

## ORIGINAL PAPER

Nicholas Bilanakis · Michael G. Madianos · Aris Liakos

**Psychiatric morbidity among repatriated Greek migrants in a rural area**

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**Abstract** This paper reports on psychiatric case identification by the application of the Structured Clinical Interview for DSM-III-R (SCID) in a sample of 198 Greek migrants repatriated from western Europe in a northwestern province of Greece. The current (1 month) prevalence of psychiatric morbidity, based on the total number of diagnosed cases, was found to be 43.4%. Lifetime prevalence of psychiatric disorders was found to be higher (49.4%). The majority of the sample were diagnosed as suffering from anxiety disorders and dysthymia. Psychiatric disorders were found to be more prevalent among middle-aged respondents. Duration of stay in the foreign country was a factor correlated with psychiatric morbidity. Of short-term migrants 54% were found to suffer from specific nosological entities, whereas 32% of long-term migrants were diagnosed as cases. The results are discussed within the framework of the existing sociocultural context of emigration and repatriation.

**Key words** Prevalence · Demoralization · Psychiatric diagnosis · DSM-III-R classification

**Introduction**

In psychiatric epidemiology, the exploration of the association between emigration and psychiatric disorders has long been a challenging issue (Odegaard 1932; Malzberg and Lee 1956; Lock et al. 1960; Murphy 1965; Sanua 1969; Simoes and Binder 1980; Bebbington et al. 1981;

Burvill 1973; Haldin 1985). The majority of these studies referred to emigrant populations in treatment settings. More recent studies were carried out in nonclinical emigrant samples (Cochrane and Stopes-Roe 1981a; Roberts 1980; Bebbington et al. 1981; Madianos 1981, 1984; Haldin 1985; Mavreas and Bebbington 1987; Fichter et al. 1988; Kaplan and Marks 1990; Shrout et al. 1992).

Studies on treated prevalence of mental disorders prior to 1940 generally reported that emigrants were more likely to be admitted to psychiatric inpatient services than the rest of the population, whereas more recent studies found no significant differences in the prevalence of mental disorders between immigrants and natives (Burvill 1973). Community clinical diagnostic studies have also reported controversial results on the morbidity rates among emigrant populations (Cochrane and Stopes-Roe 1981a; Bebbington et al. 1981; Mavreas and Bebbington 1988; Shrout et al. 1992). However, in several cross-sectional studies, the prevalence of nonspecific psychological disorders were found to be higher among emigrant groups than in natives (Crandel and Dohrenwend 1967; Lasry 1977; Roberts 1980; Madianos et al. 1981; Cochrane and Stopes-Roe 1981b; Kaplan and Marks 1990).

It is worth noting that nonspecific symptoms of distress reflect the psychological process of demoralization as described by Frank (1974). According to Link and Dohrenwend (1980) demoralization is a condition that is likely to be experienced by socially and culturally marginal groups such as the emigrants (Figueiredo 1983).

Two theoretical mainstreams have been formulated in order to explain the relationship between emigration and mental disorder (Shuval 1982). The first theory suggests that social selection is related to the increased prevalence of mental illness among emigrant populations such as mental illness prior to emigration or preexisting exposure to stressful conditions. The second explanation is that social causation factors, such as a stressful host environment, may cause distress, thus increasing the probability of becoming mentally ill among emigrant populations.

With regard to the prevalence of psychiatric nosological entities among emigrant populations, recent epidemo-

Nicholas Bilanakis  
Delvinaki Community Health Center, Delvinaki, Ioannina

Michael G. Madianos (✉)  
Department of Psychiatry, University of Athens,  
C. M. H. C. Byron-Kessariani, 14 Delou str., Kessariani 161 21,  
Athens, Greece

Aris Liakos  
Department of Psychiatry, Division of Medicine,  
University of Ioannina, Dourouti, Ioannina

logical studies using structured clinical interviews provided no evidence of significant differences in psychiatric morbidity rates between emigrants and natives (Mavreas and Bebbington 1988; Shrout et al. 1992).

