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Measuring authoritarianism in a Greek health care setting

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Few studies have investigated the level of authoritarianism in the area of health. Staff with authoritarian personality may put in danger the quality of health services, especially towards stigmatized groups, such as the mentally ill and HIV positive people or the minority ethnic communities. Authoritarianism Scale (AS) by P. Heaven, is an instrument focusing on the multi-faced nature of authoritarianism and authoritarian behaviors. The aim of this study is to assess the psychometric properties of the Greek Authoritarianism Scale (AS) and to explore authoritarian attitudes of people employed in health services, in Greece. Initially, 600 individuals (health employees and medical students) were enrolled and completed AS. Additionally, 33 postgraduate students completed AS twice, in an interval of 30 days. In order to assess the psychometric properties of AS explanatory factor analysis was performed, which resulted in a 20-items scale and revealed five (5) factors: "Leadership", "Verbal hostility", "Military way of thinking", "Fear-Suspiciousness", "Achievement Motivation". Cronbach's alpha value overall was satisfactory (0.79), while values for every factor separately ranged from 0.55 to 0.76 showing moderate to satisfactory reliability. AS's test-retest reliability was high: ICC showed high to excellent agreement of AS total and factor scores between the two time points. Women and older people were less authoritarian while younger, students and staff with primary education showed more authoritarianism. Psychiatric staff presents the lowest AS total score comparing to the other specialties. Significant differences in all categories of the sample arose in "Achievement Motivation". Greek version of AS, as evaluated in a Greek health staff sample, revealed interesting differences among participated subgroups and had overall satisfactory reliability. The influence of Authoritarianism on the major issues of our days, such as immigration flows, social and financial crisis, leads to the need of the existence of reliable measures of its assessment.

Key words: Authoritarianism scale, authoritarian personality, health staff.

Introduction

"Authoritarian Personality" is a complex and multi-faced syndrome. Authoritarian people tend to: (a) comport with imposed conventional rules (conven-

tionalism) and comply with the authorities who enforce them (authoritarian submission), (b) bring into focus those who do not agree with or violate the imposed norms and behave hard towards them (authoritarian aggression), (c) be opposed to compassion

and idealism (anti-intracception), (d) have superstitious beliefs and think or act rigidly (superstition and stereotypy), (e) behave in a way which states power and toughness, (f) be characterized by destructiveness and cynicism, (g) project their hidden motives or underlying personality characteristics to inferior minority groups (projectivity).¹

Extensive research on authoritarian behavior and its dimensions, initiated in mid '60s, resulted to the construction of up to 37 scales, suggesting the variety of ways in which authoritarianism could be conceptualized.² One of the widely used and validated scales is the "Revised F Scale" or AS scale (Authoritarianism Scale) by P. Heaven³ (1985), an instrument focusing on the multi-faced nature of authoritarianism.

Focusing on the area of health, staff with authoritarian personality may put in danger the quality of health services, especially towards stigmatized groups, such as the mentally ill and HIV positive people or the minority ethnic communities. Doctor's level of authoritarianism strongly correlates with their tendency to be rejective towards mentally ill patients.^{4,5} Attitudes like opposing to social integration, rejection and prejudice towards the vulnerable groups should be a subject of intervention not only during university years but also as a continuing training of health staff.

We carried out this study in Alexandroupolis, a town in North Eastern Greece. The aim of the study is to assess AS's psychometric properties in a Greek Health Care Setting.

Method

Participants

The study consisted of two different samples.

I. The main sample of the study was selected from the University General Hospital of Alexandroupolis. On a predefined day, (i) 480 employees on shift in 11 randomly selected sectors of hospital, and (ii) 300 students of the Medical School, Democritus University of Thrace, which is linked to the above hospital, being present at the hospital, were contacted and informed about the aim of the study. Response rates were 75.2% and 79.6% for the health employees and medical students respectively, resulting in a sample of 600 people (361 employees and 239 medical students).

II. A second sample was selected among post-graduate students of "Social Psychiatry" course of the Democritus University of Thrace used in order to assess test retest reliability. A total of 33 students were selected and the difference with the above samples was that the answers were not anonymous. The students had to complete again the questionnaire 30 days later so to assess the test retest reliability of AS. Response rate was 100%.

