



SHAPES OF ANXIETY. ANALYSIS OF ANXIETY PROFILES MEASURED WITH S-R QUESTIONNAIRE

W. Losiak

Jagiellonian University, Cracow, Poland

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Resumen: El estudio presenta los resultados del análisis de los perfiles de ansiedad medidos con el Inventario de Situaciones y Respuestas de Ansiedad, ISRA (Miguel-Tobal y Cano-Vindel, 1996, 1998), en un grupo no clínico de 258 estudiantes. Se usó un método de análisis de conglomerados jerárquico y se encontraron seis grupos de perfiles. Los análisis se llevaron a cabo de manera separada para los sistemas de respuesta de ansiedad (cognitivo, fisiológico y motor) y para los tipos de situaciones evocadoras de ansiedad (evaluación, interpersonales, fóbicas y situaciones de la vida cotidiana). Otros análisis usaron ambos criterios. Se encontró que no todos los conglomerados mostraron diferenciación en ansiedad y el nivel de ansiedad resultó ser un importante factor en este sentido.

Palabras Clave: Ansiedad, Síntomas, Respuestas, Situaciones, Sistemas de Respuesta

Formas de ansiedad. Análisis de los perfiles de ansiedad medidos con un cuestionario S-R

Abstract: The study presents the results of the analysis of anxiety profiles measured with the Inventory of Situations and Responses of Anxiety, ISRA (Miguel-Tobal & Cano-Vindel, 1996, 1998), in a nonclinical group of 258 students. A method of hierarchical cluster analysis was used and six groups of profiles were found. Analyses were performed separately for forms of anxiety reactions (cognitive, physiological and motor) and types of situations evoking anxiety (test, interpersonal, phobic, and daily life situations). Another analysis used both criteria. It was found that not all clusters showed differentiation in anxiety and level of anxiety appeared to be an important factor in that matter.

Key words: Anxiety, Symptoms, Responses, Situations, Response Systems

Title: *Shapes of anxiety. Analysis of anxiety profiles measured with S-R questionnaire*

Introducción

Psychologists, especially those working in the field of clinical or consulting psychology, have realized for some time that anxiety should not be treated as a unitary phenomenon. It is now widely accepted that anxiety is an emotional state or reaction consisting of two or three kinds of responses, i.e. cognitive, physiological and motor. In other words it manifests itself or is being experienced not only on the psychological level but in physiological proc-

esses in our body and in our behavior as well. On the other side many researchers emphasize that anxiety responses may be evoked by different types of situations and that people differ in their sensitiveness to anxiety provoking situations. Those issues have strong therapeutical implications for psychologists working with anxiety disorders patients.

Studies by Ekehammar and Magnusson (1978) showed two factors in anxiety responses labeled as psychic and somatic reactions but co-frequency ratings indicated only one general reaction factor. Physiological and worry components of anxiety reactions were also found by Redding and Liv-

* Dirigir la correspondencia a: Dr. Wladyslaw Losiak, Uniwersytet Jagiellonski, Instytut Psychologii, ul. Golebia 13, 31-007 Krakow, POLAND
E-mail: losiak@apple.phils.uj.edu.pl

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neh (1986) as well as Olah, Stattin and Magnusson (1982). Factor analysis of test anxiety measures performed by Liebert and Morris (1967) revealed two factors – worry and emotionality. Their results were confirmed in studies on test anxiety (Spielberger, 1980, Losiak, 1992). Some other researchers suggested a three component model of anxiety responses namely cognitive, physiological and motor (Lang, 1968, Hugdahl, 1981). Their point of view was supported by the data showing low correlations between the three anxiety components (Cano Vindel, Tobal, 1989, Rachman, 1978, Rachman and Hodgson, 1974). Anxiety is thus seen as consisting of subjective feelings of tension, apprehension and insecurity, disorders in physiological responses and manifestations of muscle tension, tremor and avoidance actions.