One other aspect of emigration is repatriation, a rather neglected area with regard to psychiatric epidemiological research, despite the growing repatriation rates of labour emigrants and despite the psychosocial problems they are facing as reported in sociological studies. In fact, although there have been numerous studies on labour emigrants' mental health, to our knowledge no psychiatric epidemiological studies on repatriated immigrants have ever been reported. However, a number of sociological studies among repatriated migrants have been conducted in Italy and Greece during the 1960s and 1970s (Sanjust 1969; Cerase 1974; Maganara 1977; Collaros and Mousourou 1978).

In Greece as well as in other southern European countries, emigration, and for the past decades repatriation, has been common social phenomena. The repatriated migrants are usually facing serious economic and sociocultural problems in adapting themselves again in their native country. Coping with this stressful process of repatriation is likely to be related to the prevalence of psychopathological symptoms of distress.

In this regard we present data drawn from a recent one-phase cross-sectional home survey on psychosocial issues and mental health, carried out on a sample of 198 repatriated immigrants in the county of Ioannina, Epirus, a north-western province of Greece. This area is mountainous, and suffered from severe emigration and migration in the 1950s and 1960s, and now faces a wave of repatriation.

In view of this social situation, the objective of this research was to examine, first, the prevalence of psychological impairment synonymous to the psychological process of demoralization, and second, to explore the extent of psychiatric morbidity among a sample of repatriated labour migrants mainly from western Europe.

## Subjects and methods

### Design

The sample ( $n = 198$ ) derived from a nationwide home survey carried out by the National Statistical Service of Greece in order to draw information about the number and characteristics of the repatriated migrants. According to this census repatriated immigrants were defined as individuals of Greek citizenship who had migrated for any reason and returned back after January 1971. Migrants should have been abroad for at least 24 months and should have the intention of staying home for at least 12 months after their return. The nationwide home survey covered all 15 Nomos (counties) of Greece including the area of our study (Nomos of Ioannina). The sampling procedure was four-stage, systematic, including at first and second stage the random selection of the town location and the household block, and at the third and fourth stages the random selection of household from the listings of the existing households in the block and the selection of the specific household with one or more repatriated persons. This research procedure was followed due to the lack of a central register for the repatriated migrants in Greece.

The initial sample comprised 231 repatriated migrants in the Nomos of Ioannina deriving from the above sampling procedure,

**Table 1** Sociodemographic characteristics of sample subjects ( $n = 198$ )

Gender	%
Males	54.5
Females	45.5
Age (years)	
29–39	12.6
40–59	57.0
> 60	30.4
Education (years)	
0–6	85.3
7–12	7.6
13+	7.1
Marital status	
Single	4.5
Married	87.3
Divorced	2.1
Widowed	6.1
Occupation	
Professionals	3.1
Public employees technicians/skilled workers	12.7
Medium businessmen	10.1
Farmers	16.1
Housekeepers	32.3
Pensioners	16.7
Other	2.0
Emigration (years spent abroad)	
2–6	25.2
7–10	30.8
> 10	44.0
Socioeconomic status	
I	7.1
II	7.5
III	58.6
IV	26.8

representing all adult individuals who repatriated during the recent years in this area. The sample included residents of the town of Ioannina (urban area) and three rural areas. Of the initial sample 14.2% was not able to participate in the study for different reasons (e.g. moved out from the area, death or refusal). The final sample comprised 198 adults, 108 males and 90 females with a mean age of 54.3 years ( $\pm 8.5$  years). The vast majority of the sample (83.3%) were repatriated migrants from western Germany and 10.6% from other European countries. Of the sample 5.5% were repatriated from the United States and Australia. With regard to the duration-of-repatriation period, 25% of the sample had repatriated within 2–5 years prior to the study, whereas the rest had repatriated within 6–10 years prior to the study.

This area is a border region, situated in the northwestern part of Greece neighbouring Albania. It is mountainous and one of the less economically developed regions of the country. It was among the top six depopulated regions of Greece, due to heavy emigration and migration during the postwar era. Between 1940 and 1971 there was a 17.1% decrease in the local population, whereas between 1971 and 1991 there was a 16.7% increase, which was probably related to repatriation of migrants. This also constituted the main reason of selecting this area for the present study.

