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Public opinions about mental illness in a Greek area: The influence of socio-demographic factors

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The importance of certain socio-demographic factors, which influence the attitudes and ideas regarding the mentally ill, were investigated in a resident population of a Greek region. An urban and a rural sample of 1,975 inhabitants were selected with an age range between 18 and 65 years. The Greek version of the Opinions about Mental Illness Questionnaire (OMIQ) was used for measuring the attitudes of social discrimination, social restriction, social care, social integration towards the mentally ill and the beliefs for the aetiology of the mental illness. The collected data were statistically analysed with stepwise multiple regression analysis and for the coding of the variables the method of dummy or indicator variables was followed. Educational level, age and place of residence are the main socio-demographic variables on which the OMIQ score depend. The results of this study could lead to the identification of target groups for the organisation of prevention programs aiming at changing public beliefs towards the mentally ill.

Key words: Community, mental health, public's attitudes, mental illness, OMIQ.

Introduction

Public attitudes towards mental illness were always an important issue of discussion, but in the last 3–4 decades it became the subject of systematic investigation. A number of scales, measuring opinions of people towards mental illness and the mentally ill, have been used for this purpose. In a first phase, investiga-

tors tried to evaluate and understand the general public's attitude towards mental illness.^{1–3} Subsequently, the research was focused on attitude and perceptions of mental health professionals towards their patients.^{4–6} The last tendency was considered to be more important in order to change inappropriate attitude. The development of new community-based psychiatric services and the practice of community

oriented treatment of mental illness produced a new problem: The research focused again to the attitude and conceptions of the general public towards mental illness, in order to organise psychiatric services in an effective way.

The investigation of public attitudes towards mental illness is an important prerequisite for a reform of Psychiatric Services. Reform of mental health care in Greece is, at the time being, under development. Legislative changes, the increasing number of psychiatric units in General Hospitals, the integration of psychiatry into the primary health care in rural areas and the development of Mental Health Centres, have been some of the reforms assumed.^{7,8} It is clear that these reforms could not take place easily if the attitude and behaviour of the general public towards the mentally ill is characterised by fear, stigmatisation, rejection and misinformation.^{9,10}

There is considerable evidence in the literature that socio-demographic factors such as gender, age and education affect the public's conceptions and attitudes towards the mentally ill.^{8,10-20}

In Greece, only a few investigators have been engaged in this field. Some of them²¹⁻²³ have evaluated the attitudes of relatives of the mentally ill towards their patients, while others investigated the general public's belief concerning mental illness, using either open-ended questionnaires in personal interviews,^{24,25} either more structured questionnaires.^{8,17,20,26,27}

The survey reported here is based on a sample of both urban and rural Greek population, related to the services of a Community Mental Health Centre (CMHC) in the area of Ioannina. The aims of this study were: (a) to estimate the public attitudes and ideas concerning mental illness in order to assist in the planning and organisation of mental health care and prevention programs in this area, and (b) to establish a baseline measure of such attitudes against which to evaluate the impact of community-based prevention programs. The present study investigates the relationship between socio-demographic factors and these attitudes and ideas within this local population.

Material and method

Sample

The area of Ioannina is a mountainous territory in Northwest Greece with a population, according to the census of 2001, of 170,244 inhabitants. The area's main city is Ioannina with a population of about 70,000 inhabitants, surrounded by 312 communities.

The data were collected in the context of a broader epidemiological survey concerning mental disorders in the population of this area. A random sample of 2010 households was selected with a systematic cluster sampling method. Then, from each household an adult aged between 18 and 65 years old was selected at random for the interview, using the Kish selection grid.²⁸ The final sample of this study included 1,975 subjects who answered to the Greek version of the Opinions about Mental Illness Questionnaire (OMIQ).^{4,8} Twenty-six individuals (1.3%) refused to participate and 9 questionnaires were discarded as uncompleted. The mean age of the participants was 44.6 (sd 14.7) years. Table 1 shows the profile of the final sample.

Interviewing methods and questionnaires

Data were collected using a personal interview including:

1. Questions on socio-demographic data.
2. The 22-items scale of Langner.²⁹
3. The Center for Epidemiological Studies Depression Scale (CES-D).³⁰
4. The Social Readjustment Rating Scale modified for Greek population.³¹
5. Questions on personal experience of seeking help
6. The OMIQ.^{4,8}

Table 1. Profile of the sample of the survey.