The point of view according to which anxiety should be seen as multiple reaction evoked in different types of situations resulted in the development of S-R measures of anxiety (Endler, Okada, 1975, Cano-Vindel, Tobal, 1989). Those instruments allow distinguishing different forms of anxiety responses and different types of situations evoking those reactions and thus give an opportunity to establish individual anxiety profile of the person that proved to be very useful in the therapy (Lang, Melamed and Hart, 1970, Lehrer, Woolfolk and Goldman, 1986, Michelson, 1986).

There is however another advantage of that type of anxiety measurement. Since S-R questionnaires give an opportunity to create an individual anxiety profile of a person, indicating the forms of anxiety reactions that are the most typical for him or her and, on the other hand, types of situations that make the person react with anxiety, it is also possible to classify those profiles in groups of subjects and thus distinguish groups of people with similar profiles. A few studies aimed at such classification reported so far

have given different results. Iwase, Nakao, Takaishi, Yorifuji, Ikezawa and Takeda (2000) identified four subtypes of social anxiety using a cluster analytic approach labeled as performance anxiety type, offensive type, interpersonal anxiety type and mild type in the group of social phobia out patients. Magnusson and Ekehammer (1975) identified two groups of students differing in anxiety levels, but showing great situational consistency of reactions and one group characterized by a high transsituational inconsistency. Depreeuw and De Neve (1992) used cluster analysis of psychometric data concerning different aspects of well being, needs and problems of students and identified two groups of anxious students labeled as active test anxious and passive test anxious. Tallis, Eysenck and Mathews (1992) analyzed the results of the Worry Domains Questionnaire in the nonclinical group of adults and distinguished pathological and nonpathological worry subjects. Youngman (1978) identified patterns of adjustment in children facing school transfer and identified one pattern called worried characterized by low ability, high anxiety and poor self concept. It is noteworthy that only one reported study used the results of the S-R anxiety measure (Magnusson and Ekehammer, 1975).

It was the aim of the study reported here to identify groups of subjects showing similar anxiety profiles measured with the S-R questionnaire in the sample of a non-clinical group of students. Two criteria of classification were used, one based on the pattern of anxiety responses and the other on the types of situations evoking anxiety.

Method

Sample and procedure

A group of 264 undergraduate students were asked to participate in a study that was presented as aimed at identifying everyday

anxiety experiences. They all agreed to participate but after excluding questionnaires that were not completed properly the final sample consisted of 258 subjects, 63 men and 195 women, aged 18 - 24 (mean 20.21, SD 1.88). They were students of modern languages, education and technical faculties.

Measurement instruments

To establish an individual anxiety profile the Inventory of Situations and Responses of Anxiety (ISRA) was used. It is a technique developed by Miguel-Tobal and Cano-Vindel (1986) measuring the general trait anxiety level as well as the three aspects of anxiety reactions (cognitive, motor and behavioral) in the presence of daily-life situations. It also enables to identify people sensitive to particular types of anxiety provoking situations, i.e. evaluative, interpersonal, phobic and daily-life. The version of the questionnaire used in the present study was the translation of the English adaptation of ISRA by Puente (Miguel-Tobal, Cano-Vindel, 1986). The original version is reported to have good psychometric properties with Cronbach alphas ranging from .99 to .95 and test-retest indices ranging from .86 to .68 according to the particular scale (Miguel-Tobal, Cano-Vindel, 1986). The alphas calculated for the Polish version ranged between .91 and .98 for different subscales.

Results

At the first stage of analysis the subjects standardized z scores on three anxiety subscales (cognitive, physiological and motor) were used in the cluster analysis aimed at identifying persons showing different anxiety profiles. Ward's method of a hierarchical cluster analysis was applied and the analysis of the clustering solution indicated the existence of six distinct clusters. Results are shown in Figure 1.