Table 1 presents the sociodemographic characteristics of the sample. Males constituted 54.5% of the sample. The majority of

**Table 2** Mental health categories according to pathognomonic-symptoms formation on the Langner scale (by gender;  $n = 198$ )

Mental health categories	No. of pathognomonic symptoms	Males		Females		Total	
		<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Well	0–1	30	27.8	17	18.9	47	23.7
Mild	2–3	24	22.2	6	17.8	40	20.2
Marked	4–5	15	13.9	11	12.2	26	13.1
Severe	6–7	16	14.8	9	10.0	25	12.6
Impaired	8–9	10	9.2	8	8.9	18	9.2
Incapacitated	> 10	13	12.0	29	32.2	42	21.2
Total		108	100.0	90	100.0	198	100.0

NOTE:  $\chi^2 = 13.14$ ;  $df = 5$ ;  $P < 0.01$

**Table 3** Lifetime and current (1 month) prevalence of psychiatric disorders: DSM-III-R diagnostic categories ( $n = 198$ )

Diagnostic categories	Lifetime prevalence (%) <sup>a</sup>	Current prevalence (%) <sup>a</sup>
Schizophrenia and schizophreniform disorder	3.5	3.5
Major depression	11.2	6.1
Dysthymia	–	9.1
Anxiety disorders	18.6	13.1
Somatoform disorder	–	5.6
Adjustment disorder	–	2.5
Alcohol abuse/dependence	6.0	3.5
Sedatives/anxiolytics	10.1	–
Total	49.4	43.4

<sup>a</sup>Base: males 108; females 90

the sample (57%) were middle-aged (40–59 years) and married. It should be noted that the majority of the sample had poor education, especially the women. Their occupational status included a variety of categories, namely, farmers (16.1%) technicians/skilled workers (12.7%) and professionals (3.1%). Housekeepers and pensioners comprised 49% of the sample. With regard to their emigration status, a large proportion of the sample (44%) had spent more than 10 years abroad.

The socioeconomic status of the respondents was estimated by a combination of their occupational and educational status, a widely used method of S.E.S. classification in Greece. Of respondents 58.5% and 28.5% were found to be of middle-lower and lower socioeconomic status, respectively.

## Measures

The interview was personal and was carried out by a psychiatrist under private conditions. The instrument was a multidimensional structured questionnaire focusing on physical and mental health, and was related to emigration and repatriation psychosocial issues. The assessment of mental health status of each respondent was based on the number of reported nonspecific pathognomonic symptoms of distress on the Langner 22-items scale (Langner 1962) previously used in emigrant population surveys (Lasry 1977; Cochrane and Stopes-Roe 1980a; Madianos et al. 1981, 1984; Mavreas 1989). This scale was standardized in terms of its reliability and validity properties for the Greek population, and was used in a number of sociopsychiatric surveys including a study among Greek immigrants in New York City (Madianos 1981, 1984; Madianos et al. 1985, 1987).

These psychopathological symptoms reflect demoralization as it was described by Frank (1974). Demoralization is a psychologi-

cal condition that is likely to be experienced in association with a variety of problems including stressful life events, psychiatric or chronic illness and possible conditions of social and cultural marginality as experienced by minority groups whose social status blocks them from mainstream strivings (Link and Dohrenwend 1980). Emigrants could be considered as socioculturally marginal groups experiencing this psychological process.

Clinical diagnosis was made by the use of the Structured Clinical Interview for DSM-III-R (SCID), a well-known semistructured psychiatric instrument for eliciting symptom criteria and diagnosing specific nosological entities (Spitzer et al. 1992). This instrument assesses 33 of the more frequently diagnosed axis-I DSM-III-R disorders in adults.

The interviewer, a psychiatrist, was trained in the use of SCID N P by the second of the authors, who had also been trained formally at the New York Psychiatric Institute in 1986 and had translated and tested the instrument for its reliability (Madianos et al. in press).

In the present study a small-scale interrater reliability study was conducted with a subsample of 60 individuals, and has shown a high degree of agreement in five of seven diagnostic entities. The K coefficients ranged from 0.82 for schizophrenia to 0.80 for mood disorders (Cohen 1960). In the remaining two entities, anxiety disorders and adjustment disorders (current episode only), the agreement was found to be moderate, with the K coefficient ranging from 0.60 to 0.68.

