

Available online at [www.sciencedirect.com](http://www.sciencedirect.com)**SciVerse ScienceDirect**

Procedia - Social and Behavioral Sciences 33 (2012) 163 – 167

**Procedia**  
Social and Behavioral Sciences

PSIWORLD 2011

## A comparative study of anxiety and depressive symptoms and perceived stress, between Aromanian and Romanian populations in Dobrogea

Adrian C. Papari<sup>a\*</sup>, Georgeta C. Cozaru<sup>a</sup>, Cristiana S. Glavce<sup>b</sup><sup>a</sup> „Andrei Saguna” University, Constanta, cod 900916, Romania<sup>b</sup> „Fr. I. Rainer” Institute of Anthropology, Bucharest. Romania

---

### Abstract

Aromanians, their origin, their language or various aspects of socio-economic and spiritual life, represented over time, a constant concern for specialists in various fields. It is estimate that the attitudes, values and behaviors related to the health have also a socio-cultural component. Socioeconomic status, gender, age and residential environment are contributing factors to assess their differential health status and also contributing factors in the ethiopathogenesis of many psychosomatic diseases. In the present study, we took into account the influence of these factors in assessing anxiety, depression and perceived stress to Aromanian versus Romanian population from Dobrogea.

© 2012 Published by Elsevier B.V. Selection and/or peer-review under responsibility of PSIWORLD2011

Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).

*Keywords:* aromanian, health risk behaviour, morbidity

---

### 1. Introduction

Macedo-romanians (also named Aromanians or Vlachs), their ethnicity, according to romanity from north of the Danube, were often mentioned in Byzantine historiography and then confirmed by our chroniclers. By their way of being, culture and their customs, Aromanians rose gradually and surely, making a great civilization in the Balkans (Bratianu Gh. I., 1980, Cucu N., 1990). In Romania we meet them mostly in the counties of Constanta and Tulcea and Braila. Most of them form a compact population and despite numerous changes and adaptations, they managed to keep their linguistic and ethnographic particularization, more than others (Cucu N., 1990, Capidan Th., 1932). This was possible due to

---

\* Corresponding author. Tel.: +40-722-510-077.

E-mail address: [apapari@yahoo.com](mailto:apapari@yahoo.com).

permanent concern of many leading representatives of this ethnic group to identify methods and resources that ensure preservation of their culture and civilization in Romania. Natural product of the environment, race and its history, they are characterizing by: will (dynamic agent of life), love of freedom, work and economy, family life and cohesion, respect for parents and good faith in God (Papahagi P., 1913).

The present research is integrated into a broader research included in the anthropological research panel, aimed at a complex approach of Dobrogea Aromanian population. Essential to cultural identity, which is one of the prerequisites of a healthy life is symbolic capital, consisting in values, attitudes, behaviours and beliefs shared by community members. The influence of these factors is generally considered in all research aimed at identifying health risk factors or evidence of psychosomatic peculiarities in certain population groups (Berry, JW & Kim, U., 1988). Health is particularly dependent on human behaviour, lifestyle. Certainly, lifestyle adopted by each of us has a role in determining our health (Glanz, K. et al., 2002, Cohen S., 1983), by adopting risk behaviors (use of alcohol, tobacco, drugs, etc..) characteristics of food, exercise, way of leisure and limiting stress, various disease prevention behaviors (Cohen, S. et al., 1983, Carver, C.S. 2011). In the present study, we took into account the influence of these factors in assessing anxiety, depression and perceived stress at Aromanian population versus the Romanian population in Dobrogea, the general objective of this research.

## **2. Research methodology**

In the research we started from direct observation of the ethno-cultural reality, by conducting field surveys in towns and villages with Aromanian population from Dobrogea area. For the research to be eloquent we also assessed, using the same measurements, a lot of Romanians with the same structural characteristics.