Population of the area	170,244	habitants
Total sample	1,975	persons
Residents of the city	616	persons
Residents of the communities	1359	persons
Mean age of the sample	44.6 (14.7)	years (sd)
Men	692	persons
Men in the city	211	persons
Men in the communities	481	persons
Women	1283	persons
Women in the city	405	persons
Women in the communities	878	persons

This article focuses on the public's attitudes towards mental illness according to the results of the OMIQ, which is the most widely used instrument for the measurement of attitudes towards mental illness. It comprises of 51 items with Likert's type answers. The OMIQ^{4,5,32} is a sensitive, comprehensive, reliable and valid instrument that serves to evaluate many components of the attitudes towards mental illness, although it has been criticised as being too complex³³ or incomplete.³⁴ We used the OMIQ as was modified and standardised for the Greek population.⁸ The Greek version, after factor analysis, yields five factors, defined as:

1. Social discrimination (16 items). It includes an authoritarian attitude towards the mentally ill, who are considered inferior requiring coercive handling
2. Social restriction (13 items). The central idea is that the social and/or family activity of the mentally ill should be restricted both during and after hospitalisation.
3. Social care (8 items). A positive view towards treatment ideology suggesting improvement of quality of care and social support.
4. Social integration (8 items). The central belief is a favourable attitude towards the social participation and incorporation of mentally ill in community life.
5. Aetiology of mental illness (6 items). The last factor concerns conceptions about the aetiology of mental illness. High score reflects conceptions about the importance of interpersonal relationships and the cohesive or destabilising influence of the family.

The structure of these factors is not very different from the original five ones developed by Cohen and Struening: authoritarianism, benevolence, mental hygiene ideology, social restrictiveness and interpersonal aetiology.

The gradation of each factor is given by a mathematical equation. High score in each factor means a positive attitude towards this factor. It has become a main instrument used by Greek investigators, both to study the general public's beliefs regarding mental illness,^{8,20} and to evaluate the ideas that the mental

health professionals have about it.^{7,17,27} Koutrelakos et al²⁶ were the first who used the OMIQ in a Greek population sample.

Statistical analysis

For the statistical analysis of data, multiple regression analysis was used in order to find out the variables affecting the scores at the OMIQ. The 5 factors of the OMIQ were used as dependent variables and the socio-demographic variables such as: gender, age, place of residence, change of place of residence after the age of 15, marital status, educational status, professional level, and the number of family members, as independent. The variable of socio-economic status is not used, as in Greece there isn't a unified categorisation for it. However, several investigators suggest different categorisations for the above variable based on educational level in combination with professional status.⁸ Then, at a second stage, stepwise multiple regression analysis is used with emphasis on the effects of the first order interactions of the socio-demographic variables. For the coding of the variables the method of dummy or indicator variables was followed.³⁵ By this method of coding, an independent variable is substituted by a number of independent sub-variables depending on the number of the values of the initial variable. So, the independent variable "age" is substituted by five sub-variables "age 1", "age 2", "age 3", "age 4" and "age 5". This coding not only allows to detect the effect of a socio-demographic variable on the attitudes towards mental illness, but also to find out which group of the population has either more important impact or a different attitude. The statistical analysis was carried out using the Statistical Package for the Social Sciences (SPSS).³⁶

Results

In table 2 the mean values and standard deviations on the total population by place of residence (urban or rural), concerning all five factors are shown. We observe that inhabitants of rural areas show higher mean values in factor A (social discrimination) and factor B (social restriction), which means that they are more in favour of social discrimination and social exclusion. They also show a higher mean as far

Table 2. Means and Standard deviation of OMI factors by place of residence.

<i>OMI Factors\Residence</i>	<i>Urban</i>	<i>Rural</i>	<i>Total</i>
Social Discrimination	37.8 (8.3)	42.5 (6.3)	41.1 (7.3)
Social Restriction	22.5 (7.9)	27.8 (8.1)	26.1 (8.4)
Social Care	22.9 (2.9)	22.9 (3.1)	22.9 (3.1)
Social Integration	15.7 (4.6)	14.8 (4.6)	15.1 (4.6)
Aetiology	14.4 (4.3)	16.1 (3.5)	15.6 (3.9)

as the aetiology factor (D) is concerned, that is, they support less the opinion that intra-familial relationships play an important role as causes of mental illness. Inhabitants of rural settings favour less social integration of the mentally ill in comparison to residents of urban areas, while opinions on social care are consistent between residents of both urban and rural areas.

Multiple regression by factor

1. Factor A: Social discrimination and autarchy

a. When we examine the effect of demographic variables, considered independently, educational level affects Factor A negatively, while place of residence and population age affect Factor A positively (table 3). Consequently, elderly people show a more positive attitude to social discrimination and a more authoritarian view towards mentally ill than younger persons. The same applies to the population of rural areas against the population of urban areas, and between people with low educational level and people with higher educational level.

b. The picture of Factor A is altered when first order interactions enter into regression analysis, i.e. when demographical variables are not examined independently, but a potential relation between them is considered. Demographical variables and variables created by correlation of demographical variables one-to-one –the value of which equals the result of multiplication of the respective values of demographical variables– participate as independent variables.

