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**EVALUATION OF THE RELATIONSHIP BETWEEN SENSE OF HUMOR AND
PSYCHOLOGICAL HEALTH IN EMPLOYEES OF THE WATER AND SEWAGE
DEPARTMENT IN THE CITY OF ILAM**

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ABSTRACT

This study was performed with the purpose of evaluating the relationship between sense of humor and psychological health among the employees of the Water and Sewage Department in the city of Ilam. This research was applied in purpose and its method was descriptive and correlational and it evaluated and compared sense of humor with psychological health. Statistical population included all employees of the Water and Sewage Department in the city of Ilam which were 200 individuals and also constituted the study sample by way of inclusion of all employees. Data collection instrument included the Goldberg General Health Questionnaire (GHQ) with 28 items and Martin and Lefcourt's sense of humor scale with 16 items their validity of which was assessed by opinion of experts and their reliability was measured using the Cronbach's alpha coefficient. Data analysis was performed using the Kendall Tau, analysis of variance and multivariate regression, independent t and using the SPSS version 20 software.

Results showed that meaningful correlation does not exist between sense of humor in employees and their education level and between sense of humor in employees and their various job posts. Yet, positive and meaningful correlation exists between levels of psychological health of employees with their various posts and between sense of humor and level of psychological health. Additionally, the level of sense of humor of female employees of the Water and Sewage Department is more than male counterparts.

Keywords: Sense of Humor, Psychological Health, Employees, Water and Sewage.

INTRODUCTION

Psychologists consider sense of humor as one of human personality traits and have evaluated it from various view points. In the 1960's decade, the interest of psychologists was attracted to critic and evaluation of sense of humor and laughter for human existence. Some psychologists believe that sense of humor and laughter has very high importance for the existence and livelihood of people (Kortkov, 1991; Mindess & Corbin, 1985). The main outlook regarding the psychological role of sense of humor holds that sense of humor is a coping and adaptation style. Freud (1916) believes that sense of humor is one of the defense mechanisms of the «self» and an economic endeavor for expenditure of psychological energy. Arieti (1975) believes that close correlation exists between sense of humor and level of creativity of an individual. Plutchik (1981) has enumerated eight styles of coping for humans among which are the mechanism of hanging upside down or attention to the humorous side of conditions

and stressful situations. Recent psychological texts have emphasized the role of sense of humor in coping and facing stress on the one hand and its effects in increasing quality of life on the other hand (Najarian, Berati & Ebrahimi Ghavam, 1994). In the view point of philosophers and scientists of antiquity, sense of humor is affected by the four bodily humors which lead to physical and psychological signs. They believed that blood is red, flowing, warm and wet and if it overcomes other humors, an individual will be healthy, hopeful, happy and lively. Yet, if the secretion of other humors takes over, the individual will gain a sick temper. For example, if the secretion of the liver which is black bile takes over, the individual acquires a sick state and mood wise becomes sensitive, vulnerable, bad tempered and enters states of melancholia and depression which lead to a negative and sad outlook towards life. In the middle age and after it also theories have been expressed regarding sense of humor and

pranks. For example, Thomas Hobbes, English philosopher, believed that pranking in the first place is a method for expressing one's anger and hostility and its purpose is disrespect towards a subject or third person (cited in Raskin, 1985). Kant considered sense of humor the feeling and effect resulting from sudden and disjointed change of form of an expectation to nil and nothingness. Health has a wide range of contribution to enablement of individuals or groups. On the one hand it leads to realization of desires and wishes and enjoyment of needs and on the other hand, it leads to change in the environment or confrontation with it. Therefore, according to this definition it appears that health is a source for daily living not as a tool for life. Health is an applied and positive concept that in addition to emphasizing physical ability also focuses on individual and social resources (Skofield, 1988). According to the definition of "Arthur's Psychology Dictionary" (1985; cited in Adabi, 2000), the term psychological health is used for individuals whose performance is at a high level regarding emotional and behavioral adaptation and it is not used just for individuals who do not have psychological disorder. The International Health Conference with the collaboration of the World Health Organization and UNICEF

