized on 742 Iranian students. The total validity of all scales was equal to 0.93 Cronbach's alpha and the Cronbach's alpha of subscales was obtained 0.79, 0.87, 0.86, 0.78 and 0.80 for positive past, negative past, hedonistic present, fatalistic present and future, respectively. Furthermore, the retest reliability coefficient at two times with the interval of four weeks for all scales was obtained r=0.84 and for the subscales, it was r=0.76, r=0.82, r=0.88, r=0.83 and r=0.85 for positive past, negative past, hedonistic present, fatalistic present and future, respectively (Besharat *et al.*, 2011). In the present research, the Cronbach's alpha of the subscales of negative past, positive past, fatalistic present, hedonistic present and future were 0.69, 0.71, 0.72, 0.68 and 0.70, respectively.

RESULTS

The age average of all subjects, male students, and female students were 21.45 (standard deviation: 2.43), 22.09 (standard deviation: 2.27) and 20.82 (standard deviation 2.42), respectively. The main indices of the descriptive statistics including mean and standard deviation for the TP dimensions of female, male, talented and normal students are presented in Table 1. As shown in Table 1, a positive and significant relation exists between academic achievement and the TP of future and positive past (P<0.01, r=0.16 and r=0.31), but no significant correlation exists between other TP dimensions (hedonistic present, fatalistic present and negative past) and academic achievement. These results indicate that individuals that have higher academic achievement have higher TP of future and positive past. Table 2 shows the results of stepwise multivariate regression test to predict academic achievement based on the TP dimensions.

Results indicate that to predict the variable of academic achievement, regression is conducted in three step. Three TP dimensions namely future, negative past and positive past are entered into the equation that totally explain 13 of the changes of academic achievement.

Table 1: Mean, standard deviation and the correlation coefficients of academic achievement with the TP dimensions.

Variables	M	SD	Academic achievement	Future	Hedonistic present	Fatalistic present	Negative past	Positive past
Academic achievement	16.69	1.85	1					
Future	2.37	0.89	0.31**	1				
Hedonistic present	2.79	0.93	0.05	-0.04	1			
Fatalistic present	2.35	0.82	0.08	0.10	0.25**	1		
Negative past	2.81	0.97	-0.04	0.11	0.16**	0.15**	1	
Positive past	2.43	0.84	0.16**	0.05	0.34**	0.23**	0.22**	1

**P<0.01 *P<0.05

Table 2: Results of stepwise multivariate regression analysis to predict academic achievement through TP dimensions.

Regression progress steps	Entered variables	B	β	t	Adjusted R ²	F
Step one	Future	0.69	0.31	6.36**	0.09	40.50**
Step two	Future	0.79	0.36	70.2**	0.12	24.93**
	Negative past	-0.28	-0.15	-2.92**		
Step three	Future	0.75	0.34	6.52**	0.13	18.82**
	Negative past	-0.33	-0.17	-3.34**		
	Positive past	0.27	0.12	2.43*		

**P<0.01

*P<0.05

DISCUSSION

The objective of the present research was to determine the role of TP dimensions in predicting students' academic achievement. The research results indicated that the TP of future and positive past is positively and significantly related to students' academic achievement that these results are consistent with the research results conducted by Peetsma and Der Veen (2011), Lee *et al.* (2010), Boyd and Zimbardo (2005), Shell and Hausman (2001) and Meello and Worrell (2006). In addition, the results of regression analysis indicated that three TP dimensions namely future, negative past and positive past significantly predict the changes of academic achievement. In other words, individuals who do not remain in their negative past experience, have a positive evaluation of their abilities, have a positive view to the future and consider the future problems as solvable challenges report higher academic achievement. In fact, the future-oriented and positive past TPs produce academic achievement by affecting the employment of different learning methods (Peetsma & Der Veen, 2011). Lee *et al.* (2010) believe that issues relevant to the past and the future TP are considered important determiners for goal-setting and goal-orientation. Goal-setting and academic orientation are positively and significantly related to the dimensions of past optimism and the future-oriented TP in students (academic achievement). In this regard, Barber *et al.* (2009) emphasize that maintaining academic success is a long-term goal that requires the comparison of individuals' current behaviors with future criteria. Although individuals turn to short-term goals concerning their particular assignments, in several-month courses, short-term goals play an important role. Thus, foresighted students who are able to evaluate their short-term academic performance regarding long-term criteria and standards are more successful than present-oriented students.

Since the future TP means "how much individuals can think and plan for the future", it can act as a motivation for academic achievement (Nurmi, 2004, 1991), because the future TP encourages individuals to set goals and create strategies to achieve the above-mentioned goals. In other words, what makes the TP dimensions of positive past and future related to orientation and goal-setting to academic achievement is

the supposed the motivation of academic achievement so that positive past and future perspective increase the motivation of academic achievement and as a result, produces academic achievement. Bilde *et al.* (2011) in consistent with the present research results suggested that the future-oriented TP is positively and significantly related to students' academic achievement and this relation is owing to the adjusting role of the construct of self-regulation. In fact, by the future-oriented dimension of the TP dimensions regulate their behavior relevant to their education on the basis of various internal motivations. These internal motivations include feelings relevant to embarrassment and guilt (introjected regulation), personal power (identified regulation) and interests (intrinsic regulation). Identified regulation and intrinsic regulation have the highest and lowest relation to academic achievement, respectively. Introjected regulation and identified regulation are regarded the regulators of the relation between the future-oriented TP and cognitive processes. The future-oriented TP directly plays role in regulating cognitive strategies based on goal and orientation. On the contrary, the dimension of hedonistic present is directly and significantly related to negative motivation and students' academic lack of achievement.

Generally, according to the results of the present research, it can be concluded that TP dimensions are significantly related to academic success and achievement. Therefore, it is recommended that the authorities relevant to students' psychological and educational develop the employment of the dimensions that are significantly related to the higher mental success and health using the results of the present research and similar results by performing interferences relevant to educational-mental packages. The issue that can produce macro financial and mental economy for societies, the student and young generation that are the most important and precious capital of society's progress. According to the fact that studies relevant to TP in our society is extremely novel and is largely without research and development, it is necessary to investigate different TP dimensions at different ages, different genders, healthy, clinical and psychic population in order to have a strong scientific and research background of this important psychological construct, which is relatively new and applied.

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