In that case (table 4), as far as demographical variables are concerned, Factor A is negatively affected by the educational level and by divorce. Factor A is, at the same time, negatively affected by the variable age-students and positively affected by the variables gender-students, place of residence-educational level, age-small business owners, age-educational level.

Therefore, although educational level contributes negatively in the favourable attitude towards social discrimination, when it is combined with age and place of residence it affects positively the opinion in favour of social discrimination. In particular:

Table 3. Socio-demographic variables which affect the OMI factors (Stepwise Multiple Regression Analysis).

	<i>Education</i>		<i>Age</i>		<i>Residence</i>		<i>Family members</i>		<i>R²</i>
	<i>B</i>	<i>Sig T</i>	<i>B</i>	<i>Sig T</i>	<i>B</i>	<i>Sig T</i>	<i>B</i>	<i>Sig T</i>	
Social Discrimination	-1.1656	0.000	0.9996	0.000	1.8469	0.000	-	-	0.1978
Social Restriction	-1.2890	0.000	1.1567	0.000	2.1391	0.000	0.3870	0.019	0.1904
Social Care	-	-	-	-	-	-	-	-	-
Social Integration	0.4186	0.000	-0.3087	0.000	-	-	-0.2948	0.003	0.0401
Aetiology	-0.4525	0.000	0.2586	0.000	0.7365	0.001	-	-	0.0843

-: The variable is not in the equation

No variables entry in the equation of Social Care

Table 4. Socio-demographic variables which affect the OMI factor of Social Discrimination (Stepwise Multiple Regression Analysis).

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Education	-3.17939	0.18235	-0.61636	-17.436	0.000
Divorce	-3.70064	1.61593	-0.04540	-2.290	0.022
Age * Education	0.36423	0.03980	0.24711	9.362	0.000
Residence * Education	0.56987	0.10846	0.14770	5.254	0.000
Age * Students	-4.39748	0.91328	-0.24693	-4.815	0.000
Sex * Students	3.38705	0.93421	0.18904	3.626	0.000
Age * Small business man	0.43492	0.14389	0.06010	3.022	0.002
Constant	43.75340	0.40921		106.922	0.000

R Square: 0.22906

- Individuals of high educational level, who are of older age or reside in rural areas, show a more favourable attitude towards social discrimination in comparison to individuals of the same educational level, younger or residing in urban areas
- Individuals of a given age and high educational level show a more positive attitude in favour of social discrimination than individuals of the same age but lower educational level
- Individuals who live in a place of residence and have a high educational level show a more positive attitude in favour of social discrimination than individuals living in a similar place of residence but with lower educational level.

There were also population groups with a distinct behaviour towards factor A:

- Female students have a more positive attitude towards social discrimination compared to male students
- Small business owners of older age have a more positive attitude towards social discrimination compared to younger small business owners
- Divorced persons have a more negative attitude towards social discrimination
- Older students have a more negative attitude towards social discrimination compared to younger students.

2. Factor B: Social restriction

a. Examining the effect of demographic variables, considered independently, educational level affects Factor B negatively while place of residence and population age affect Factor B positively (table 3). Consequently, elderly people show a more positive attitude in favour of social exclusion towards mentally ill, compared to younger persons. The same applies to the population of rural areas against the population of urban areas, and between persons with low educational level and persons with higher educational level.

b. When first order interactions enter into regression analysis, the picture of Factor B is altered. In that case (table 5), Factor B is negatively affected by educational level and divorce. Factor B is, at the same time, negatively affected by the variables age-small business owners, age-students and positively affected by the variables gender-farmers, age-small business owners, age-educational level, and place of residence-educational level.

Therefore, although educational level contributes negatively in the favourable attitude towards social exclusion, combined with age and place of residence it affects positively opinion in favour of exclusion. Namely:

- Men of high educational level show a more favourable attitude towards social exclusion in comparison to men of lower educational level,

Table 5. Socio-demographic variables which affect the OMI factor of Social Restriction (Stepwise Multiple Regression Analysis).

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Education	-2.30329	0.34030	-0.39028	-6.768	0.000
Divorce	-5.34125	1.88364	-0.05727	-2.836	0.005
Residence * Age	0.38646	0.08588	0.16326	4.500	0.000
Sex * Farmers	1.52555	0.37969	0.08508	4.018	0.000
Age * Students	-1.15811	0.47242	-0.05684	-2.451	0.015
Age * Small business man	1.21458	0.33942	0.14670	3.578	0.000
Sex * Education	0.39749	0.11544	0.12927	3.443	0.000
Sex * Small business man	-2.07403	0.96131	-0.08777	-2.158	0.031
Age * Education	0.12954	0.06152	0.07682	2.106	0.035
Constant	26.47831	0.89481		29.591	0.000

R Square: 0.20507

- Women of high educational level show a more favourable attitude towards social exclusion in comparison to women of lower educational level
- Women of high educational level show a more favourable attitude towards social exclusion in comparison to men of similar educational level
- Elderly people of high educational level show a more positive attitude in favour of social exclusion than individuals of similar educational level but of a younger age
- Individuals of a given age and high educational level show a more positive attitude in favour of social exclusion than individuals of the same age but lower educational level.