The chi-square statistic was used to test the differences between categorical variables presented in the form of cross-tabulations. In a second stage the technique of stepwise multiple regression was applied in order to explore the effect of certain independent variables on respondent's mental health status expressed in numerical score. Each respondent's psychiatric status was rated according to the SCID N P scoring system on a three – point scale from non-“case” (well), “subthreshold” to “threshold”, meaning that a DSM-III-R diagnosis was made. In this way each respondent was allocated into one of three categories. The analysis was performed by the use of the statistical Package of Social Sciences PC (Norusis 1986).

## Results

Table 2 presents the mental health categories of respondents according to pathognomonic-symptoms formation in Langner scale, providing categorical variables by gender. The differences between the mental health categories of males and females were found to be statistically significant at  $P < 0.01$ . Almost half of the females have been characterized as currently mentally impaired, reporting six or more psychopathological symptoms on the Langner scale.

In Table 3 lifetime and current (1 month) prevalence of psychiatric disorders according to DSM-III-R diagnostic

**Table 4** One-month prevalence of psychiatric disorders: DSM-III-R diagnostic categories by gender ( $n = 198$ )

Diagnostic categories	Males		Females		Total	
	<i>n</i>	% <sup>a</sup>	<i>n</i>	%	<i>n</i>	% <sup>a</sup>
Schizophrenia	4	3.7	3	3.3	7	3.5
Major depression	5	4.6	7	7.8	12	6.1
Dysthymia	9	4.5	9	10.0	18	9.1
Anxiety disorders	10	5.1	16	17.8	26	13.1
Somatoform disorder	5	2.5	6	6.7	11	5.6
Adjustment disorder	2	1.0	3	3.3	5	2.5
Alcohol abuse/dependence	7	6.5	—	—	7	3.5

NOTE:  $\chi^2 = 8.57$ ;  $df = 6$ ; n.s.<sup>a</sup>Base: males 108; females 90

criteria are shown. A total of almost 50% of the sample was identified as psychiatric cases with a specific DSM-III-R diagnosis in their lifetime. The majority of the sample was diagnosed as suffering from major depression (11.2%) and anxiety disorders (18.6%). Of the sample 3.5% was diagnosed as suffering from schizophrenia. Current (1 month) prevalence of psychiatric disorders was found to be lower (43.4%) than that of lifetime prevalence, with anxiety disorders presenting the highest rates (13.1%) among the other nosological entities.

The current prevalence of psychiatric diagnostic categories based on the DSM-III-R axis-I by gender is shown in Table 4. Anxiety and somatoform disorders constitute 18.7% of the total of diagnostic categories. The prevalence for females was found to be approximately three-and-a-half times higher than for males. The rates of schizophrenia were almost equal for both genders, whereas more females were found to suffer from mood disorders compared with males. All individuals who met the criteria for schizophrenia exhibited psychotic symptoms of chronic nature. Gender differences in the diagnostic classification were not found at a statistically significant level.

The diagnostic classification by age groups is shown in Table 5. A small number of young respondents (under 39 years of age) were diagnosed as suffering from a psychiatric disorder, whereas older individuals (over 40 years old) were found to present a variety of nosological entities

(Table 5). The rates for dysthymia were found to be lower in the elderly than in the rest of the adult population. This also holds true for the rates of the anxiety and somatoform disorders.

The distribution of diagnostic categories among the age groups was found to be highly correlated at the statistically significant level of  $P < 0.01$ . On the contrary, marital status was not found to be correlated with the prevalence of psychiatric morbidity, due to the fact that the vast majority of the sample respondents were married.

Table 6 presents the diagnostic classification of respondents according to the duration of emigration in years. The relationship between psychiatric diagnoses and years spent abroad was found to be highly correlated at statistically significant levels  $P < 0.01$ . Of the total sample, repatriated migrants who had stayed abroad for 10 or more years (long term) were found to exhibit less psychopathology when compared with the ones who had stayed abroad for a shorter period (short term). No respondent of the long-term migrants was diagnosed as suffering from schizophrenia, whereas a relatively higher proportion was found to exhibit dysthymia. The highest proportion of exhibited disorders was found among the short-term repatriated migrants who were diagnosed as suffering from anxiety disorders.

