Canonical Analysis of the Relationship between Time Perspective and Stress Coping Styles

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التحليل البؤري للعلاقة بين منظور الزمن وأساليب مواجهة الضغوط

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Abstract:-

The present study is intended to determine the relationship between time perspective (TP) and stress coping styles among university students. This descriptive study used canonical correlation method and the statistical population included all undergraduate and graduate

students of the Islamic Azad University of Urmia in 2016. Using cluster sampling, 367 students were selected. Data were collected using questionnaires for coping with stressful situations and TP. Data were analyzed using SPSS-23, descriptive statistics, Pearson correlation coefficient and canonical correlation. The results showed that there is a relationship between TP and stress coping styles. The results of the canonical analysis indicated that the first and second canonical roots were statistically significant and explained a total of 47% of the variance in coping styles. As a conclusion, the more participants had a less past-negative, a present-fatalistic or a present-hedonistic perspective and a more future-oriented perspective, the more they used task-oriented stress-coping styles.

Key words: TP, Stress Coping Styles, Students.

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الملخص:-

هـدفت الدراسـة الحاليـة إلى تحديـد العلاقـة بـين منظـور الوقـت وأسـاليب مواجهة الضغوط لـدى الطلاب الجامعة. وكانـت طريقـة هـذا البحـث هـي نـوع الارتباط البؤري الوصفي. شمل المجتمع الإحصائي جميع طلاب المرحلة الجامعية والدراسات العليا في جامعة آزاد الإسلامية فـرع أورميـا في عـام ٢٠١٦. تم اختيـار ٣٦٧ طالبـاً بطريقـة العينـة العنقوديـة. ولجمـع بيانـات البحـث تم اسـتخدام اسـتبيانات للتعامـل مـع المواقـف الضـاغطة ومنظـور الوقت. وتم تحليل بيانات البحث باستخدام برنامج SPSS-23 وتم استخدام أساليب الإحصـاء الوصـفي، ومعامـل ارتبـاط بيرسـون، والارتبـاط البـؤري. وأظهـرت نتائج البحـث أن هنـاك علاقـة بين المنظور الزمني وأساليب المواجهة. أظهرت نتائج التحليل البؤري أن الجذور البؤرية الأولى والثانية كانت ذات دلالة إحصائية وفسرت مـا مجموعـه ٤٧٪ مـن التغيرات في أسـاليب التعامل مع الضغوط. والنتيجة هي أنه إذا كـان لـدى الشـخص وجهـة نظـر سـلبية موجهة نحو الماضي، وموجهة نحو الحاضر الحتميـة، وأقـل توجهـاً نحـو المتعـة وأكـثر توجهاً نحو المستقبل، فإنه يستخدم أسـاليب مواجهة أكثر توجهاً نحو حل المشكلات.

الكلمات المفتاحية: منظور الزمن، أساليب مواجهة الضغوط، الطلاب.

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Introduction:

Zimbardo and Boyd (1999) proposed the concept of time perspective (TP) including 5 main scales: past-negative oriented, past-positive oriented, present-hedonistic oriented, present-fatalistic oriented, and future-oriented scales. In this sense, negative past reflections in the form of damage, pain and regret cause a negative orientation towards the past, and positive past reflections are represented in the form of affectionate feelings and emotional attitudes towards the past. Reflections of hedonism in the present include pleasure-seeking, excitement-seeking and variety-seeking tendencies; a person with such characteristics basically lives in the present and has little contemplation, planning and concern for the consequences of his behavior. The reflections of the passive present are also manifested in the form of helplessness, extreme acceptance of the situation and despair in life. Meanwhile, the future aspect of TP includes mental representations of future consequences and their importance, concern, responsibility, planning and endeavor to achieve future goals and rewards (Alizadeh Fard, Mohammadnia and Zimbardo, 2015).

The TP is important in choosing coping strategies in difficult situations since a balanced TP can help a person to cope with tasks in complex situations due to its influence on coping behavior (Boniwell and Zimbardo, 2004). Past-negative-oriented TP leads to the choice of coping styles with the least adaptability, and positive-past-oriented one has a negative correlation with negative choices, and a positive correlation with cognitive strategies, positive selection of adaptive emotional and behavioral strategies such as optimism, cooperation, altruism, and communication; Therefore, such a person tries to remain optimistic in face of a conflict situation (Alak and Milana, 2013).

