

Panic Disorder

Panic Attacks and Panic Disorder in Cross-Cultural Perspective

by M. AMERING, MD, and H. KATSCHNIG, MD

Very few empirical studies address the question of whether panic attacks, as defined in the *DSM-III-R*,¹ also exist in other cultures, and if so, whether their phenomenology is similar. Such knowledge would be of considerable importance for answering the fundamental question of psychiatric research: Do psychiatric disorders have a primarily biological or psychosocial origin?

Cross-cultural comparisons are not

Dr Amering is Professor of Psychiatry, Psychiatric Clinic, University of Vienna, Austria.

Dr Katschnig is Professor of Psychiatry, Psychiatric Clinic, University of Vienna, Austria.

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Address reprint requests to M. Amering, MD, Psychiatric Clinic, University of Vienna, Währinger Gürtel 18-20, A 1090 Vienna, Austria.

From the empirical evidence existing so far, it can be concluded that panic attacks and PD to some extent are a universally occurring phenomenon.

only beset by the usual methodological difficulties that all epidemiologic comparisons encounter, but they also are especially problematic because of the different languages spoken and different semantic notions of emotions held in different cultures.² Standardized psychiatric interviews and self-rating instruments that have been translated and back-translated (eg, the present state examination or the general health questionnaire) help to some extent, but cannot overcome this basic problem. Translated diagnostic tools may

even contribute to clouding cross-cultural variations because they usually have been produced in Western industrialized countries and are specific to the concepts of mental illness developed there and may not be applicable to deviant behavior in other cultures.

This article briefly examines the following types of empirical evidence for a tentative answer to this question:

■ a survey of epidemiologic field studies conducted in different cultures,

TABLE 1
Epidemiologic Field Surveys of Panic Attacks/Panic Disorder in Different Cultures

Study	Prevalence	
	Panic Attacks*	Panic Disorder
English		
United States ³⁻⁵	10%	1.4%-1.5%
Canada ⁶	34.4% (1 yr)	
Spanish		
Los Angeles ⁷	—	1.2%
Puerto Rico ⁸	—	1.7%
German		
Munich ⁹	9.3%	2.4%
Zurich ¹⁰	6.0% (1 yr)	1.5% (1 yr)
Vienna ¹¹	17.7%	—

*Lifetime prevalence unless otherwise noted.

TABLE 2
Population Surveys of Panic Disorder Using the Diagnostic Interview Schedule^{12*}

Population	Male	Female	Total
English-Speaking			
ECA Study, Los Angeles site	1.0	2.6	1.8
ECA Study, New Haven site	0.6	2.1	1.4
ECA Study, Baltimore site	1.2	1.6	1.4
ECA Study, St. Louis site	0.9	2.0	1.5
Spanish-Speaking			
ECA Study, Los Angeles site (Mexican-Americans)	0.4	1.9	1.2
Puerto Rico Study	1.6	1.9	1.7
German-Speaking			
Munich Study	1.7	2.9	2.4

*Lifetime prevalence rates.

- a review of clinical descriptions of panic attacks and panic disorder (PD) in different countries, and
- an analysis of reports of so-called culture-bound syndromes, such as Koro or Kayak-Angst, as these syndromes could represent equivalents of panic attacks in non-Western cultures.

EPIDEMIOLOGIC FIELD SURVEYS

Epidemiologic field surveys with results that can be used for cross-cultural comparisons are few in number. Such surveys have so far been conducted among black and white Americans in the United States and Canada; among Hispanic populations in California and in Puerto Rico; and among German-

speaking people in Austria, Switzerland, and Germany. The advantage of the epidemiologic method is that random samples of the total population are examined, enabling the results to be generalized. The disadvantages are the high cost of such investigations and the rather superficial case identification procedures using, as a rule, lay interviewers or self-rating procedures.

In Table 1, the overall results of epidemiologic field surveys conducted since 1984 are grouped according to the three languages spoken in the countries studied.³⁻¹¹ By and large, for PD as a diagnostic entity, the similarities are more striking than the differences. PD was found in 1.4% to 1.5% of the population studied in three US sites by the NIMH Epidemiological Catchment Area Study (New Haven, Connecticut; Baltimore, Maryland; and St. Louis, Missouri); in 1.2% of Mexican-Americans in Los Angeles; in 1.7% of the native population in Puerto Rico; and in 2.4% of a random sample of the population of Munich (all lifetime prevalence rates).

For single and occasional panic attacks, the picture is more varied, although no clear-cut culture-specific pattern emerges. Panic attacks seem to be quite frequent in North America (34.4% 1-year prevalence rate in Winnipeg, Canada; 10% lifetime prevalence rate in five US sites) and in German-speaking countries (17.7% lifetime prevalence rate in Vienna, 9.3% lifetime prevalence rate in Munich, and 6% 1-year prevalence rate in Zurich).