### *2.1. Objectives*

In the present study, we wanted to highlight the health risk behaviours and to point out possible psycho-behavioural features for the members of this ethno-cultural entity. We wanted also to do: a comparative study on the assessment of anxiety, depression and perceived stress in Aromanians versus the Romanian population; highlighting health risk behaviours and comparative analysis of the two ethnic groups investigated, according to age; and to note gender differences in evaluating anxiety and depression at the two ethnic groups investigated.

### *2.2. Research hypotheses*

H1 = is assumed that are statistically significant differences regarding the level of anxiety, depression and perceived stress among people of Romanian vs Aromanian ethnicity.

H2 = There is a relationship between risk behaviours and anxiety, depression and perceived stress in the studied population.

H3 = The relationship between anxiety and risk factors is mediated by the ethnicity variable.

### *2.3. Material and methods*

The present study is an exploratory-descriptive one, being conducted on a sample of 224 subjects (112 Romanians and 112 Aromanians), from both genders, aged between 20 and 75 years, both from urban and rural areas. Subjects were selected taking into account the rates listed above nonaleatory. In order to complete the search, we have used several instruments: the clinical evaluation form, a custom made

questionnaire to identify the health risk behaviour, the H. A. D. Scale (Zigmond & Snaith, 1983) and the Perceived stress scale (Cohen & Williamson, 1988).

**3. Results and discussion**

*H1 = It is assumed that there are statistically significant differences in the perception of anxiety, depression and stress among people of Romanian vs. Aromanian ethnicity.*

For the first variable anxiety difference between ranks of the two groups is quite high (see table 1) and is confirmed by statistics table. The value for statistical significance (.002, see table 2) is much smaller than the critical threshold (.05). For variable depression, the average rank difference between the two groups is also quite high (31.60, see table 3) and is confirmed in table statistics, the statistical significance (.000) is much smaller than .01 threshold. For variable perceived stress environments ranks of perceived difference between the two groups is low (12.56, see table 5) and is confirmed in table statistics, the statistical significance (.147, see table 6) is much higher than the accepted threshold .05. In conclusion to this hypothesis, we can say that the null hypothesis is rejected for the difference between Aromanian and Romanian in the perception of anxiety and depression and accept the null hypothesis (no significant difference) for perceived stress by the two ethnic groups. We would however note that the use of nonparametric tests reduced by half the accuracy of processing and interpreting data using parametric statistics, which is a limit to this research.

Table 1

	Etnia	N	Mean Ranks
Anxiety	aromanian	112	99.69
	romanian	112	125.31
	Total	224	

Table 2

Mann-Whitney U	4837.000
Wilcoxon W	11165.000
Z	-3.028
Asymp. Sig. (2-tailed)	.002

Table 3

	Etnia	N	Mean Ranks
Depression	aromanian	112	96.70
	romanian	112	128.30
	Total	224	

Table 4

Mann-Whitney U	4502.000
Wilcoxon W	10830.000
Z	-4.065
Asymp. Sig. (2-tailed)	.000

Table 5

	Etnia	N	Mean Ranks
Stress	aromanian	112	106.22
	romanian	112	118.78
	Total	224	

Table 6

Mann-Whitney U	5569.000
Wilcoxon W	11897.000
Z	-1.452
Asymp. Sig. (2-tailed)	.147

*H2 = There is a relationship between risk behaviours and anxiety, depression and perceived stress in the population studied.*

To test this hypothesis, the subjects were tested for risk behaviours: feeding behaviour (schedule, quality and quantity) and addictions (coffee, tobacco, alcohol, gambling and drugs). Thus: eating behaviour was measured using eight items included in a dimension of the instrument made in this regard. After applying statistical techniques to verify the normality of the distribution (see fig.1) we use parametric statistics. Analyzing the correlation coefficient and significance thresholds we can not reject the null hypothesis for research subject group. We analyzed also, if there is a relationship between variables under investigation in subjects who showed high scores (above average) the risk factor “food behaviour” and we observed that did not reveal statistically significant correlations. Of course the limit of this statement is established by the small group of subjects.