It is worth mentioning that age and place of residence do not present as independent factors, although they affect positively Factor B as an interaction variable. Consequently:

- Elderly people living in a certain place of residence show a more positive attitude in favour of social exclusion compared to younger persons living in the same place of residence
- Individuals of the same age living in rural areas show a more positive attitude in favour of social exclusion compared to individuals of the same age living in an urban area.

There were population groups with a distinct behaviour towards factor B:

- Divorced people have a more negative attitude towards social exclusion
- Older students have a more negative attitude towards social exclusion compared to younger students
- Female owners of small business have a more negative attitude towards social exclusion compared to male small business owners
- Female farmers have a more positive attitude towards social exclusion compared to male farmers
- Older small business owners have a more positive attitude towards social exclusion compared to younger small business owners.

3. Factor C: Social care

a. Examining the effect of demographic variables, considered independently, factor B is not affected by any variable (table 3)

b. However, when first order interactions are involved in the regression analysis, the profile of factor C is slightly differentiated.

In this case (table 6), with reference to demographic variables, factor C is negatively influenced by the profession of farmer and positively by the place of residence-age variable.

Consequently:

- People working as farmers have a more negative attitude towards social care

Table 6. Socio-demographic variables which affect the OMI factor of Social Care (Stepwise Multiple Regression Analysis).

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Farmers	-1.00679	0.22208	-0.10556	-4.533	0.000
Residence * Age	0.04132	0.02017	0.04770	2.049	0.041
Constant	22.74096	0.15329		148.355	0.000

R Square: 0.01067

- Older people of a given place of residence have a more positive attitude towards social care than younger people living in the same place of residence
- People living in communities express a more positive attitude in favour of social care than people of the same age living in urban centers.

4. Factor D: Social integration

a. When the impact of demographic variables, considered as independent variables, is examined, then factor B is positively influenced by the level of education and negatively influenced by the age and the number of family members (table 3). So, young people show a more positive attitude towards social integration for mentally ill patients than older people. The same stands for people coming from families with a few members, as opposed to people with families of many members, as well as for people with high education level as opposed to people with lower education level.

b. However, when first order interactions are involved in the regression analysis, the profile of factor D is barely differentiated (table 7). In this case, with reference to demographic variables, factor B is negatively influenced by age and positively influenced by education level and divorce variables.

Therefore

- People with high education level have a more positive attitude towards social integration than people with lower education level
- Younger people have a more positive attitude towards social integration than older people.

A population group presenting a particular attitude towards factor D has also emerged:

- Divorced people have a more positive attitude towards social integration.

5. Factor E: Aetiology in favour of interfamilial relations

a. When the effect of demographic variables, considered as independent variables, is examined, then factor E is negatively influenced by education level and positively influenced by the place of residence and the age of the population (table 3). So, older people have a more positive attitude towards interfamilial relations being the aetiology of mental illness than younger people. The same stands for people living in communities as opposed to people living in urban centers, as well as for people with low education level as opposed to people with higher education level.

Table 7. Socio-demographic variables which affect the OMI factor of Social Integration (Stepwise Multiple Regression Analysis).

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Education	0.41653	0.08438	0.12738	4.936	0.000
Age	-0.28445	0.07955	-0.09229	-3.576	0.000
Divorce	2.45907	1.14157	0.04758	2.154	0.031
Constant	15.06919	0.49832		30.240	0.000

R Square: 0.03897

b. However, when first order interactions are involved in the regression analysis, the profile of factor E is differentiated. In this case (table 8), with reference to demographic variables, factor E is negatively influenced by educational level and divorce. Moreover, it is negatively influenced by the variable gender-high professional level and positively influenced by the place of residence-high professional level and place of residence-age variables.

So, although high educational level continues to contribute negatively to the attitude towards interfamilial relations being the aetiology of mental illness, age and place of residence contribute positively to factor E but only as a unique interaction variable. Therefore:

- Older people of a given place of residence have a more positive attitude towards interfamilial relations being an aetiology of mental illness than younger people living in the same place of residence

- People living in communities have a more positive attitude towards interfamilial relations being an aetiology of mental illness than people of the same age living in urban centers.