The study was approved by the Ethical Committee of the University General Hospital of Alexandroupolis.

Material

Every participant received the following questionnaires:

1. A demographic characteristics form

The form included the following variables: sex, age, level of education (university, technological, secondary, and primary), occupation (doctor, nurse, other staff, student).

2. The Authoritarianism Scale (AS)

AS is an instrument designed to measure authoritarianism. A 20-item short version was yielded from an originally 35-item scale after its factor structure had been explored. The validity and reliability of AS scale have been supported by Heaven³ (1985): (I) The whole scale internal consistency is 0.79, (II) The total score, being the sum of each item, ranges from 20 to 100; a higher score is indicative of a higher degree of authoritarianism, (III) The scale revealed four factors: (a) Dominance/Leadership, (b) Achievement motivation, (c) Interpersonal conflict, (d) Verbal hostility.

The answers to each item are given on a five point Likert scale: (1=almost never, 2=seldom, 3=occasionally, 4=often, 5=almost always). Six items are reversely scored.

For the purposes of the present study the scale was translated and back translated into Greek. A pilot survey was also performed indicating that the phrasing of the items 4, 5, 6, 24, 25, 28, 29, 30 and 31 needed to be reformatted appropriately in order to be more understandable and to be answered easier. The responses to these answers were also rephrased accordingly (1=I totally disagree, 2=probably disagree, 3=occasionally, 4=probably agree, 5=I agree).

Statistical analysis

Descriptive analysis of the samples was conducted, using means \pm SDs for continuous variables and percentages for categorical variables.

The internal consistency of AS and its factors was checked using Cronbach's alpha reliability coefficient.

Explanatory factor analysis was applied. Data were assessed if appropriate for factor analysis by: (a) means of Pearson's Correlation, in order to test the relationship between each item with every other single item separately, (b) Item-rest Correlation, in order to test the relationship between each item with the rest of the items, and (c) KMO criterion (Kaiser-Mayer-Olkin), in order to examine the appropriateness of data for factor analysis. The number of factors extracted were decided by means of eigenvalue greater than one (>1) and Screeplot criterion. The items which loaded less than 0.4 (<0.4) in each factor were excluded.

Regarding test-retest reliability, correlations of each item of AS between the 1st and 2nd administration were examined using Spearman correlation coefficient and kappa coefficient. Mean values of items and of factors and total scores were compared between 1st and 2nd administration using Wilcoxon signed-rank test or t-test for paired data respectively. Correlations of AS total and factor scores between the 1st and 2nd administration were examined using Pearson correlation coefficient and Intra-Class Correlation Coefficient (ICC).

T-tests and ANOVA were used to test for differences in normally distributed continuous variables between two or more groups respectively. For multiple comparisons, Bonferroni correction was applied.

Statistical analysis was carried out using STATA 11.0 statistical package.

Results

Description of the samples

The majority of the main sample ($n=600$) were women (64.5%) (table 1). The mean age was 32 ± 11 years, with age distribution being similar for both sexes ($t=1.73$, $p=0.08$). Around 60% of the sample was university graduates. As far as occupation is concerned, 41% of the sample was students. Analysis

Table 1. Demographic characteristics of the University General Hospital sample.

Demographic characteristics	means \pm SD	N (N=600)	(%)
Sex			
Men		206	35.5
Women		375	64.5
Age (years)			
≤ 30	31.9 \pm 10.9	297	51.7
> 30		278	48.3
Levels of education			
Primary		16	2.7
Secondary		104	17.8
Technological		120	20.5
University		345	59
Occupation			
Student		239	40.8
Doctors		76	13.0
Nurses		130	22.2
Other Staff		141	24

of the employee sample indicated that 58 (9.9%) worked in the psychiatric services.

Mean age of the post graduate students (test-retest sample) was 33 ± 13 years, with 90.9% ($n=30$) of it being women. All subjects had education more than 12 years, with 78.8% of them being university graduates. The postgraduate students of "Social Psychiatry" sample differed to the University General Hospital sample in sex and educational status, but not in age.