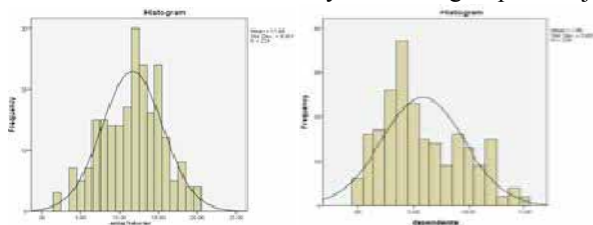


Fig 1 (a) Histogram, for eating behavior; (b) Histogram for dependent behaviors.

Analyzing further the relationship between the risk factor “food behaviour” and variables anxiety, depression, perceived stress were identified in subjects with mild anxiety, note that no values were found statistically significant correlation coefficients. Going further with the analysis of the relationship between variables we noted that not even subjects recorded with moderate anxiety did not show a statistically significant correlation. It should be noted that the relationship between variables changes its meaning from negative in mild anxiety to positive for cases with moderate anxiety. To see if the variable risk factor “food behaviour” is mediated by ethnicity variable we used the t test for independent samples. From the SPSS output (table 7) we can see there is a difference of 1.44 between averages. In this case we only have to see if this difference is large enough to extract a statistical inference. From the SPSS output (table 8) see that Levene test for equal variances is statistically significant which means that our variances are unequal which entitles us to read the second  $t = .2.83, p < .01$ . To calculate the size of the effect we calculate the effect of the size index omega-squared,  $\omega^2 = 0.03$ , after Cohen recommendation which is a low to moderate association. Confidence interval (95%) for the difference between averages is within the range 0.44 - 2.45, expressing a relatively low accuracy of averages difference.

Table 7

Eating behavior	Ethnicity	N	Means
behavior	aromanian	112	12.3571
	romanian	112	10.9207

Table 8

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Eating behavior	Equal variances assumed	13.447	.000	2.835	222	.005
	Equal variances not assumed			2.835	197.707	.005

This difference observed in the two ethnic groups on eating behaviour variable is supported by independent analysis of the frequency items in the tables, which show that: regardless of ethnicity, one third of respondents use to eat at home, and 63.6% eat at a restaurant or fast food, they generally having less than 35 years. Also, people with age over 35 years, present approx. 3 times more frequently a regular food schedule and take a consistent breakfast in both ethnic groups compared to those under 35. No significant differences were obtained in terms of fresh fruit and vegetable consumption by age in two ethnic groups. People over 35 consume 2.5 times more often high-fat foods compared to those under 35, regardless of ethnicity. There was a higher frequency in Aromanians, in terms of consumption of foods high in fat, this behaviour is 2.5 times more common in people over 35 years compared with those under the age of 35 years, regardless of ethnicity.

Next we tested whether the relationship between the risk factor “addiction” and the variables anxiety, depression, perceived stress is significant. Univariate statistical analysis shows a slightly asymmetric negative distribution, without extreme data (see fig. 2). We tested the relationship between addiction risk factor variable and variables anxiety, depression, perceived stress (see table 9). Calculating the magnitude of the effect we obtain a value of 0.034, which shows a low explained variance of 3.4% (Field, 2000). From the SPSS output we observed instead strong correlations between anxiety, depression and perceived stress, relationship demonstrated by other researchers (Opariuc-Dan, 2011).

*H3 = relationship between anxiety and risk factors is mediated by ethnicity variable.*

To see if the relationship between risk factor variable “dependency” and the variable anxiety is mediated by ethnicity variable we use the partial correlation. The analysis shows that ethnicity variable mediates the relationship between two variables. Further, using SPSS, we extract all correlations between anxiety and addiction risk factor variables for each ethnic group separately. For Romanians, the anxiety and addictive behaviour relationship has a coefficient of .31 at a threshold of  $p < .01$ . The magnitude of the effect is 0.10 (1% of total variance), which falls as little effect (Field, 2000) (see table 10). For Aromanians the relationship between anxiety and addictive behaviour is statistically insignificant.

