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Relationship between Mental Health and Social Capital among Students of the Medical Sciences Department at Tehran University

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The purpose of this study was to examine the relationship between mental health and social capital among the students of the Medical Sciences Department at Tehran University. This research was a descriptive analytic study which considered 400 whose average age was 23±3. The Bullen's questionnaire and general health questionnaire were used for collecting the data and logistic regression was utlized to analyze the data. The results of the study showed that 52.25% of the participants were healthy. In addition, the results of hypothesis testing showed that there was not any significant relationship between mental health and social capital. However, there was a significant relationship between the age difference with dimensions of anxiety and sleep disorder. The odds ratio showed that with an increase in age each year, the chance of suffering from anxiety and sleep disorder was also increased by.88. Finally, it appeared that the coming of graduation time and worrying about future professional and educational life might create anxiety and disorders with an increase of age among students of the Medical Sciences Department.

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The World Health Organization (WHO) defined mental health as the capability of harmonic and coordinated relationship with others, change and amendment of personal and social environment, resolution of discrepancies and personal desires in a logical, fair and appropriate manner (Mohtashami, 2003). Mental health was one of the criteria to be considered in determining public health which meant the feeling of well-being and perceived self-efficacy, relying on its capacity to compete and etc. Mental health played an important role in ensuring the dynamism and efficiency of every society (Jahani, hashemi& Nowrozi, 2007). According to the statistics provided by the WHO, the 52 million persons in the world including people of various ages suffer from severe mental diseases and 250 million persons suffer from minor mental diseases (Soltanian, Bahreini, Namazi & Amiri, 2004). Several studies have been carried out on mental health in various countries by using the General Health Questionnaire-28 (GHQ28). Based on the study of the WHO (Goldman, Fisher& Howthorne, 2004), the prevalence of mental disorders has been estimated to be 26.2% in the US, 16.5% in the UK, 17.8% in Columbia, 18.4% in France, 9.1% in Germany, 8.2% in Italy, 16.9% in Lebanon and 8.8% in Japan.
In the report given by the WHO, it has been stated that for the year 2004 five out of ten causes of death include non-communicable diseases, nutritional deficiency, mental disorders, suicide and injuries. It has also been predicted that this figure will increase to eight out of ten deaths by 2030 (WHO, 2008).

The first epidemiologic review carried out in Iran by using the general health questionnaire showed that 21% of the population which included 25.5% of the women and 14.9% of the men suffered from mental diseases. The prevalence of

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depression and anxiety symptoms has been greater than physical symptoms and disorder in social performance (Noorbala, Bagheri Yazdi, Asadi Lary& Vaez Mahdavi, 2010). The studies conducted regarding mental health in the years succeeding the Islamic Revolution of Iran revealed that the prevalence of the disorders varied between 12.5 and 30.2 (Noorbala et al., 2010). The WHO and other international organizations mentioned the improvement of mental health as a main concern which was of a high priority for countries with low and medium revenue and even for wealthy ones (WHO, 2004).

As reported by WHO (2004), a big part of mental diseases has a strong relationship with social factors and models in developing countries (WHO, 2001). Roblems such as failure in education, living in a physically inappropriate environment, society with a low level of security, job loss, emigrating and being away from the family are social factors that may have many effects on the mental health of individuals (Harpham, 2004).

Social capital is one of the social determinants of health which attracts much attention these days. Social capital targets some aspects of social organizations such as social networks, norms and reliance, facilitating cooperation and coordination to obtain mutual benefits. The World Bank defines social capital as a set of social norms and relations existing in the social structure which enable people to act cooperatively for achieving their desirable goals (Amirkhani, 2008). World Bank experiences showed that this phenomenon had a considerable impact on the economy and development in various countries (Alvani& Shirvani, 2006).

Social capital became an important concept in international health research because of the development of social congnition which was a factor for determining health. Many studies have

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shown that people who actively participate in social activities in their community because of family support and social ties are stronger than those who are socially isolated, as a result they have a more favorable health status (Christoforou, 2005; Harpham, Grant & Thomas, 2002).