Internal consistency of AS

Using the short form of 20 items and the factors proposed by the bibliography, only factor 1 ("Dominance/Leadership") exceeded the minimum 0.50 for Cronbach's alpha. Cronbach's alpha for the remaining factors ranged from 0.43–0.47, so the short form of AS showed low reliability to measure authoritarian attitudes

Factor analysis

Explanatory factor analysis in the initial complete form (35 items) was then run. Items 6, 7, 9, 10, 17, 20, 22, 24, 29 and 32 were excluded because they had low Item-rest Correlation (<0.20). Item 8 was also excluded because of its very low Pearson's Correlation almost with all items ($r=0.20$ or less).

Explanatory factor analysis was performed for the remained 24 items. Using eigenvalues (>1) and Scree plot criterion (figure 1) solutions with 6, 5, and 4 factors were checked and the 5 factors solution was finally selected.

The analysis resulted in a version with 20 items ("AS 20 revised") and 5 factors that explains 51% of the total variation:

Factor 1: "Leadership".

Factor 2: "Verbal hostility".

Factor 3: "Military way of thinking".

Factor 4: "Fear-Suspiciousness".

Factor 5: "Achievement motivation".

The results of explanatory analysis with each item loading on its own factor are shown on table 2.

Internal consistency of the revised form of AS ("AS-20 revised")

Cronbach's alpha value overall was satisfactory (0.79), while values for every factor separately ranged from 0.55 to 0.76 showing moderate to satisfactory reliability: (a) "Leadership": 0.76, (b) "Verbal hostility": 0.61, (c) "Military way of thinking": 0.60, (d) "Fear-suspiciousness": 0.55, (e) "Achievement motivation": 0.61.

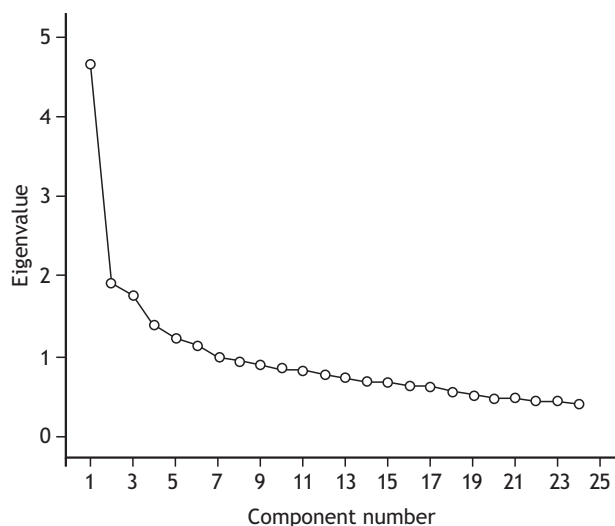


Figure 1. Scree Plot for factor analysis run on the AS on the 24 items.

Test-Retest Reliability of the revised form of AS (AS-20 revised)

Correlations of AS items between the first and second administration of the questionnaires ranged from high to excellent in most occasions (18 in 20 items). Kappa coefficient was moderate only for 2 items (item 16: kappa coefficient =0.57, and item 31: kappa coefficient=0.41). Mean item values did not differ statistically significant between the two time points, except in item 5, where mean values at 1st time point was statistically significant higher than at the 2nd (3.12±1.58 vs 2.79±1.49, t=2.34, p=0.03). Mean values of 2nd factor scores were statistically significant higher at the 2nd occasion compared to the first (17.2±2.5 vs 17.8±3.0, t=2.12, p=0.04). No statistically significant differences between total and remaining factor scores between time points were observed.

ICC showed high to excellent agreement of AS total (0.98) and factor scores (0.86–0.93) between the two-time points.

AS-20 revised & demographics

Regarding AS overall, women were less authoritarian than men and younger people more authoritarian than older people. There were statistically significant differences for AS total score and occupation: students were more authoritarian than other staff and nurses.

Men have higher scores in "Leadership", "Verbal hostility" & "Achievement motivation" than women.

Younger participants (<30) present higher scores in "Leadership" and in "Achievement motivation" than older ones.

Participants with university education had higher scores in "Achievement motivation" and primary educated had higher scores in "Military way of thinking" and "Fear-Suspiciousness".