Taghilu and Latifi (2015) in their study entitled "The Mediating Role of Hope in the Relationship between Time Perspective and Psychological Disturbance" concluded that the fatalistic time perspective is positively related to depression, aggression, self-efficacy and inappropriate styles.

In a study, Pirjamali Nistani and Mahdizadegan (2017) examined the relationship between TP and resilience and self-control; the

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results showed multiple correlations between resilience and TP components (past-negative, past-positive, present-hedonistic, present-fatalistic, and futurism).

The findings of Blutova and Khachaturova (2013) showed that future-oriented TP is directly related to the choice of cognitive and behavioral coping strategies in interpersonal conflicts, while past-negative orientation leads to the choice of emotional coping strategies. Fatalistic-present orientation causes retreating behavior and avoidance of conflict resolution, which are non-adaptive behavioral strategies that include few coping techniques.

Stolarski, Fieulaine and Van Beek (2015) showed that the present-hedonistic TP has a positive correlation with pleasure-seeking attitude, risky behavior, high impulsivity, novelty-seeking and excitement-seeking.

According to the empirical evidence of the relationship between coping styles and a wide range of psychological components, including stress management (Davoudi, Dartaj, Asadzadeh and Delavar, 2018), quality of life (Mohammadi, Danesh and Taghilou, 2018; Iranpour, Erfani and Ebrahimi, 2016), this study aimed to perform a canonical analysis of the relationship between TP and stress coping styles. Understanding the role of effective factors in coping styles can guide stress prevention programs. The TP variable is one of the new concepts and structures in psychology, which, despite its novelty, has attracted many theoretical and research activities. Considering the importance of the subject and the lack of research background, the present study sought to answer the question of whether TP has a relationship with stress coping styles.

Method

This is considered a basic research in terms of its purpose and a cross-sectional research in terms of time. Considering that the aim of the research was to find out the changes in the criterion variables of "stress coping styles" based on the predictor variables of "TP", therefore this is a descriptive research and its correlational design is considered to be canonical correlation type. The statistical population includes all undergraduate students of Islamic Azad University of Urmia during the academic year of 1995-1996; and according to the correspondence with the IT Department of the university, the number

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of students was reported to be 8132. The exact number of participants was determined according to Cochran's formula. According to this formula, the sample size for a community of 8132 people is equal to 367.

The coping inventory for stressful situations (short form): The short form of the coping inventory for stressful situations (CISS) was provided by Calsbeek et al. (2003) based on the original inventory suggested by Endler and Parker (1990). The difference between the short form and the original inventory lies in the number of statements. The original CISS consists of 48 statements, while its short form includes 21 statements. This inventory measures three main coping styles: task-oriented (items: 2, 6, 8, 11, 13, 16, 19), emotion-oriented (items: 3, 5, 10, 12, 14, 17, 20) and avoidance-oriented (items: 1, 4, 7, 9, 15, 18, 21). The subscale of avoidance-oriented coping style is divided into two dimensions: social diversion (items: 7, 15, 21) and distraction (items: 1, 4, 9, 18). CISS is a self-reported instrument and the participants have to specify to what extent they use each of the styles on a 5-point Likert scale (from never = 1 to very much = 5). Boysan (2012) reported the alpha coefficient of the subscales to be 0.72, 0.77, and 0.74 for task-oriented coping, emotion-oriented coping, and avoidance-oriented coping, respectively. In this research, Cronbach's alpha coefficient was calculated from 0.70 to 0.78 for task-oriented, emotion-oriented and avoidance-oriented coping subscales.

Zimbardo and Boyd's (1999) TP Inventory (ZTPI): ZTPI is a self-reported inventory that includes 56 items consisting of 5 subscales measuring attitudes and behaviors related to time. The subscales include past-negative, past-positive, present-hedonistic, present-fatalistic, and future. Participants respond to each item using a five-point Likert scale (very characteristic = 5 to very uncharacteristic = 1). In the study of Zimbardo and Boyd (1999), the five-factor structure was supported using exploratory and confirmatory factor analysis (CFA), and the internal consistency was reported to be between 0.74 and 0.82 using Cronbach's alpha. In the present study, the Cronbach's alpha coefficient for the past-negative, past positive, present hedonistic, present fatalistic, and future subscales was obtained to be 0.68, 0.41, 0.66, 0.68, and 0.63, respectively.