The research conducted by Mohammadtaghi Iman and his colleagues in 2007 showed that there was a meaningful relationship between the social capital and the mental health of the students. The calculated correlation coefficient of the two variables of mental health and social capital in Tehran University has been r=.48. The achieved results of such a coefficient reveal that the relationship between social capital and mental health is meaningful at the level of at least 95 percent (Moradi & Husseini Rodbaraki, 2008).

By using the Volkak and Narian theories, employing survey methods and questionnaires as the research tool, the relationship between social capital and mental health has been reviewed among the students of the Social Sciences Department of Shiraz University. The results showed that the relationship between the two variables of social capital in general and mental health was statistically meaningful in a positive direction. However, the review of the relationship between in-group social capital and mental health has been statistically meaningful in a positive direction while the review of the relationship between outside-group social capital and mental health revealed that there was not any meaningful relationship between these two (Soltani & Jamali, 2008).

The study was conducted among 6909 mothers having one-year-old children with regard to their mental health, social cognitition and social capital (Desilva, Huttly, Harpham, Trudy& Kenward, 2007) in four countries (Peru, Ethiopia, Vietnam and India) with low income. The social capital was

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estimated using the data that was collected by randomly handing out the questionnaire to participants in the society. The analysis showed that the cognitive social capital of any individual in the society was associated with the decrease in the Common Mental Disorders (CMD).

The results of other studies conducted in Australia revealed the relationship between social capital and health have been different to some extent which actually showed that there was not any such a relationship between these two factors. In the case of the relationship between social capital and the living standard, the results have been ambiguous and equivocal and no relationship was observed. On the other hand, the study showed that there was a relationship between social capital and physical health (Caperchione, Lauder, Duncan & Mummery, 2008).

University students are the most dynamic stratum of any society and their health is an urgent necessity over the health of many others in the society. The students are the future builders of any society, so their mental health may affect the development of the society in the future. Considering the limited number of studies conducted on social capital among medical students in Iran, this research tries to review the relationship between mental health and the social capital among medical science students atTehran University.

Method

This research was a cross-sectional study conducted in 2011 among students in Tehran University of Medical Sciences Tehran University. After the sample size was determined according to the stratified sampling method, the selection of participants from any department was decided based on the student population. Then the questionnaires were randomly handed out by two researchers who were fully acquainted with

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research in the department. The participants were informed about the research objective and the confidentiality of the data gathering. The students were given enough time for filling out the required forms. The data collection lasted from the beginning of April until the middle of June on year 2011.

Measuring the social capital, we have prepared a Bullen's scale of 36 questions translated into Persian (Bullen & Poul, 2005).

The validity of the translation for the questionnaire was under the observation of the academic scholars in the department. Then the questionnaire was give to twenty students qualified for participating in this study. Two weeks later the same questionnaire was give to the same students. The data collected was analyzed using the SPSS 18 software program. Based on the results of the analysis, some questions were reconstructed with the approval of the scholars and then the final draft was prepared. Therefore, the Cronbach's Alpha was estimated as.82 for the reliability of the social capital questionnaire.The questionnaire included eight dimensions each of which contains numbers of questions. These dimensions included participation in local community (7 items), proactivity in a social context (5 items), feeling of trust and safety (5 items), neighborhood connections (4 items), family and friends connections (3 items), tolerance of diversity (3 items), value of life (2 items), and work connections (3 items). Two other questions, as extending to more than one dimension, were reviewed separately and the final point of social capital was calculated.

The questions of the questionnaire have four choices ranging from one to four for each question. Since the questionnaire had eight dimensions, the points in each dimension have been calculated and summed up. Because of the difference in the domains of the questions, after the calculation of the points of

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each domain, all domains have been scaled up to 100 for the sake of comparison.

The General Health Questionnaire (GHQ28) was used for collecting data on mental health. The GHQ28 contained 28 questions on general health; the 4 questions with the seven range scales include Somatization, Anxiety, Social Dysfunction and Depression. The people who obtained 2 or higher out of 7 points in each domain were suspected of disorder and those obtaining less than 2 were considered healthy. Moreover, the people obtaining 6 or higher out of a total of 28 points were suspected of mental disorder and those with less than 6 were considered healthy (Noorbala, 1999).