Population groups presenting a different attitude towards factor E have also emerged:

- Divorced people have a more negative attitude towards intrafamilial relations being an aetiology of mental illness

- Women with a high professional level have a more negative attitude towards interfamilial relations being an aetiology of mental illness, than men with a high professional level and

- People with a high professional level living in communities have a more positive attitude towards interfamilial relations being aetiology of mental illness than people with a high professional level living in urban centers.

Discussion

The attitude of the general population in the area of Ioannina (Greece) –an area including both urban center and rural population– was investigated through the OMI questionnaire, modified for the Greek population.

The mean values for factors A, B, C, D, and E in the total sample are similar with those of the respective factors of similar studies conducted for the general population of Greece^{8,20} and fairly higher than the mean values of the respective factors in special population groups involved in health.¹⁷ Given the fact, though, that the above mentioned studies in the general population concern mainly the urban population, it is noted that some of the corresponding mean values for the urban population of the sample are lower than those reported in studies conducted in the general population⁸ and closer to those of special population groups.¹⁷ For example, for the factors A and B the mean values in Madianos' studies are 41.8 & 27.07⁸ and 35.07 & 23.77²⁰ respectively, while in Mantas' study they are 30.51 and 19.03.¹⁷

We believe that this finding is quite interesting and gives us indications for the possibilities of interpretation and the significance of quantitative measures resulting from the OMIQ. First of all, the large variety of mean values seen in the literature concern-

Table 8. Socio-demographic variables which affect the OMI factor of Aetiologie (Stepwise Multiple Regression Analysis).

<i>Variable</i>	<i>B</i>	<i>SE B</i>	<i>Beta</i>	<i>T</i>	<i>Sig T</i>
Education	-0.58906	0.08440	-0.21685	-6.979	0.000
Divorce	-0.69614	0.29006	-0.05505	-2.400	0.017
Residence * Age	0.10268	0.03185	0.09424	3.224	0.001
Residence * High Profession	2.42753	0.76414	0.17234	3.177	0.002
Sex * High Profession	-1.46373	0.62472	-0.12754	-2.343	0.019
Constant	16.52216	0.42051		39.291	0.000

R Square: 0.08861

ing both the initial OMIQ and the modified OMIQ by Madianos for the Greek population, indicate clearly that it is not the absolute values of the results which is important, but rather their tendency as well as the relations between them. Secondly, the evolution of values within time and their differentiation depending on population groups clarifies the relation between these values, considered as indications of the attitude of the population towards mental illness, and its socio-cultural features. More specifically, if we restrict to the Greek population where results can be directly compared, we see that not only studies concern different parts of the Greek population, but also have a big temporal difference between them. All studies compare the relation of attitude towards mental illness with social and demographic variables. Demographic, and mainly social variables change through time, and the same happens to the population's views. Madianos²⁰ explains for example the evolution of values, based on the population's familiarization in community mental health programmes. Another interpretation of our findings, where mean values especially for factors A and B are clearly lower (37.8 versus 41.8 and 22.5 versus 27.07), is related to specific features of the urban area, which we investigated. Ioannina is one of the most isolated and inaccessible areas of Greece. Difficulty in communication is one of the basic characteristics of the area and isolation is one of the population's "negative" experiences. Possibly, this fact makes the population of this area more negative against social isolation and social discrimination and, consequently, more tolerant towards the mentally ill. No matter how this differentiation and progress through time is interpreted, it is a fact confirming on the one hand the significance and complexity of the impact of demographic and social variables and on the other the necessity to perform repeated studies.

The study of demographic and social variables impact on attitude and opinion about mental health leads to the following basic conclusions and raises the following issues:

It is confirmed that the factors depending mostly on the demographic and social variables are Social Discrimination and Social Restriction.^{8,10,17,37-39}

These factors are influenced by educational level, age, and place of residence,^{8,17,37-39} while they do not seem to be influenced by profession, gender, family status and number of family members. The same attitude is observed for factor Aetiology, something that comes in contrast to Madianos'^{8,20} findings where profession and gender exert great influence on factor E. These results are similar to those of other investigators.^{8,10,37-39} Several observers of Greek customs describe interpersonal relationships as strongly oriented towards traditional authority.^{26,40-42} The strong priority given to family life^{40,43,44} might be the reason why older people, residents of rural communities, consider that mental disorders appear as a consequence of disturbed family relationships. Furthermore, the traditional belief in authoritarianism seems to change with education. The fact that the aspect of disturbed relationships is expressed by people with high professional level and consequently high socio-economic status, living in rural communities, could lead to the conclusion that the place of residence is, probably, a more important variable in the aetiology of mental disorders than socio-economic status. Educational level and age influence the factor of Social Integration, compatible to Mantas,¹⁷ but in contrast to Madianos.^{8,20} Finally, the factor of Social Care does not seem to be influenced by any social or demographic variables, thus being compatible with the findings of the aforementioned studies.