Students and doctors have higher scores in "Leadership" and "Achievement motivation" than the other groups, while doctors present the lower score in "Fear-suspiciousness" (table 3).

Regarding the year of studies in Medical School: there are significant differences in "Military" scores between students of 1st year and students of 6th year (mean score=8.9±3.1 and mean score=7.6±2.6 respectively, p=0.009).

Table 2. Explanatory analysis with each item loading on its own factor.

AS Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.73				
2	0.66				
3	0.67				
4			0.81		
5			0.62		
11	0.66				
15	0.45				
16	0.47				
18			0.73		
19					0.71
21					0.58
23					0.79
25				0.81	
26	0.60				
27	0.42				
28				0.81	
30		0.45			
31		0.66			
33		0.75			
34		0.69			

Psychiatric staff presents the lowest AS total score comparing with the other specialties ($t=3.19$, $p=0.002$).

Discussion

The dimensions of authoritarianism, derived by a population related to health services and health studying, consist of five factors yielded by explanatory factor analysis: "Leadership", "Verbal hostility", "Military way of thinking", "Fear-Suspiciousness" and "Achievement motivation". These dimensions are consistent with the conceptual definition of the scale and with the multi-faced authoritarianism syndrome as well. Therefore, it could be considered that there are strong indications of satisfactory structural validity of the scale.

Regarding some differences in the number and structure of factors revealed between the original and the present study, possible explanations may be attributed to: (a) the different social-cultural conditions between the Australian and Greek population, affecting some forms of behavioural expressions, (b) the distance in decades which might have influenced certain attitudes, (c) the difference in main samples (random sample of 224 residents in original Heaven's paper,³ 600 employees in health area and students in the present study).

According to: (a) Cronbach's alpha value of total AS and of each factor separately, and (b) Test-retest reliability, the revised 20-item short form of AS showed moderate to excellent reliability.

Table 3. AS-20 revised and demographic characteristics.

	Sex			t, p	Age			t, p
	Men (N=206)	Women (N=375)			≤30 (N=297)	>30 (N=278)		
AS Total	60.3±9.7	57.7±9.4	t=3.41 p=0.001	60.0±9.8	57.0±9.2	t=3.68 p<0.001		
F1	25.4±5.0	23.9±5.2	t=3.13, p=0.002	25.1±5.4	23.7±4.9	t=3.2 p=0.001		
F2	11.1±3.0	10.5±2.9	t=2.34 p=0.02	10.7±3.1	10.6±2.9	t=0.45 p=0.66		
F3	8.4±3.0	8.0±2.7	t=1.54 p=0.12	8.3±2.9	8.0±2.8	t=0.93 p=0.35		
F4	4.4±1.9	4.5±1.7	t=1.05 p=0.30	4.4±1.7	4.6±1.8	t=1.13 p=0.26		
F5	11.1±2.5	10.5±2.6	t=2.68 p=0.008	11.4±2.3	10.0±2.6	t=7.0 p<0.001		

	Education				F, p	Occupation				F, p
	Univers. (N=345)	Technol. (N=104)	Secondar. (N=120)	Primary (N=16)		Doctor (N=76)	Nurse (N=130)	Student (N=239)	Other Staff (N=141)	
AS Total	57.1±9.7	56.9±9.1	57.4±8.9	55.8±11.2	F=0.01 p=0.9995	58.0±9.8	57.3±8.8 (*)	60.7±9.8 (*)(**)	56.4±9.5 (**)	F=6.89 P<0.001
F1	24.2±5.2	23.9±4.8	23.2±5.0	20.5±5.9	F=2.55 p=0.06	24.6±5.	23.8±4.9 (*)	25.5±5.3 (*)(**)	23.0±4.9 (**)	F=7.86 p<0.001
F2	10.3±3.3	10.8±2.3	10.6±2.8	9.9±4.1	F=0.77 p=0.51	10.5±3.5	10.8±2.5	10.8±3.1	10.4±2.9	F=0.69 p=0.56
F3	7.5±2.9 (*)	7.8±2.5 (*)	8.5±2.6 (*)	10.6±3.1 (*)	F=7.54 p<0.001	7.6±3.0	8.2±2.6	8.2±2.9	8.3±2.8	F=1.15 p=0.33
F4	4.0±1.7 (*)(**)	4.7±1.7	4.8±1.8 (*)	5.5±2.3 (**)	F=5.15 p=0.002	4.0±1.7 (*)(**)	4.7±1.7 (*)	4.4±1.7	4.7±1.9 (**)	F=3.70 p=0.001
F5	10.8±2.6 (*)	9.9±2.5	9.7±2.5 (*)	9.9±2.2	F=4.05 p=0.008	11.1±2.4 (**)	9.7±2.4 (*)(**)	11.6±2.2 (*)	9.9±2.7 (*)(**)	F=24.8 p<0.001