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Findings

12 out of the 367 questionnaires answered by the participants were discarded due to incompleteness or scattered data. 163 (45.9%) out of the 355 participants were male and 192 (54.1%) were female. Also, 272 of them (76.6%) were single and 83 (23.4%) were married. It should be noted that the average age of the participants was 27 with a standard deviation of 6.72. The participants were undergraduate and graduate psychology, law, civil engineering, computer, and accounting students.

Here, the descriptive indicators of the research are presented. Table 1 shows the descriptive indicators of the research variables.

Table 1: Descriptive Indicators of Research Variables (n=355)

Variable	The least	The most	Average	SD	Skewness	kurtosis
Past Negative	16	49	32.33	5.93	-0.02	-0.04
Past Positive	18	41	29.37	4.37	-0.12	0.16
Present Fatalistic	13	46	28.06	6.10	0.23	-0.33
Present Hedonistic	25	60	44.92	6.90	-0.19	-0.45
Future	21	57	43.24	5.85	-0.5	0.53
Avoidance	7	34	20.63	4.98	-0.07	-0.09
Emotion-oriented	7	35	22.17	5.26	-0.03	-0.09
Task-oriented	8	36	23.85	4.66	-0.24	-0.01

Table 2: Matrix of Correlation Coefficients of Research Variables (n=355)

Variable	1	2	3	4	5	6	7	8
Past Negative	1							
Past Positive	0.127*	1						
Present Fatalistic	0.475**	0.124*	1					
Present Hedonistic	0.385**	0.171**	0.353**	1				
Future	0.048	0.455**	0.009	0.160**	1			
Task-oriented	-0.039	0.270**	-0.169**	0.026	0.366**	1		
Emotion-oriented	0.492**	0.132*	0.274**	0.253**	0.016	0.087	1	
Avoidance	0.166**	0.053	0.206**	0.225**	-0.038	0.143**	0	1
**P<0.01								

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The results of the correlation test indicated that past-positive-oriented and future-oriented variables had a positive correlation with task-oriented style, and there was a negative and significant relationship between present-fatalistic-oriented and task-oriented style. In addition, past-positive, past-negative, present fatalistic and present hedonistic variables had a positive and significant relationship with emotion-oriented style; moreover, past-negative, present fatalistic and present hedonistic variables had a positive and significant relationship with avoidance style.

Table 3: Canonical Correlation Results for TP and Stress Coping Styles

Number of canonical functions	Eigen values	Canonical correlation	Correlation squared	Wilks' lambda	Degree of freedom	Significance level
1	0.41	0.54	0.29	0.56	15	0.001
2	0.22	0.42	0.18	0.80	8	0.001
3	0.03	0.17	0.03	0.97	3	0.015

According to Table 3, the Wilkes' Lambda test is 0.56, 0.80 and 0.97 for the first, second and third set of independent and dependent variables, respectively, and is significant at the P<0.05. Therefore, it can be concluded that there are three significant sets of independent and dependent variables in the research data. As it can be seen in Table 4, the squared canonical correlation is 0.29, 0.18 and 0.03, respectively. Functions that explain less than 10% of the variance should be discarded and cannot be interpreted (Shari and Hansan, 2005, quoted by Taghizadeh Yazdi et al., 2013); accordingly, the first and second functions explain a total of 47% of the common variance.