Any differences observed as to the impact of social and demographic variables, as reported in literature, can eventually be explained based on the special cultural characteristics of every place and population group. At the same time, they show that the influence and relation of the social and demographic variables to the opinion and attitude towards mental health is not that simple. The study of this relation with the use of multiple regression and first-order interactions (discussed below) supports this point of view.

The demographic variables that have an effect on all factors, except for C, are educational level and age, whereas A, B, E are also influenced by the place of residence. This effect, although consistent with most Greek and international studies, is not that simple as

shown by the study of the relationship between factors and socio-demographic variables with the use of multiple linear regression and first-order interactions. More specifically:

1. *Educational level.* Education continues to have a negative impact on factors A, B, E and positive on factor D. The main role of educational level in all attitudes towards the mentally ill could lead to the conclusion that education can change at least some components within the range of attitudes towards mental illness.³ This influence remains clear for factors D and E. However in combination with age for factors A and B, with the place of residence for factor A and with gender for factor B, this has opposite results. So, high educational level in older people has a positive influence on the factors of social discrimination and social restriction. In other words, older age reverses the influence of education on the attitude for social discrimination and social exclusion. Respectively, residents of rural areas with high-level education and women with higher education have a positive attitude towards social discrimination and social exclusion. The differentiation of these groups may eventually be explained based on the cultural features of these groups: we could argue that older people of high educational level come from more conservative population groups. However, in our point of view, the interpretation is not a simple case. We believe that these findings show the complexity of the relationship between factors and attitude towards mental illness and further investigation is needed in order to find out the causes of these differences by studying the social context in which these opinions are expressed.⁴⁵ In this context, we note that young students appear to have the most liberal attitudes towards the mentally ill. On the other hand, the liberal attitudes of the divorced may be the effect of their own experience. Greek family still insists that solutions must be found in the context of the family. So, divorced people may feel empathic to the discriminated against and rejected mentally ill.

2. *Age – Place of residence.* When first-order interactions between socio-demographic variables enter into multiple regression analysis, age influences only the factor of social integration (D). In the rest factors,

age does not seem to have an effect on its own, as reported in literature,^{8,10-20} but only in interaction with other variables. Besides interaction with educational level discussed in the previous paragraph, we observe, in interaction with the place of residence, an impact on factors B, C and E in the same way, positively, as on other variables. In other words, individuals of the same age who live in communities have a more positive attitude towards these three factors than those living in urban centers; this enhances the explanation that a more liberal social environment has a negative effect on the “negative factors”,^{8,17,20,45} and so there is access and familiarization to institutions of provision of mental health services or, to say it differently, that the above social context helps the formation of a more positive attitude for the proper management of mental illness.

Conclusions

The results of data analysis and their study in relation to the results recorded in literature show the significance and limits of epidemiological studies regarding the population's opinion and attitude towards mental illness.

The questionnaire measures the opinion and attitude towards mental illness. Yet, the value of the results of this measurement is not absolute, but it must be interpreted as tendency of the population groups.

The impact of demographic, social and cultural factors on the opinion and attitude towards mental illness is given. However, as was shown by the study of first-order interactions of demographic and social variables, the influence is a rather complex phenomenon and for a more thorough explanation of the influence, complementary investigation with qualitative analysis of the context and cultural characteristics is needed.

The use of first-order interactions also identified other population groups with supportive attitude towards the mentally ill or with negative attitude towards mental illness. The identification of these groups remains significant in the planning of intervention and organization programs for community mental health services.

Απόψεις περί των ψυχικών νόσων σε περιοχή της Ελλάδας: Η επίπτωση κοινωνικών και δημογραφικών παραγόντων