The relationship between psychiatric diagnoses and socioeconomic-status classification of respondents was also found to be highly correlated at statistically significant levels ( $P < 0.005$ ; Table 7).

Respondents of lower and middle-lower socioeconomic status were characterized as suffering from specific psychiatric nosological entities to a greater extent than their counterparts of higher socioeconomic levels. With regard to the time of onset of psychiatric disorders 12 of 86 respondents (14.0%) who had been diagnosed as suffering from a current (1 month) DSM-III-R disorder reported an illness onset prior to their emigration. Of males 65% and 58.7% of females, faced the first episode of illness during the period of emigration. For the rest of the respondents, the onset of illness occurred during repatriation. In addition, 76% of respondents who were not diagnosed as current psychiatric cases, but had suffered from a past psychiatric episode, reported an illness onset during the years of their emigration.

**Table 5** One-month prevalence of psychiatric disorders: DSM-III-R diagnostic categories by age groups ( $n = 198$ )

Diagnostic categories	Age (years)					
	20–39		40–59		> 60	
	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>
Schizophrenia	—	—	2	1.7	5	8.4
Major depression	—	—	8	7.1	4	6.7
Dysthymia	1	4.0	14	12.4	3	5.0
Anxiety disorders	3	12.0	18	16.0	5	8.4
Somatoform disorder	1	4.0	8	7.1	2	3.4
Adjustment disorder	—	—	5	4.4	—	—
Alcohol abuse/dependence	—	—	4	3.5	3	5.0

NOTE:  $\chi^2 = 15.80$ ;  $df = 6$ ;  $P < 0.001$ <sup>a</sup>Base: 20–39 years of age: 25; 40–59 years of age: 113; > 60 years of age: 60

**Table 6** One-month prevalence of psychiatric disorders: DSM-III-R diagnostic categories by years of emigration ( $n = 198$ )

Diagnostic categories	Years of emigration					
	(< 6)		(7–10)		(> 10)	
	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>
Schizophrenia	4	8.0	3	4.9	–	–
Major depression	2	4.0	6	3.8	4	4.6
Dysthymia	4	8.0	4	6.5	10	11.5
Anxiety disorders	11	22.0	10	16.4	5	5.7
Somatoform disorder	3	6.0	5	8.2	3	3.4
Adjustment disorder	–	–	2	3.3	3	3.4
Alcohol abuse/dependence	3	6.0	1	1.6	3	3.4

NOTE:  $\chi^2 = 17.19$ ;  $df = 6$ ;  $P < 0.01$ <sup>a</sup>Base: < 6 years of emigration: 50; 7–10 years of emigration: 61; > 10 years of emigration: 87**Table 7** One-month prevalence of psychiatric disorders: DSM-III-R diagnostic categories by socioeconomic status levels ( $n = 198$ )

Diagnostic categories	Socioeconomic status							
	I		II		III		IV	
	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>	<i>n</i>	% <sup>a</sup>
Schizophrenia	–	–	–	–	6	5.1	1	1.8
Major depression	–	–	1	6.6	8	6.8	3	5.6
Dysthymia	–	–	1	6.6	13	11.2	4	7.5
Anxiety disorders	1	14.2	2	13.4	15	13.0	8	15.1
Somatoform disorder	–	–	–	–	6	5.1	5	9.4
Adjustment disorder	2	14.2	–	–	–	–	3	5.6
Alcohol abuse/dependence	–	–	–	–	3	2.5	4	7.5

NOTE:  $\chi^2 = 36.442$ ;  $df = 18$ ;  $P < 0.005$ <sup>a</sup>Base: I: 14; II: 15; III: 116; IV: 53**Table 8** Stepwise multiple regression (dependent variable: SCID NP score;  $n = 198$ )

Variables	<i>b</i>	SD	<i>t</i> <sub>value</sub>	<i>P</i> -value
Repatriation (years)	0.57	0.38	1.53	n.s.
Emigration (years)	–1.01	0.34	–3.00	< 0.003
Reason for emigration	0.01	0.37	0.04	n.s.
Reason for repatriation	1.05	0.50	2.14	< 0.03
Socioeconomic status	–1.60	0.73	–2.19	< 0.03
Gender	1.80	0.65	2.70	< 0.007
Age	1.28	0.46	2.43	< 0.01