was formed in 1988 with participation of 134 countries in Alma Ata. This conference defined psychological health as complete physical, psychological and social health not lack of illness or disability. From a more comprehensive psycho- biological and social view point, sense of humor can be considered a kind of socially purposeful message which is accompanied with special physiological and psychological changes. The concept of psychological or psychiatric health is an aspect of the overall concept of physical, psychological and social health. Despite endeavors by pioneers of psychological health in the world with the purpose of increased provision of human health, still a definite criterion does not exist in the context of defining and giving an example of complete psychological health in individuals. Attention to the health of mind and psyche became gradually prevalent after the First World War in some European universities such that in the year 1944, nineteen countries in Europe and America had societies that supported psychological health. Yet, after the Second World War and unraveling of its dreadful events, the topic of mental and psychological health with emphasis on the quality of relationships between humans gained serious and deep attention of scientists, philosophers, doctors, experts, education and development

instructors, theologians and sociologists. In 1948, with the participation of representatives from 48 countries including Iran, the «Global Federation for Mental Health» was founded in London and it was required that once every 4 years, the global congress on mental health be held with participation of representatives of countries with the purpose of evaluating problems relevant to the relationship of individuals with their family, individual and society, individual and problems and difficulties of modern mechanical life and etc. Psychological health in addition to a healthy body requires a healthy environment and life condition as well. The fact, that how the environment and its various factors affect individual psychological build and health and by what methods individuals confront environmental tensions is a topic explained by various psychological approaches each of which has a particular outlook towards human character and the motivational force behind his or her psychological health. For example, some of these approaches have considered psychological health as a persistent process and others have sought it in the framework of norms and consistency with social mannerisms and traditions and another group has attended both aspects. For example, psychiatry and clinical psychology have emphasized on the principle of the

normal human in psychological pathology and have considered normalness and psychological health equal to «lack of signs of disease.» Yet, the trending situation of world psychology shows significant attention of psychologists to the concept of psychological health in a framework beyond normalness and lack of signs of illness (Khodarahimi, 1995). Among researches that have evaluated psychological health and its aspects one can refer to the studies by Kakavand (2010), Khoshouii (2008), Zare and colleagues (2009) and Shams (2007).

Main Purpose

Evaluation of the relationship between sense of humor and psychological health among employees of the Water and Sewage Department in the city of Ilam.

Research Hypotheses

- 1-Meaningful correlation exists between sense of humor in employees of the Water and Sewage Department in the City of Ilam with various education levels.
- 2- Meaningful correlation exists between sense of humor in employees of the Water and Sewage Department in the City of Ilam with various organizational posts.
- 3- Meaningful correlation exists between psychological health in employees of the Water and Sewage Department in the City of Ilam with various education levels.

4- Meaningful correlation exists between psychological health in employees of the Water and Sewage Department in the City of Ilam with various organizational posts.

5-Meaningful correlation exists between sense of humor and psychological health among employees of the Water and Sewage Department in the City of Ilam.

6- Meaningful correlation exists between constituents of sense of humor and psychological health among employees of the Water and Sewage Department in the City of Ilam.

7-Meaningful difference exists in sense of humor between female and male employees of the Water and Sewage Department in the city of Ilam. Definition of technical and specialty terms and expressions (conceptually and functionally) Conceptual definition of sense of humor: a person with sense of humor is one whose creativity leads to expressions of views, stories and plays that are funny. He or she sees him or herself and others in a further and separate way and is able to laugh at him or herself and life events and at the same time remain connected with people and events (Torrance, 1993).

Functional definition of sense of humor: sense of humor is the score an individual obtains from a seven item questionnaire (Marin and Lefcourt, 1983).

Dimensions of sense of humor include: 1- enjoyment of pranks 2-laughter 3-verbal pranking 4-sense of humor in social relationships 5-sense of humor in stressful situations.

Conceptual meaning of psychological health: psychological health is a person's adaptation with the world around as maximally possible such that it leads to the individual's happiness and useful and effective perception (Milanifar, 1994).