F1=Leadership, F2=Verbal Hostility, F3=Military Way of Thinking, F4=Fear-Suspiciousness, F5=Achievement Motivation

(*), (**)=p<0.05 with Bonferroni Correction

In our study we found that AS-20 revised scale shows the highest total scores in men, younger ones and students. Women are presented less likely than men to hold authoritarian attitudes. This finding

confirms the social stereotype according to which men have to defend strongly their beliefs and to be committed to their targets but it is not consistent with a major part of psychological bibliography.

According to psychological studies authoritarianism is often found of wide extent among women who experience more psychological pressure associated with gender inequality.^{6,7}

Students and young people found to be more authoritarian than other subgroups of occupation and of older people as well. According to sociologists, the process of growing older drives people to adopt traditional lifestyles, specifically, getting married and having children, and thus may lead to more traditional and authoritarian attitudes. This is not in accordance with our finding regarding age. Generally, the youngest adults present the lowest levels of attitude stability and this is apparent in our study; regarding the year of studies in Medical School, 1st year students have a significant difference in "Military way of thinking" scores comparing to the students of 6th year: the latter subgroup presented lower authoritarianism. This vulnerable tendency to authoritarianism may be susceptible to education and opposite interventions.⁸ Here it must be said that 79% of those aged <30 were students. So, it is not clear whether the statistically significant differences which were found could be attributed to the profession per se or to the age.

Primary educated participants scored higher in "Military way of thinking" & "Fear-Suspiciousness" than the other subgroups, while the "other staff" scored higher in "Fear-suspiciousness". The "other staff" is the only category of employment which includes people with compulsory education. The factors "Fear-suspiciousness" and "Military way of thinking" refer to the prejudice and superstition which are the main features of the "authoritarian personality syndrome". Perhaps the most widely accepted and recurrent finding in this area is the relationship between low educational level and authoritarianism. Higher education makes people more open-minded and less conservative by exposing them to new ideas and information and by forcing them to interact with diverse individuals.⁹⁻¹¹

Significant differences in all categories of the sample arose in "Achievement Motivation": men, younger, university educated and students had higher scores than the other subgroups. Achievement motivation can be defined as "the attainment for

success or the avoidance of failure".¹² Perhaps doctors and medical students could not cope with so many years of study and training without "motivation" and could not survive the tough competition without "achievement".¹³

Psychiatric staff presents the lowest AS total score comparing to the other specialties. The mental health professionals, who participated in this study, work in a Social Psychiatry network. Their way of working focused on patient's needs and staff's participation in activities to improve community attitudes possibly release them from prejudices and fears and reinforce them to adopt less authoritarian attitudes.

The subgroups of this study scored differently in the various dimensions of authoritarianism. None of them had statistically significant higher scores in all factors comparing to the other groups. It is possible that the authoritarianism which a group expresses is not identical to the authoritarianism of a different group, because of the large number of authoritarianism dimensions.

The influence of Authoritarianism on the major issues of our days, such as immigration flows, social and financial crisis, leads to the need of the existence of reliable measures of its assessment.

The present study has some limitations: (a) the sample is not representative of a hospital's staff due to the fact that the sample collection was not stratified, (b) there is not any other Greek valid measure which could be used as a "gold standard", c) predictors like social economic and religious factors were not included.

Conclusions

In the present study, (a) the psychometric properties of AS were assessed, and (b) the authoritarian attitudes of a Greek sample, comprising staff occupied in a University General Hospital and medical students, were recorded using the aforementioned scale. This Greek version of AS (AS-20 revised scale), showed satisfactory reliability properties overall but further research and refining is needed in order to assess its psychometric properties in the general population.