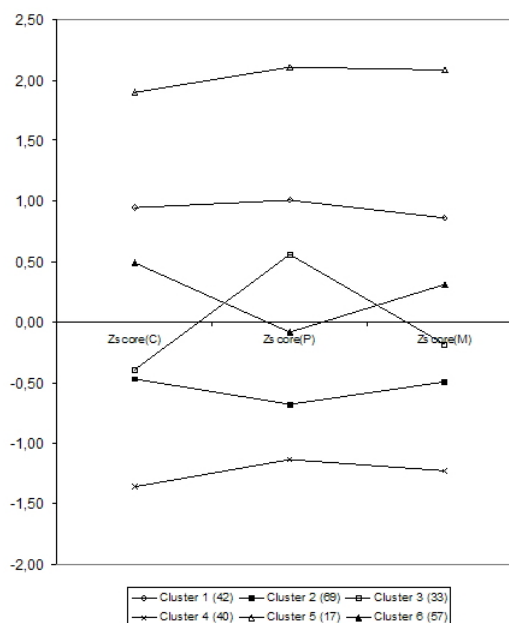


Figure 1. Cluster analysis of anxiety profiles showing the forms of anxiety reactions (number of subjects in each cluster are given in parentheses).

Two groups of anxiety profiles can be recognized. First showing four profiles of subjects having extreme scores on the three measures of anxiety responses, highly anxious (z scores about +2), anxious (z scores about +1), low anxious (z scores about -0.5) and very low anxious (z scores about -1.5). All those profiles are flat shaped indicating no differentiation in the cognitive, physiological and motor forms of anxiety responses. Second group of two profiles of subjects having average anxiety levels (z scores about 0) have different shapes, one showing the dominance of physiological form of anxiety responses and the other showing the dominance of cognitive and motor forms of anxiety responses.

Second analysis was performed on the scores of situation related anxiety, evaluative, interpersonal, phobic and daily - life. The procedure of cluster analysis was the

same (Ward's method, z scores) and the solution of six clusters was found. Results are given in Figure 2.

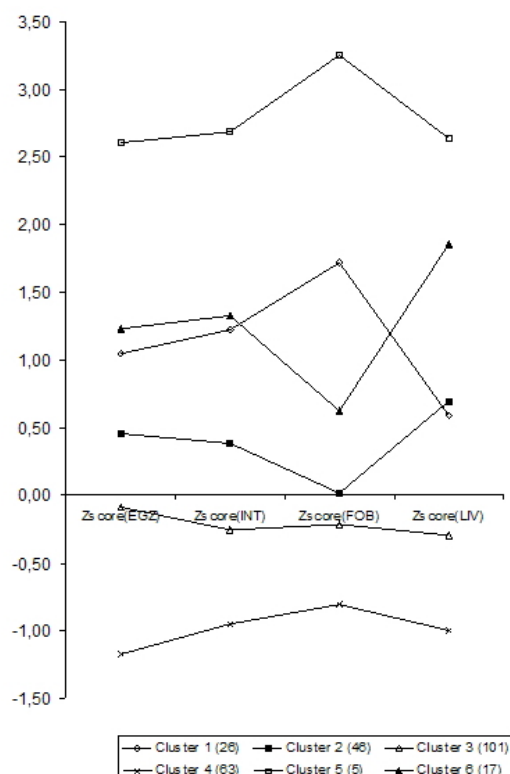


Figure 2. Cluster analysis of anxiety profiles showing types of anxiety provoking situations (number of subjects in each cluster are given in parentheses).

Here only two clusters showed flat profiles. They were the profiles of subjects having low (z scores about -1) and average anxiety levels (z scores about 0) and indicating persons that were not sensitive to any particular form of anxiety evoking situation. Profiles of subjects scoring very high on anxiety (z scores about +3) show that they were the most sensitive to phobic situations (traveling by plane, being in high places, in a crowd or at the dentist). Profiles of anxious subjects (z scores about +1) have two shapes thus forming two

clusters. One indicates persons sensitive to phobic situations, the other those experiencing anxiety in daily life situations (at work, at bedtime). The last cluster showing profiles of moderately anxious subjects (z scores about +0.5) indicates persons anxious in daily – life situations.

The third integrative analysis was performed on anxiety profiles including both forms of anxiety reactions and situations evoking them. The procedure of cluster analysis was also the Ward method on z – scores and the solution of six clusters was found (see Figure 3).