Note: Total variance ( $R^2$ ) = 15.7%

The stepwise multiple-regression-analysis results, with the dependent variable being the SCID NP score, are presented in Table 8. Five variables out of seven, namely, emigration in years, reason for repatriation, socioeconomic status, gender and age, were found to have a statistically significant effect on the SCID score. The years of repatriation and the reason for emigration were not found to

have any significant effect on the score. The total variance explained was found to be 15.7%.

## Discussion

The overall mental health status and the prevalence of specific psychiatric morbidity among a representative sample of repatriated labour migrants in a northwestern province of Greece were examined by the Langner scale and the application of a clinical diagnostic interview (Langner 1962; Spitzer et al. 1992).

The symptoms recorded by the use of the Langner scale reflect the psychological process of demoralization of an individual expressing feelings of anxiety, discouragement, hopelessness, helplessness and subjective incompetence (Frank 1974; Link and Dohrenwend 1980). Demoralization is likely to be experienced by socially marginal groups in a disintegrative social milieu (Figueiredo 1983). Labour immigrants should be considered as a marginal group in the host country. They usually occupy the lowest stratum in the labour market in western Europe. They used to get low-prestige jobs mainly, unskilled manual occupations. According to Castles and Kosack (1973), immigrant workers get the least desirable jobs, those that are rejected by others.

In addition, immigrants are facing serious problems in adaptation and competence, in acting on some levels according to the host-country standards of functioning and to be successfully integrated into the local community. On the other hand, emigrants returning home often face difficulties in adjusting again to the local norms, values and social conditions, and in creating a new life in their homeland. In both situations an emigrant is exposed to a series of stressful stimuli and conflicts, conditions that may increase the probability of becoming demoralized (Cochrane 1983). In a sociological study on repatriated migrants by Collaros and Mousourou (1978), 80.4% of the respondents reported that they had not received any social support during their settlement period. Therefore, emigrants are more likely to experience negative psychological and psychological responses than their native counterparts, responses expressed in the form of anxiety and psychosomatic symptoms, as well as feelings of sadness, discouragement and subjective incompetence (Crandel and Dohrenwend 1967; Lasry 1977; Cochrane and Stopes-Roe 1981 a, b; Madianos et al. 1981).

In the present study 43% of the sample reported six or more symptoms of distress on the Langner scale for a 30-day period prior to the interview. According to Langner (1962) and Seiler (1973), six or more psychopathological symptoms constitute a negative mental health outcome or mental health impairment, which is synonymous to the psychological process of demoralization, according to previously described psychological mechanisms. This proportion of mental health impairment among the repatriated immigrants was found to be twice as high compared with the one found in other rural areas of Greece in two nationwide general population studies previously con-

ducted with the use of the same instrument, the Langner scale (Madianos et al. 1987).

In supporting the view that repatriation to rural areas is, to a great extent, related to the hardships of emigration in general, we compared the overall psychological impairment rates of this study with rates reported by others in immigrant studies. In fact, several studies, when compared with the present one, reported lower rates of overall psychological impairment (demoralization) among emigrants. Madianos et al. (1981) found that 17.4% of a sample of Greek emigrants living in New York City were characterized as mentally impaired, reporting six or more symptoms on the Langner scale. Similarly, Lasry (1977) and Mavreas (1989), in their studies with emigrant samples, reported lower average symptoms on the Langner scale than those found in the present study. This finding could be attributed to the fact that our sample was more demoralized, and had been exposed to stressful situations to a greater extent than either of the other samples. In support of this view it was found that 22 and 21.2% of the sample respectively, reported social and health problems in the family as the main reason for repatriation. Of respondents 11.2% had decided to return home for reasons of homesickness, whereas another 18.6% decided to come back in order for their children to acquire higher education in Greece. Only 3.5% of them have returned because their goals have been achieved.