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Το άρθρο αυτό διαπραγματεύεται τη διερεύνηση των δημογραφικών και κοινωνικών παραγόντων που επιδρούν στη διαμόρφωση στάσεων και αντιλήψεων του γενικού πληθυσμού και αποτελεί μέρος μιας ευρύτερης επιδημιολογικής έρευνας που έγινε στο νομό Ιωαννίνων. Το δείγμα της έρευνας αποτέλεσαν 1975 κάτοικοι, ηλικίας 18 έως 65 ετών (μέσος όρος 44,6 έτη με τυπική απόκλιση 14,7), των αστικών και αγροτικών περιοχών του νομού Ιωαννίνων. Η μέθοδος επιλογής του δείγματος ήταν η επιτόπια διατμηματική έρευνα των δυο σταδίων (επιλογή οικοδομικού τετραγώνου –επιλογή νοικοκυριού). Το τελικό δείγμα αποτελείται από 616 (31,3%) κατοίκους της πόλης των Ιωαννίνων και 1359 (68,7%) κατοίκους των κοινοτήτων. Οι 692 ήταν άνδρες και οι 1283 ήταν γυναίκες. Η ελληνική εκδοχή του ερωτηματολογίου για τη Γνώμη για την Ψυχική Ασθένεια (Opinions about Mental Illness Questionnaire, OMIQ) χρησιμοποιήθηκε ως εργαλείο συλλογής των δεδομένων. Το ερωτηματολόγιο OMIQ αναδεικνύει πέντε παράγοντες σχετικούς με τις αντιλήψεις και τη στάση απέναντι στη ψυχική ασθένεια: την κοινωνική διάκριση, τον κοινωνικό περιορισμό, την κοινωνική φροντίδα, την κοινωνική ενσωμάτωση και την αιτιολογία ψυχικής νόσου. Ως στατιστική μέθοδος για την επεξεργασία των δεδομένων χρησιμοποιήθηκε η multiple logistic regression analysis. Τα αποτελέσματα έδειξαν ότι οι παράγοντες της κοινωνικής διάκρισης, του κοινωνικού περιορισμού και της αιτιολογίας επηρεάζονται αρνητικά από τη μεταβλητή της εκπαίδευσης και θετικά από τις μεταβλητές του τόπου διαμονής και της ηλικίας. Ο παράγοντας της κοινωνικής ενσωμάτωσης επηρεάζεται αρνητικά από τη μεταβλητή της εκπαίδευσης και θετικά από τις μεταβλητές του τόπου διαμονής και του αριθμού των μελών της οικογένειας, ενώ ο παράγοντας της κοινωνικής φροντίδας δεν επηρεάζεται από καμία κοινωνικό-δημογραφική μεταβλητή. Η μελέτη των αλληλεπιδράσεων πρώτης τάξης των μεταβλητών επέτρεψε την ανάδειξη των ομάδων του πληθυσμού αφενός με θετική και υποστηρικτή στάση απέναντι στους ψυχικά ασθενείς και αφετέρου εκείνες που έχουν αρνητική στάση απέναντί τους. Τα αποτελέσματα αυτά αναδεικνύουν καταρχήν την πολυπλοκότητα του φαινομένου της συσχέτισης των κοινωνικών και δημογραφικών χαρακτηριστικών με τα ζητήματα των αντιλήψεων και των στάσεων απέναντι στην ψυχική ασθένεια. Επιπλέον επιτρέπουν τον προσδιορισμό των ομάδων του πληθυσμού που είναι σημαντικές για την οργάνωση προγραμμάτων παρέμβασης και οργάνωσης των υπηρεσιών ψυχικής υγείας.

Λέξεις ευρετηρίου: Κοινότητα, ψυχική υγεία, αντιλήψεις, ψυχική νόσος, OMIQ.