Table 4: Canonical Loadings (CL), Standardized Canonical Coefficient (SCC), Explained Variance of the First, Second and Third Set of Criterion and Predictor Variables

		First set		Second set		Third set	
	Variables	CL	SCC	CL	SCC	CL	SCC
	Past Negative	-0.0852	-0.659	-0.460	-0.575	-0.219	-0.752
	Past Positive	0.041	0.003	-0.671	-0.394	0.337	0.248
	Present Fatalistic	-0.681	-0.168	0.094	-0.037	0.337	0.859
	Present Hedonistic	-0.465	-0.168	-0.261	-0.037	0.737	0.859
	Future	0.355	0.415	-0.761	-0.553	0.203	-0.014
	Extracted	0.307		0.264		0.172	

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variance						
overlap	0.090		0.047		0.005	
Task-oriented	0.418	0.529	-0.850	-0.836	0.320	0.214
Emotion-oriented	-0.824	-0.795	-0.553	-0.537	-0.122	-0.389
Avoidance	-0.420	-0.294	-0.034	0.222	0.907	0.975
Extracted variance	0.344		0.343		0.313	
Overlap	0.101		0.062		0.009	

Considering that the standardized canonical coefficients (SCCs) indicate the importance of the variable in the set, the past-negative is the most important variable in the first and second sets of TP, and the present-fatalistic and present-hedonistic are the most important ones in the third set. Also, the emotion-oriented, task-oriented, and avoidance-oriented are the most important variables in the first, second, and third set of coping styles, respectively.

The value of extracted variance of the first canonical variable of the TP set is 31%; coping styles also explain 9% of the variance of social support. The value of extracted variance of the first canonical variable of the coping styles is 34%, and TP explains 10% of the variance of coping styles.

The value of extracted variance of the third canonical variable of the TP set is 17%; coping styles also explain 0.5% of the variance of social support. The value of extracted variance of the first canonical variable of the coping styles set is 31%, and TP explains 0.9% of the variance of coping styles.

The value of extracted variance of the second canonical variable of the TP set is 26%, and coping styles explain 5% of the variance of social support. The value of extracted variance of the first canonical variable of the coping styles set is 34%, and TP explains 6% of the variance of coping styles.

To identify significant variables in the canonical variables or sets, Tabachnick and Fidel (2007) suggested that a correlation or canonical loadings of ≥0.3 for each variable indicates its significance in its own set. In the first set of TP, past-negative, present-fatalistic, present-hedonistic, and future-oriented variables are significant. In the first set of coping styles, all three coping styles are significant variables. Therefore, it can be concluded that the lower past-

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negative, present-fatalistic and present-hedonistic TP and the higher the future-oriented TP are, the more the participants use the task-oriented style and the less they use the emotion-oriented and avoidance styles.

In the second set of TP, past-negative, past-positive, present-hedonistic and future-oriented variables are significant. In the second set of coping styles, task-oriented and emotion-oriented coping styles are significant. Therefore, it can be concluded that the lower the past-negative, past-positive, present-hedonistic and future-oriented TP are, the less the participants use the task-oriented and emotion-oriented styles.

In the third set of TP, past- negative, present- hedonistic and present-fatalistic variables are significant. In the third set of coping styles, emotion-oriented and avoidance coping styles are significant. Therefore, it can be concluded that the lower the past-negative and the higher the present-hedonistic and present-fatalistic TP are, the less the participants use the emotion-oriented style and the more they use the avoidance style.

Discussion and Conclusion:

The present study was intended to analyze the relationship between TP and coping styles among students. The findings showed that the less the past-negative, present-fatalistic and present-hedonic TP and the higher future-oriented TP are, the more the participants use task-oriented coping style and the less they use emotion-oriented and avoidance styles. This is consistent with the results of Stolarski, Fieulaine and Van Beek (2015) and Bolotova and Hachaturova (2013). Among the components of TP, past-negative played an important role in the use of ineffective styles, especially the emotion-oriented. This is consistent with psychological theories about the role of past experiences in coping style and mental health. In explaining this finding, it can be said that people with a past-negative perspective do not have a balanced time pattern due to clinging to the negative aspects of the past and having a negative attitude toward the future; and when faced with stress, they often use ineffective emotional and avoidance coping strategies. People with a present-hedonistic perspective avoid facing problems and try to prevent them from occurring because problems may interfere with

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the usual comforts of their lives. This group, in case of failure, may resort to aggression.

This study has some limitations. The population was only undergraduate students, which limits the generalization of the obtained results. In addition, this was a cross-sectional study and does not provide the possibility of causal relationships between variables. It is suggested that longitudinal studies to be conducted in other age and cultural groups.

University counselors and psychologists can teach the role of TP in coping styles by holding training classes. Also, students themselves can study to obtain information on TP and effective coping styles for stressful situations.

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