Finally, Simoes and Binder (1980), in their survey in Zurich, using a psychopathological symptoms checklist, found no significant differences in overall psychological impairment between emigrants and natives. With regard to gender differences, 51.1% of females were found to be psychologically impaired, compared with 36% of males. This difference in demoralization is compatible with findings reported by others (Dohrenwend et al. 1980).

Coming to the issue of psychiatric morbidity based on the DSM-III-R axis-I diagnostic interview, the results showed that the rates of psychiatric disorders were found to be 49.4 and 43.4 for lifetime and current prevalence, respectively.

Although we cannot come to firm conclusions by comparing widely differing populations, e.g. repatriated migrants of lower socioeconomic status living in rural areas vs rural general populations or migrants living in urban areas, we could compare the morbidity rates found in our study with the rates reported by others. One must remember that any differences between our findings and those reported by other studies also reflect differences in the clinical criteria used. The lifetime and current prevalence rates of psychiatric morbidity with the application of clinical diagnostic procedures in our study were found to be higher than those found in some rural general population surveys, and immigrant studies as well (Fugelli 1975; Brown et al. 1977; Giel et al. 1978; Vazquez-Barquero et al. 1982; Dilling and Weyerer 1984; Blazer et al. 1985; Lehtinen and Joukamaa 1987; Bebbington et al. 1981; Mavreas and Bebbington 1989; Shrout et al. 1992). In these surveys the reported overall 1-month psychiatric morbidity rates ranged from 14.4%, found in a London

sample of Greek Cypriots by Mavreas and Bebbington (1989), to 23.8 and 24.1%, as reported by Vazquez-Barquero et al. (1982) and Dilling and Weyerer (1984), respectively. With regard to the use of DSM-III-R diagnostic criteria in the study by Blazer et al. (1985), conducted in a rural area of North Carolina 19.7% of the sample were diagnosed as psychiatric cases. However, several other investigators reported morbidity rates to be similar, or even higher, than the rates reported by our study (Shore et al. 1973; Orley and Wing 1979; Haldin 1985; Dohrenwend et al. 1992). Haldin (1985) found a 49.2% 12-month prevalence of psychiatric disorders among immigrants in Sweden, whereas Dohrenwend et al. (1992) reported a 40.8% 6-month prevalence of any Research Diagnostic Criteria (RDC) diagnosis among the lower-educated respondents in Israel. The contribution of low socioeconomic status of our sample in the magnitude of the psychiatric morbidity is evident, given the fact that 85.3% of the sample had low levels of education and were semiskilled or unskilled workers.

The first three ranking DSM-III-R current diagnoses were anxiety disorders (13.1%), dysthymia (9.1%) and major depression (6.1%). The corresponding 6-month prevalence rates in the rural sample of North Carolina (Blazer et al. 1985) were 10.7, 1.8 and 1.1%. In a recent nationwide survey in Greece, the application of DSM-III-R criteria revealed 5% current depressive episodes in rural areas (Madianos and Stefanis 1992).

The prevalence rate (3.5%) of schizophrenia found in our study is higher than the average prevalence rate estimated by Dohrenwend et al. (1980) on the basis of a survey of the postwar psychiatric epidemiological studies in nonimmigrant populations. However, there is evidence drawn from several studies on immigrants, suggesting that immigrants exhibit high rates of schizophrenia (Gupta 1993). According to Häfner (1990), this finding could be attributed to social selection of individuals carrying an elevated risk at the time of immigration. Others pointed out that the emigrants are exposed to environmental factors and stressful social stimuli (Gupta 1993). In the case of our sample, it seems that social selection has played a role. In fact, the emigration period was found to be the period where the majority of respondents diagnosed as psychiatric cases faced the first episode of illness. Respondents who were diagnosed as suffering from schizophrenia had a shorter stay abroad (less than 10 years), and they had to return home due to illness.

The same hypothesis could explain the finding of high rates of psychiatric morbidity. Selection factors, such as unsuccessful career abroad, serious health or mental health, and family problems, might have played a central role in the decision of the respondents to repatriate, as has already been mentioned. In fact, these were the main reasons for repatriation. The finding that only 3.5% of them decided to return because their goals have been achieved is compatible with the finding reported by Collaros and Mousourou (1978). In their study, one of ten repatriated migrants had decided to repatriate after having fulfilled his/her goals. It is worth noting that according to Kayser

(1972), unsuccessful migrant workers in western Europe coming from rural areas tend to resettle in rural areas. An illustrative case of a former emigrant woman diagnosed as suffering from a current major depression is discussed in the appendix.