Psychological health is the ability of an individual to access goals he or she has set for him or herself (Pati, 1994). Psychological health is the state in which individual's psychological functioning such as mentation, emotion, perception and behavior is not disordered and their relationship with themselves, their family and society is a coordinated and close one and duties and responsibilities assigned by the family and society are performed well (Fadaii, 1994). Psychological health is having sufficient coping and the feeling of being well from a psychiatric view point, appropriate to acceptable criteria by human relations and society (Saatchi, 1996).

Psychological health is desired, appropriate and persistent reactions of human personality in various situations which guides an individual's behavioral changes when faced

with unhappiness and internal or external distress (Jahoura, 1982)

Functional definition of psychological health: psychological health is the score obtained by an individual by way of summing the numerical values of levels chosen for all questions of the General Health Questionnaire (GHQ) (Najarian, 2000).

Functional definition of educational degree:

In this research educational degree includes diploma-Associate of Arts-Bachelor's degree-Master's degree and Doctorate.

Functional definition of organizational post:

In this research organizational post includes guard-operator-specialist assistant-specialist-supervisor-manager-deputy manager.

METHOD AND INSTRUMENTS

This research is applied in purpose and in terms of method it is descriptive and correlational by which sense of humor and psychological health were evaluated and compared. Statistical population included all employees of the Water and Sewage Department in the city of Ilam which were 200 individuals and also constituted the study sample by way of inclusion of all employees. Data collection instrument included the Goldberg General Health Questionnaire (GHQ) with 28 items and Martin and Lefcourt's sense of humor scale with 16 items their validity of which was assessed by

opinion of experts and their reliability was measured using the Cronbach's alpha coefficient. Data analysis was performed using descriptive statistics such as mean, standard deviation, percent, distribution, minimum and maximum scores and regarding inferential statistics the Kendall Tau test, regression analysis, correlation coefficient, t-test were performed with use of SPSS version 20 software.

RESULTS

A-Descriptive Statistics

Male responders were 182 individuals (91/0%) and female responders were 18 individuals (9/0%). From 200 people 25 (17/5%) were guards, 34 (17/0%) were operators, 41 (20/5%) were specialist assistants and 48 (24/0%) were specialists, 17 (8/5%) were supervisors, 20 (10/0%) were managers and 5 (2/5%) were deputy managers.

As shown in **Table 1**, mean score of physical signs in women employees was 12/16 and in males 11/37. Mean score of signs of anxiety and sleeplessness was 12/01 in males and 11/66 in females. Mean score of disorder in social functioning was 13/26 in males and 14/11 in females. Mean score of depression in males was 9/58 and in females it was 10/27. Also, in the overall psychological health scale, mean score in male employees

was 46/24 and in female employees 48/22. In the sense of humor scale, mean score of males was 60/24 and of females was 71/66.

B-Inferential Statistics

To test the normality or lack of normality of the research data, the Kolmogorov-Smirnov test was used. As shown in **Table 2**, considering the values for the z statistics of the Kolmogorov-Smirnov test for the variables and the level of significance of the test for the variables which were all larger than 0/05 which statistically none are meaningful, it can be concluded that the assumption of lack of normality of the data is not meaningful. (The distribution of the collected data is normal) As **Table 3** shows, the correlation coefficient between the two variables of sense of humor and education level of employees is equal to 0/044 which is a small number and shows a weak relationship between the two variables. The significance level for this correlation coefficient is 0/420 which is not statistically meaningful. In other words, at an error level less than 5%, it can be stated that meaningful correlation does not exist between sense of humor and education level of the employees of the Water and Sewage Department in the city of Ilam. As **Table 4** shows, the correlation coefficient between the two variables of sense of humor and employee

post is equal to 0/033 which is a small number and shows a weak relation between the two variables. The significance level for this correlation coefficient is 0/525 which is not statistically meaningful. In other words, at an error level less than 5%, it can be stated that meaningful correlation does not exist between sense of humor and post of the employees of the Water and Sewage Department in the city of Ilam. As **Table 5** shows, the correlation coefficient between the two variables of psychological health and employee education is equal to 0/092 which is a small number and shows a weak relationship between the two variables. The significance level for this correlation coefficient is 0/093 which is not statistically meaningful at an error level of 5%. In other words, at an error level less than 5%, it can be stated that meaningful correlation does not exist between psychological health and education level of the employees of the Water and Sewage Department in the city of Ilam. As **Table 6** shows, the correlation coefficient between the two variables of psychological health and employee post is equal to 0/133 which shows strong relationship between the two variables. The significance level for this correlation coefficient is 0/011 which is statistically meaningful at an error level of 5%. In other words, at an error level less than 5%,

it can be stated that meaningful correlation exists between psychological health and post of the employees of the Water and Sewage Department in the city of Ilam.