All gathered data was analyzed using the SPSS 18 software program. The Chi-Square Test was used for ordinal variables and the T-Test for quantitative variables, after grouping the people into healthy groups and those suffering disorders. The variables with the P-value less than.2 entered in the logistic regression model. If the probability was less than.05 for the variables in the logistic regression model, it showed a statistically meaningful relationship.

Results

400 students have been under study in this research 69% of whom were female (276 persons) and 31% were male (124 persons). The mean age of the subjects is 23.18 (3.14), as shown in Table 1.

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Table 1

Frequency of Students in Terms of Demographic Variables

Hkl 3 0	**Status**	**Number**	**Percentage**
Gender	**Female**	276	69
	Male	124	31
Levels of Education	**Bachelor's**	138	34.5
	Master's	56	14
	Doctorate	206	51.5
Residency	**Dormitory**	234	58.5
	Non-Dormitory	166	41.5
Employment Status	**Employed**	55	13.8
	Not Employed	345	86.2
Marital Status	**Married**	33	8.3
	Single	366	91.5

It is reported that 48.8 percent of the respondents have a good economic status, 45.8 percent average and 4.5 percent bad, while 1.5 percent did not provide any response to this question. 209 persons (52.25 percent) of the respondents are mentally healthy and 191 persons (47.75percent) are suspected of suffering from mental disorders. Most of the persons suspected to be suffering from mental disorder have been located in the depression domain, while at least in terms of social performance (Table 2).

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Table 2
Frequency of Students in terms of Mental Health Status

Mental health dimension	Statusmental health	Number	Percentage
Somatization	**healthy**	263	65.75
	suspected	137	34.25
Anxiety	**healthy**	214	53.50
	suspected	214	53.50
Social dysfunction	**healthy**	347	86.75
	suspected	53	13.25
Depression	**healthy**	185	46.25
	suspected	215	53.75
Mental Health	**healthy**	209	52.25
	suspected	191	47.75

The finding on Table 3 shows that no relationship has been found between gender, economic status, living places, language, marriage, education level, employment status and social capital. However, the relationship between age and mental health, between anxiety and sleep disorder and mental health with age showed a statistically meaningful relationship (α= .008). The Odds ratio showed that for the increase in age per year, the chance of suffering from anxiety and sleep disorder increased by .88 and the chance of suffering from disorder in mental health increased by .91 (Table 3).

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Table3

Results of the Fitting of Multiple Logistic Regression Model

Mental health dimension	Variable	Status	Coefficient	Odds ratio	P-Valu
Somatization	age	-	-	-	.10
Anxiety & Sleep Disorder	Marital Status	Single	Baseline	-	-
		Married	-	-	.310
	Levels of Education	Bachelor's	Baseline	-	-
		Master's	-	-	.594
		Doctorate	-	-	.356
	Employment Status	Employed	Baseline		-
		Not Employed	-	-	.625
	age	-	-.13	.88	.000
Social dysfunction	Levels of Education	Bachelor's	Baseline	-	-
		Master's	-	-	.147
		Doctorate	-	-	.886
	Residency	Dormitory	Baseline	-	-
		Non-Dormitory	-	-	.155
	age	-	-	-	.061
Depression	Levels of Education	Bachelor's	Baseline	-	-
		Master's	-	-	.601
		Doctorate	-	-	.449
	Residency	Dormitory	Baseline	-	-
		Non-Dormitory	-	-	.052
	Field of Study	Medicine	Baseline	-	-
		Paramedics	-	-	.557
		Health	-	-	.254
		Nursing	-	-	.521

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		Pharmacology	-	-	.387
		Dentistry	-		.063
	age	-	-	-	.060
Mental Health	Employment Status	Employed	Baseline	-	-
		Not Employed	-	-	.316
	age	-	-.09	.91	.007

Discussion and Conclusion

The result of this research revealed that the number of persons suspected of mental disorder was close to the one obtained by Dibajnia *et al.* (Dibaj Nia & Bakhtiari, 2003) in Shahid Beheshti Medical Sciences University. Moreover, the high number of mental disorders in the present study was less than in that of Seyed Ahmadi at Torbat Jam Azad University (Ahmadi, 2010) and more than the one by Adham's study at Ardabil Medical Sciences University (Adham et al., 2007). It seems the length of time spent at university, facing educational problems and the university's environment might increase the degree of mental disorders among students. The results regarding the Somatization dimension of mental health were consistent with the results achieved by Ansari, Bahrami, Akbarzadeh & Bakhshani (2007) at Zahedan Medical Sciences University. Seemingly the students from the Medical Sciences universities enjoyed the same experiences when they were in the hospital environment situation as when in health and treatment sectors.