The distribution of diagnostic categories among genders was not found to be statistically different, despite gender differences in the overall psychological impairment (demoralization) observed. Henderson et al. (1979), in their survey in Canberra, Australia, also found no gender differences in either General Health Questionnaire scores, a Present State Examination diagnosis or a probability of caseness. However, several nosological entities, such as mood, anxiety and somatoform disorders, were more frequent in females than in males. This finding has consistently been reported in field surveys (Dohrenwend et al. 1980). In a previous psychiatric "case" identification study across Greece, gender differences were also observed in both rural and urban samples (Madianos and Stefanis 1992).

Finally, three other variables, namely, age, years of emigration and socioeconomic status, were found to be related to any current psychiatric diagnosis. Psychiatric disorders were more prevalent among middle-aged migrants. This finding is in disagreement with some of the previous research, where young adults aged 18–24 years were found to exhibit more frequent rates of any DSM-III diagnosis. This difference has probably resulted because of the nature of our sample, which consisted mainly of middle-aged respondents. Of short-term migrants 54% were found to suffer from specific nosological entities, whereas only 32% of long-term migrants were diagnosed as "cases". No respondent from this latter group was diagnosed as suffering from schizophrenia. It appears that the healthier emigrants prolonged their stay abroad, whereas the weak emigrants returned and settled in this disadvantaged area. This finding confirms the hypothesis on the social-selection factor.

A further support to the previous statements was given by the results of the stepwise multiple regression analysis of the effects of the basic sociodemographic variables on the formulation of "caseness" according to the SCID NP scoring system. The variables of gender, age, years spent abroad, reason for repatriation and socioeconomic status were found to have a statistically significant effect on the dependent variable. The years of repatriation and the reason for emigration were not found to have any effect.

It appears that the time period of repatriation did not play a significant role in the formation of psychopathology. Other possible underlying factors, such as self-esteem, unmet expectations or self-perceived acceptance by the local community, might have influenced the mental health status of the repatriated migrant. The exploration of such issues was beyond the scope and limitations of this study.

In conclusion, it appears that Greek migrants who have settled back in a rural and rather disadvantaged area presented a high prevalence of psychiatric disorders, in contrast to low or "normal" morbidity rates drawn from other

emigrant samples in other surveys carried out in their host countries. However, our results cannot be generalized to include emigrants from other countries who are probably repatriating because of specific socioeconomic characteristics of the sample. Our findings emphasize the need for a further extensive sociopsychiatric survey in both rural and urban areas, with samples of repatriated migrants, for the better understanding of the patterns of psychiatric disorders and related psychosocial issues. Within the context of an increasing repatriation flow of former emigrants in the country, and the existing inadequacies of the mental health care delivery system in rural areas of Greece (Madianos et al. 1994; Ierodionou 1983), several issues have emerged, such as the planning of specialized mental health programs and the development of a network of social and health services in rural areas, for individuals and families of former emigrants.

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## Appendix

The case of Mrs. A: Mrs. A. currently aged 46 years, emigrated to West Germany at the age of 21 years, 2 years after she got married in order to meet her husband, who had left home 6 months earlier. They both worked as unskilled workers. During the first 5 years of their stay in Germany, Mrs. A gave birth to two children. Both of them were sent back to live with their grandparents in the village. At the age of 28 years, Mrs. A visited a psychiatrist in Germany complaining of somatic ailments and a depressed mood. At the age of 32 years, she was first hospitalized in a psychiatric setting in Germany, diagnosed as depressed. She was repatriated 7 years before the current interview, because of serious illness of one of her children. She is now describing the 18 years of her stay abroad as a very painful experience having been deprived of her children. One year after she returned home she was again admitted to a psychiatric department of a general hospital. Mrs. A was hospitalized two more times, and is currently on medication. She is a pension recipient from Germany. Her husband is a small-business owner.

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