As **Table 7** shows, the correlation coefficient between the two variables of sense of humor and psychological health is equal to $-0/246$ which is a negative number and shows inverse correlation (considering the inverseness of the scores of psychological health, sense of humor and psychological health have direct correlation) between the two variables. The significance level for this correlation coefficient is $0/044$ which is statistically meaningful. In other words, it can be stated that positive and meaningful correlation exists between sense of humor and level of psychological health.

Table 8 shows that the correlation coefficient between the level of psychological health and the constituents of sense of humor is equal to $0/362$ which means that almost $0/13$ of changes in the variable of psychological health can be explained with the constituents of sense of humor. As shown in **Table 9**, the F calculated for the regression model is equal to $5/821$ with degrees of freedom of 5 and significance level of $0/000$ which is meaningful statistically and it can be concluded that the constituents of sense of

humor have meaningful effect on psychological health.

Table 10 shows that between the constituents of sense of humor, laughter has the most effect in predicting the level of psychological health among other constituents of sense of humor and next is sense of humor at times of stress and enjoying pranks have the most influence on predicting psychological health. Yet, the significance level of effectiveness of the constituents of verbal pranks and sense of humor in social relations is larger than $0/05$ which means that these two variables do not have meaningful effect in predicting psychological health. The coefficients of influence of the constituents of laughter, sense of humor at times of stress, enjoying pranks on psychological health are $-0/672$, $-0/631$ and $-0/229$ respectively.

$$y \text{ (psychological health)} = 55/380 + (-0/229)(\text{enjoying pranks}) + (-0/672)(\text{laughter}) + (-0/631) \text{ (sense of humor in stress)}$$

Results of **Table 11** show that mean level of sense of humor in women employees is $71/66$ and in men it is $60/24$. Additionally, the value for Levene's F is $3/648$ which is not meaningful at a $0/058$ level which means that equality of variances is not rejected. The absolute value of t observed in condition of equality of variances is $3/068$ which is larger than the t value in the table at a level of $0/01$

with a degree of freedom of 198. Therefore, the assumption of equality of means is rejected with high confidence. In other words, with more than 99 percent confidence

it can be stated that the level of sense of humor in female employees of the Water and Sewage Department is higher than the male counterparts.

Table 1 Descriptive indices of the main variables based on gender

Group Index Dimension	Female		Male	
	Mean	Standard deviation	Mean	Standard deviation
Physical signs	12/16	2/892	11/37	2/935
Signs of Anxiety and Sleeplessness	11/66	3/477	12/01	2/849
Signs of social dysfunction	14/11	3/035	13/26	2/219
Signs of depression	10/27	2/725	9/58	4/070
General health	48/22	8/911	46/24	8/855
Sense of humor	71/66	15/488	60/24	9/430

Table 2: The Kolmogorov-Smirnov test for evaluation of normality of the data

Variable	z statistics	Significance level	Results of the test
Physical signs	0/589	0/801	normal
Signs of Anxiety and Sleeplessness	0/686	0/762	normal
Signs of social dysfunction	0/788	0/637	normal
Signs of depression	1/205	0/110	normal
General health	0/688	0/761	normal
Sense of humor	0/980	0/282	normal

Table 3: Correlation coefficient and level of significance of the test of sense of humor and education

Variable	Number	Correlation coefficient	Significance level
Sense of humor and education	200	0/044	0/420

Table 4 Correlation coefficient and level of significance of the test of sense of humor and organizational post

Variable	Number	Correlation coefficient	Significance level
Sense of humor and organizational post	200	0/033	0/525