References

1. Star SA. *The public's ideas about mental illness*. National Opinion Research Center Chicago, Mimeo, 1955
2. Rabkin JG. Opinions about mental illness: a review of the literature. *Psychol Bull* 1972, 77:153-171
3. Rabkin JG. Public attitudes toward mental illness: a review of the literature. *Schizophr Bull* 1974, 10:9-33
4. Cohen J, Struening EL. Opinions about mental illness in the personnel of two large mental hospitals. *J Abn Soc Psychol* 1962, 64:349-360
5. Cohen J, Struening EL. Opinions about mental illness: Mental hospital occupational profiles and profile clusters. *Psychol Rep* 1963, 12:111-124
6. Malla A, Shaw T. Attitudes towards mental illness: The influence of education and experience. *Int J Soc Psychiatry* 1987, 33:33-41
7. Madianos M. Mental illness and mental health care in Greece. *Publ Hlth Rev* 1983, 11:73-93
8. Madianos MG, Madianou D, Vlachonikolis J, Stefanis CN. Attitudes toward mental illness in the Athens area: Implications for community mental health intervention. *Acta Psychiatr Scand* 1987, 75:158-165
9. Star SA. Public attitudes: A measure of the difficulties. In: APA (eds) *Psychiatry, the Press and the Public*. Washington DC: APA 1956:1
10. Cumming E, Cumming J. *Closed ranks: An experiment in mental health education*. Cambridge, Mass, Harvard University Press, 1957
11. Nunnally J. *Popular conceptions of mental health: Their development and change*. New York, Holt, Rinehart & Wiston, 1961
12. Crocetti GM, Lemkau PV. Public opinions of psychiatric home care in an urban area. *Am J Publ Hlth* 1963, 53:409-417
13. Dohrenwend BP, Chin-Song E. Social status and attitudes toward psychological disorder: The problem of tolerance of deviance. *Am Sociol Rev* 1967, 32:417-433
14. Farina A, Fisher JD, Getter H, Fischer EH. Some consequences of changing people's views regarding the nature of mental illness. *J Abnorm Psychol* 1978, 87:272-279
15. Norman RMG, Malla AK. Adolescents' attitudes toward mental illness: relationship between components and sex differences. *Soc Psych* 1983, 18:45-50
16. Bhugra D. Attitudes towards mental illness. A review of the literature. *Acta Psychiatr Scand* 1989, 80:1-12
17. Mantas C, Lontos N, Yfantis T, Liakos A. The attitude of the personnel of a General Hospital towards mental illness and the mentally ill and the relation with the functioning of a Psychiatric Unit in the Hospital. *Encephalos* 1994, 31:12-24 (In Greek)
18. Wolff G, Parthare S, Craig T, Leff J. Community attitudes to mental illness. *Br J Psychiatry* 1996, 168:183-190
19. Wolff G, Parthare S, Craig T, Leff J. Community knowledge of mental illness and reaction to mentally ill people. *Br J Psychiatry* 1996, 168:191-198
20. Madianos MG, Economou M, Hatjiandreou M, Papageorgiou A, Rogakou E. Changes in public attitudes towards mental illness in the Athens area 1979/1980-1994). *Acta Psychiatr Scand* 1999, 99:73-78
21. Alivisatos G, Lyketsos G. A preliminary report of research into the families of hospitalized mentally patients. *Int J Soc Psychiatry* 1964, 10:37-44
22. Safilios-Rochild C. *Deviance and mental illness in the Greek family*. Family Process, 1969:100-107
23. Dimitriou E, Ierodiaconou C, Kokantzis N. *Family attitudes towards the mentally suffering child in Greece*. Issues in Mental Health CMI, 1978
24. Vassiliou G, Vassiliou V. Attitudes of the Athenian public towards mental illness. *Int Ment Hlth Newsletter* 1968, 7:1-8
25. Georgas T, Janakis M, Geratsidou O. Attitudes toward mental health in Athens and provinces. *Arch Hygiene* 1978, (Suppl):114-119 (In Greek)
26. Koutrelakos G, Gedeon SM, Struening EL. Opinion about mental illness: A comparison of American and Greek professionals and laymen. *Psychol Rep* 1978, 43:915-923
27. Tripodianakis G, Sarantidis D, Theodoropoulou S. The attitude of the personnel of a General Hospital towards the mentally ill. *Encephalos* 1990, 27:141-146 (In Greek)
28. Kish L. *Survey sampling*. J. Wiley, New York, 1965
29. Langner TS. A twenty-two item screening score of psychiatric symptoms indicating impairment. *J Hlth Hum Behav* 1962, 3:269-276
30. Radloff LS. The CES-D scale: A self-report depression scale for research and in the general population. *Appl Psychol Meas* 1977, 1:385-401
31. Madianos M, Vlachonikolis I, Madianou D, Stefanis C. Prevalence of psychological disorders in the Athens area. *Acta Psychiatr Scand* 1985, 71:479-487
32. Cohen J, Struening EL. Opinions about mental illness: Hospital social atmosphere profiles and their relevance to effectiveness. *J Consult Psychol*, 1964:291-298
33. Lawton MP. Correlates of the Opinion about Mental Illness Scale. *J Cons Psychol* 1964, 28:94
34. Baker F, Schulberg HC. The development of a community mental health ideology scale. *Comm Ment Hlth J* 1967, 3:216-225
35. Draper N, Smith H. *Applied regression analysis*. 2nd ed. Chapter 9. Wiley & Son, New York, 1981
36. Nie NH, Hull CH, Jenkins JG, Steinbrenner K, Bent DH. *Statistical package for the social sciences*. 2nd ed. McGraw-Hill, New York, 1975
37. Ramsey GV, Seipp M. Attitudes and opinions concerning mental illness. *Psychiatr Quarterly* 1948, 22:428-444
38. Bordeleau J, Pelletier P, Panacci L, Tetreault L. Authoritarian-humanitarian index in a large mental Hospital. *Diseases of the Nervous System* 1970, 31:166-174
39. Bates J. Attitudes toward mental illness. *Ment Hyg* 1968, 52: 250-253
40. Cambell J. *Honour family and patronage*. Claredon Press, Oxford, 1964
41. Polis A. Political implications of the modern Greek concept of self. *Br J Sociol* 1965, 16:29-47

42. Triandis HC, Vassiliou V, Nasseakow M. Three cross-cultural studies of subjective culture. *J Pers Soc Psychol* (Monogr Suppl) 1968, 8:1-42
43. Friedl E. *Vasilika: a village in modern Greece*. Holt, Rinehart & Winston, New York, 1964
44. Kokonelli S. *Earth and water*. Hodder & Stoughton, London, 1965
45. Cowan S. Community attitudes towards people with mental health problems: a discourse analytic approach. *J Psychiatr Ment Health Nurs* 1994, 1:15-22

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