The results regarding the anxiety dimension were more than the ones achieved by Ansari et al. (2007) at Zahedan Medical Sciences University and those by Adham in Ardabil (Adham et al., 2007). In Adham's research, freshmen students were

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considered, but the present research has included all students. The present study has used the 6 cut-point as it was used in the research by Ansari *et al.* (2007) for distinguishing the healthy persons from those suspected for anxiety and sleep disorder.

The high number of the students suspected of having depression in the present study was more than that found by Ansari *et al.* (2007). It seems that living in a big city such as Tehran had negative effects on the students' mental health. This was due to Tehran's particular social and cultural situation and other problems such as over population and traffic. In addition, studying in big universities with high scientific credentials put more pressure on students and this might endanger their mental health. In the present study, no relationship between mental health and gender has been seen. This was consistent with other results obtained in the country by Abbasi *et al.* (Abbasi, Kamkar, Bagheri zadeh, Panah & Anbari, 2001), Karami *et al.* (Karami & Pirasteh, 2001) and Omidian (2009).

The relationship between age and the mental health had been accomplished and this was in agreement with the study by Nourbala *et al.* (Noorbala, Bagheri Yazdi, Asadi Lary, VaezMahdavi, 2010) in Tehran and the one by Kamran *et al.* (Kamran & Ershadi, 2009) in Sari. Apparently, the increase in age and educational level, the coming graduation time and worrying about future professional and educational life may create anxiety and disorders in mental health.

In this study, there was norelationship between the university major and mental health was observed. This result was consistent with the one by Baqeri Yazdi at Tehran University (Bgheri, 2005) and by Givens at Pennsylvania University (Givens & Tjia, 2002). In addition, there was no statistically meaningful relationship between economic status and the mental health like similar research conducted in the country byDastjerdi

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et al. (Dastjerdi, Miri, Pejhmankhah, 2007) and by Sadeghi *et al.* (2010).

No relationship between living places and the mental health dimensions was found and this was consistent with the same studies conducted in the Medical Sciences universities in the country by Adham *et al.* (2007), Farahbakhsh *et al.* (2005), Rashidi (2001), and Tavakoli, Ghahremani & Chamanzari, 2001).It seems thatmore thanhalf of theparticipating students in this study were living in homogenous conditions like the dormitory environment. As a result, there was no significant difference between living environment and mental health conditions. On the other hand, the Medical Sciences students at Tehran University wererelatively in goodmental health because they had better access to recreational and cultural services during their student course.

Moreover, there was no relationship between social capital and mental health as the core matter which was considered in this study. This result was different from found those by Iman at Tehran and Shiraz universities (Iman, Moradi & Husseini Rodbaraki, 2008), but it was consistent with those found by Shafali in Canada (Shefali, 2005) and by Caperchione in Australia (Caperchione, Lauder, Duncan & Mummery, 2008). This might be because the social capital questionnaire used in the research and the analysis method using the logistic regression could be the cause of the apparent differences with other Researches .The study was designed assessing the mental health and social capital through self-administered questionnaires by participants. The limitation of this study was to allow the participants to report their own social capital and mental health levels which were lower or higher than that of the actual report. The validity and reliability of the social capital questionnaire used for the first time in this study was examined

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by the researchers.

Other limitation of this study was that it considered only the Medical Science Department students; it seems that further research is needed in other universities .This could provide us with more exact results regarding the relationship between mental health and social capital in Iranian society. Since the social capital questionnaire used in this study was to assess reliability among students, it seems that an independent study evaluating the validity/reliability of this questionnaire is necessary. Clinical study conducted by psychologists with the General Health Questionnaire can help obtain correct data.

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