Table 5 Correlation coefficient and level of significance of the test of psychological health and education

Variable	Number	Correlation coefficient	Significance level
Psychological health and education level	200	0/092	0/093

Table 6 Correlation coefficient and level of significance of the test of psychological health and organizational post

Variable	Number	Correlation coefficient	Significance level
Psychological health and organizational post	200	0/133*	0/011

* p≤0/05

Table 7 Correlation coefficient and level of significance of the test of sense of humor and psychological health

Variable	Number	Correlation coefficient	Significance level
se of humor and psychological health	200	-0/246*	0/044

*p≤0/05

Table 8 Summary of the model for the regression coefficients

Standard deviation of the multivariate determination coefficient	Modified multivariate determination coefficient	Multivariate determination coefficient R ²	Multivariate correlation coefficient R
8/407	0/108	0/130	0/361

Table 9 Summary of regression analysis

Model	Index	Sum of squares	Degrees of freedom	Mean squares	F statistics	Significance level
1	Regression	2057/376	5	411/475	5/821	0/000 ^b
	Remainder	13713/49	194	70/688		
	Total	15770/87	199			

Table 10: Coefficients of the regression equation

Model		Nonstandardized coefficients		Standardized coefficients	t statistics	Significance level
		B	Standard error	Beta		
1	Width from origin	55/380	2/726	-	20/317	0/000
	Enjoying pranks	-0/229	0/092	-0/180	-2/495	0/013
	Laughter	-0/672	0/183	-0/333	-3/669	0/000
	Verbal prank	-0/130	0/193	-0/061	-0/673	0/502
	Sense of humor in social relations	-0/270	0/197	-0/108	-1/372	0/172
	Sense of humor at times of distress	-0/631	0/197	-0/229	-3/197	0/002

Table 11: Results of the t-test for comparison of the difference between sense of humor in female and male employees

Index Groups	Mean	Standard deviation	Levene's test		Degrees of freedom	T	Significance level
			F	Significance level			
Male	60/24	15/488	3/648	0/058	198	-3/068	0/002
Female	71/66	9/430					

DISCUSSION AND CONCLUSION

Considering the findings of this study from among 200 employees 91% were male and 9% female. Additionally, 43/9% of the employees had master's degree level education which had the highest percentage in the education level statistics.

Among the constituents of general health, signs of depression with a mean of 9/65 had the lowest mean and the constituent of dysfunction in social functioning with a mean of 13/34 had the highest mean in psychological health. With separation of the subscales of psychological health and sense of humor based on gender, it was shown that mean scores of physical signs in female employees was 12/16 and in male employees 11/37. Mean employee scores of signs of anxiety and sleeplessness in men was 12/01 and in women was 11/66. Mean scores in social dysfunction was 13/26 in men and 14/11 in women. Mean scores of depression in men was 9/58 and in women was 10/27. Also, in the overall psychological health scale, mean employee score for men was 46/24 and for women it was 48/22. In the sense of humor scale mean score for men was 60/24 and for women it was 71/66.

Results showed that meaningful difference does not exist between the levels of sense of humor of employees based on education or in

other words, meaningful correlation does not exist between education level and degree of sense of humor of employees. Additionally, the results showed that meaningful correlation does not exist between sense of humor and organizational post. Meaningful correlation did not exist between education level and degree of sense of humor of employees. Yet, meaningful difference was present between levels of psychological health in employees at various posts or in other words meaningful correlation existed between psychological health and organizational post of employees. Also, the results showed that positive and meaningful correlation exists between sense of humor and level of psychological health and the level of sense of humor in women employees of the Water and Sewage Department was more than men employees. Ultimately, analysis of the findings showed that meaningful correlation exists between level of psychological health and constituents of sense of humor and among the constituents of sense of humor laughter has the most influence on predicting level of psychological health among other constituents of sense of humor and after that sense of humor in conditions of stress and enjoying pranks have the highest effect on predicting psychological health. Yet, the significance level of the effect of constituents of verbal

pranks and sense of humor in social relations on psychological health was not meaningful.

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