Μέτρηση της αυταρχικότητας σε προσωπικό υγείας στην Ελλάδα

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Ελάχιστες μελέτες στη διεθνή βιβλιογραφία έχουν ασχοληθεί με το θέμα της αυταρχικότητας στον χώρο της υγείας. Το προσωπικό με αυταρχική προσωπικότητα μπορεί να θέσει σε κίνδυνο την ποιότητα των υπηρεσιών υγείας – ιδίως προς τις στιγματισμένες ομάδες, όπως είναι οι ψυχικά ασθενείς, οι οροθετικοί στον ιό HIV ασθενείς ή οι εκείνοι που ανήκουν σε εθνοτικές μειονότητες. Η κλίμακα αυταρχικότητας AS (Authoritarianism Scale by P. Heaven) είναι ένα εργαλείο που επικεντρώνεται στην πολύπλευρη φύση της αυταρχικότητας και των αυταρχικών συμπεριφορών. Σκοπός της παρούσας μελέτης είναι η αξιολόγηση των ψυχομετρικών ιδιοτήτων της AS και η διερεύνηση των αυταρχικών στάσεων των ατόμων που απασχολούνται στον τομέα των υπηρεσιών υγείας και των φοιτητών ιατρικής στην Ελλάδα. Αρχικά, 600 άτομα (361 υγειονομικοί υπάλληλοι και 239 φοιτητές ιατρικής) συμπλήρωσαν την AS. Επιπλέον, 33 μεταπτυχιακοί φοιτητές ολοκλήρωσαν την AS δύο φορές σε διάστημα 30 ημερών. Προκειμένου να εκτιμηθούν οι ψυχομετρικές ιδιότητες της κλίμακας AS διενεργήθηκε διερευνητική παραγοντική ανάλυση η οποία οδήγησε σε μια κλίμακα 20 ερωτήσεων-θεμάτων και ανέδειξε πέντε (5) παράγοντες: «Ηγεσία», «Λεκτική επιθετικότητα», «Στρατιωτικός τρόπος σκέψης», «Φόβος - Καχυποψία», «Επίτευξη κινήτρου - Στοχοπροσήλωση». Ο δείκτης εσωτερικής συνοχής Cronbach alpha κυμάνθηκε από 0,55 έως 0,79 για τους πέντε παράγοντες της AS και για τη συνολική κλίμακα. Σύμφωνα με τη μέθοδο εξέτασης-επανεξέτασης (Test-Retest) η AS είχε πολύ καλή αξιοπιστία στον επαναληπτικό έλεγχο. Οι γυναίκες και οι ηλικιωμένοι ήταν λιγότερο αυταρχικοί, ενώ οι νεότεροι, οι φοιτητές και το προσωπικό με υποχρεωτική εκπαίδευση εμφάνιζαν μεγαλύτερη τάση για αυταρχικότητα. Το ψυχιατρικό προσωπικό είχε τις μικρότερες βαθμολογίες στην κλίμακα αυταρχικότητας σε σχέση με το προσωπικό άλλων ειδικοτήτων. Ο παράγοντας της AS για τον οποίο παρατηρήθηκαν στατιστικά σημαντικά διαφορές μεταξύ όλων των υποομάδων είναι ο παράγοντας «Επίτευξη κινήτρου - Στοχοπροσήλωση». Η ελληνική έκδοση της AS, όπως εκτιμήθηκε σε δείγμα ελληνικού υγειονομικού προσωπικού, αποκάλυψε ενδιαφέρουσες διαφορές μεταξύ των συμμετεχουσών υποομάδων και είχε συνολικά ικανοποιητική αξιοπιστία. Η επιρροή της αυταρχικότητας στα μεγάλα ζητήματα της εποχής μας, όπως οι μεταναστευτικές ροές, η κοινωνική και οικονομική κρίση, οδηγεί στην ανάγκη ύπαρξης αξιόπιστων μέτρων αξιολόγησής της.

Λέξεις ευρετηρίου: Κλίμακα αυταρχικότητας, αυταρχική προσωπικότητα, προσωπικό υγείας.

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