Table 9

Anxiety	Pearson Correlation	Anxiety	Depression	Stress	Dependent behaviors
		1	.364**	.403**	.186**
	Sig. (2-tailed)		.000	.000	.005
	N	224	224	224	224

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 10

Anxiety	Pearson Correlation	Dependent behaviors
		.317**
	Sig. (2-tailed)	.001
	N	112

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4. Conclusions

According to the results presented, we conclude that within the group investigated by us, Aromanians had lower scores on scales that assess anxiety and depression compared with the Romanians, so cultural factors and the heritage of a strong personality profile, as was mentioned in literature appear to favourably influence resistance of an individual for anxiety or depression.

The degree of anxiety, depression and perceived stress were correlated with age, gender, area of residence and profession, the same proportion, the two ethnic groups. Perceived stress levels, according to our results do not correlate with ethnicity, being rather in relation to addicted behaviours. Were noted differences in health risk behaviours. For example, at Aromanians, diet was / is rich in fat (declarative), most of them have a relatively regular food schedule, have a lower alcohol consumption, that may explain the presence of cases of longevity, little knowledge to others. People over 35 are more cautious regarding their health risks behaviours, regardless of ethnicity, although younger people are more aware of the risks taken.

#### Acknowledgements

„This research was carried out within the project "Capitalization of cultural identities in the globalization processes", co-financed by the European Union and the Romanian Government from the European Social Fund through the Operational Programme Human Resources Development 2007-2013, the grant agreement no. POSDRU/89/1.5/S/59758”.

#### References

- Bart, P. van der Zanden, Marcel, G.W. D., Peter, B., Corianne, A.J.M. de Borgie, Jan M. van Ree, Wim van den Brink, (2005) Validity of the EQ-5D as a generic health outcome instrument in a heroin-dependent population, ELSEVIER, *Drug and Alcohol Dependence* xxx xxx-xxx, DAD-2628.
- Berry, J. W., & Kim, U. (1988). Acculturation and mental health. In P. R. Dasen, J. W. Berry, & N. Glanz, K., Rimer, B.K., Lewis, F.M. (editors) *Health Behavior and Health Education. Theory, Research, and Practice*. Third Edition. San Francisco.
- Brătianu, Gh.I., (1980), *Tradiția istorică despre întemeierea statelor românești*, Editura Eminescu, București, p. 84-85.
- Capidan, Th., (1936), *Romanitatea Balcanică*, București, p. 55-57.
- Carver, C. S., (2001), Depression, hopelessness, optimism and health. In N. J. Smelser & P. B. Baltes (Eds.), *The international encyclopedia of the social and behavioral sciences*. Oxford, England: Elsevier.
- Cohen, S., Kamarck, T., & Mermelstein, R., (1983), A global measure of perceived stress. *Journal of Health and Social Behavior*, 24, 385-396.
- Cușa, N. (1990), *Aromânii pe văile istoriei*, Editura Europolis, Constanța.
- Papahagi, P., (1913), Aromânii din punct de vedere istoric-cultural, în *România și popoarele balcanice*, Tipografia Românească, București, p. 36.
- Papahagi, T., (1923), *Graii și suflet*, București, vol.I, Fasc. I, p. 72-75.
- Stroebe, W. & Jonas, K., (2001), Health Psychology: A social-psychological perspective, în Hewstone, M. & Stroebe, W. *Introduction to social psychology*. Blackwell Publishers Ltd., Oxford UK.
- Ulusahin, A., Basoglu, M., & Paykel, E.S., (1994), A cross-cultural comparative study of depressive symptoms in British and Turkish clinical samples. *Social Pshichiatry and Psychiatric Epidemiology*, pg. 29, 31-39.