When three forms of anxiety reactions were analyzed together with four situations evoking anxiety it seems that two groups of profiles can be identified. First is a group of three clusters having subjects characterized by average (z scores about 0), moderate (z scores about +1) and low anxiety levels (z scores about -1) whose profiles are not differentiated having the shape of almost flat lines. Neither any form of anxiety reactions nor any anxiety provoking situation dominates in those profiles. They are the persons who do not score extremely on anxiety which in their case seems to be rather unitary. On the contrary the second group of three clusters has profiles which are quite differentiated. One group of subjects who are extremely anxious (z scores of +2 and more) is characterized by motor anxiety evoked in phobic situations. Second is the group of high anxious persons (z scores about +1.5) who are characterized by physiological anxiety evoked in daily life and evaluative situations (taking exams, speaking in public). The third group of differentiated profiles are very low anxious persons (z scores about -1.5) who have a tendency to experience physiological anxiety in phobic and interpersonal situations (date or social meeting).

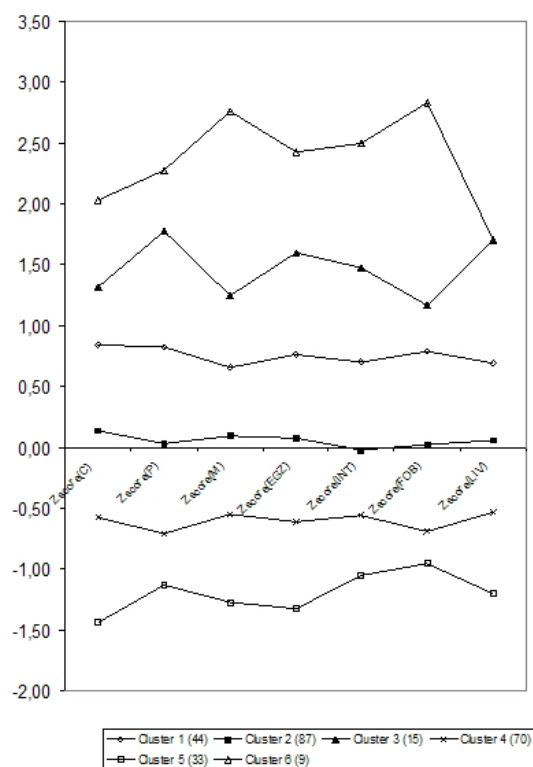


Figure 3. Cluster analysis of anxiety profiles including both forms of anxiety and types of anxiety provoking situations (number of subjects in each cluster are given in parentheses).

Additional analyses showed that all cluster solutions gave significant differences among clusters (ANOVA $p < .001$) what should only be treated as a confirmation of cluster distinction since allocation to clusters was not at random and was oriented at maximizing differences. No gender differences were found in cluster membership of the three analyses. The proportions of men and women classified to particular clusters were similar.

Discussion

Analysis of anxiety profiles showed that, at least in a nonclinical group of subjects,

anxiety may be a rather unitary phenomenon in some of the persons and quite differentiated in others. The relevant factor in that case is the level of anxiety although it operates differently when forms of anxiety reactions or types of anxiety evoking situations are taken into consideration. Forms of anxiety reactions (cognitive, physiological and motor) show differentiation in persons characterized by average anxiety levels. Types of anxiety provoking situations (evaluative, interpersonal, phobic and daily life) analyzed separately or together with the three forms of anxiety reactions are differentiated in persons having extreme anxiety levels, high, very high and very low. The fact that the level of anxiety has so different consequences for the differentiation of forms of anxiety and anxiety evoking situations needs further examination and generally speaking it makes the interpretation of results much more difficult. At this stage one can only speculate that the forms of anxiety reactions are more differentiated than types of anxiety provoking situations. On the other hand considering the fact that two out of three analyses showed the relevance of extreme levels of anxiety it may be expected that they are more important when we look for different shapes of anxiety.

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