The results presented in Table 1 are based on studies using different case definitions and data collection procedures. However, in a few studies the same instrument, the "Diagnostic Interview Schedule,"¹² was employed for data collection allowing more valid comparisons. Sex-specific rates for these studies are presented in Table 2 for English-speaking, Spanish-speaking, and German-speaking populations. Again, with sex differences, too, similarities are more impressive than

discrepancies. In all sites, female lifetime prevalence rates are consistently higher than male rates, although a greater variation exists in male rates than in female rates, producing quite different female to male ratios (from five times in Mexican-Americans in Los Angeles to 1.2 times in Puerto Rico).

For agoraphobia, the available data are more limited. One interesting finding is that the lifetime prevalence rates found in Puerto Rico (3.9%) and Munich (3.6%) are within the range of rates found for agoraphobia in the North American ECA sites (from 2.7% in St. Louis, Missouri, to 5.8% in Baltimore, Maryland). Again, female rates are consistently higher than male rates.

CLINICAL DATA

Occasional clinical reports outside Europe and North America suggest that PD is universal. For instance, Otakpor¹⁵ reported that in a Nigerian outpatient clinic, 3% of the patients met *DSM-III* criteria for PD and had "for 3 years on the average... oscillated between assorted treatment centers in search of help but to no avail," a statement that sounds very familiar to Western clinicians.

Recently, a large international multicenter study, comparable in size and quality to the "International Pilot Study of Schizophrenia" of the World Health Organization,^{14,15} has evaluated pharmacological treatments of PD patients in clinical settings.¹⁶ A total of 1168 patients were recruited for the study in 14 different countries in northern and southern Europe (Sweden, Denmark, United Kingdom, West Germany, Belgium, France, Spain, and Italy) as well as in North and Latin America (United States, Mexico, Colombia, and Brazil). Clinical data were collected by psychiatrists using, among other instruments, the Standardized Clinical Interview for *DSM-III-R* Upjohn Version (SCID-UP), which was translated from English into the following languages: Spanish, Portuguese, Italian, French, German, Swedish, and Danish. The reliability was checked

TABLE 3
Number of Patients
Included in the Cross-
National Collaborative
Panic Study Second
Phase¹⁶

Cultural Group	n
North America (United States, Canada)	220
Latin America (Mexico, Colombia, Brazil)	257
Northern Europe (Sweden, Denmark, England, West Germany, Austria)	324
Southern Europe (Spain, Italy, France, South Belgium)	367

throughout the project by repeated reliability interviews and found to be quite high. Whereas the quality of these psychopathologic data can be assumed to be excellent across different countries and cultures, as well as superior to the quality of data collected in epidemiologic field surveys by lay interviewers or self-rating procedures, some problems with representativity may exist because recruitment procedures were different in different cultures. Nevertheless, such clinical data are of considerable interest for a cross-cultural perspective because the data can prove a disorder can in fact be found in different cultures and because the higher or lower frequency of specific symptoms in specific cultural contexts may give hints to cultural influences despite the problem of selecting patients for the clinical population.

The first finding of this study was that PD occurred in all countries participating in the study, since none of the centers had difficulties in recruiting a substantial number

of such patients in a rather short time. For comparison purposes, the 14 countries were grouped into four cultural clusters according to geographic and language characteristics (Table 3). The next finding concerned differences in the symptomatologic expression of panic attacks in different cultures (H.K. unpublished data, 1990); most differences occurred between northern and southern countries.

Table 4 reveals that palpitations, which next to dizziness/faintness was the most common symptom, did not show any difference among the cultural groups. On the other hand, respiratory symptoms (ie, shortness of breath, choking or smothering sensations, and chest pain or discomfort) were reported more commonly in southern countries. It makes sense that the frequency of paresthesias also was reported more in southern countries, as paresthesias may be a consequence of hyperventilation. It also makes sense that the only other symptom, much more common in southern Europe and Latin America than in northern Europe and North America, was "fear of dying," as choking and smothering sensations are more prone to induce fear of dying than other symptoms, such as sweating or chills. In contrast, "trembling or shaking" was reported much more frequently in northern countries.

Another psychopathologic feature, agoraphobia, was much more common in northern countries (Table 5). This difference was especially striking between North America (90.5% agoraphobia) and Latin America (65%). Whether agoraphobia does develop more in North America than in Latin America cannot be concluded from these data, although it would make sense that where life is much more dependent on closed spaces because of harsh climates, indoor and outdoor living are much more clearly separated than in more favorable climatic conditions where less effort might be necessary to cross the "border" between indoor and outdoor. There is

TABLE 4
Symptoms of a Typical Baseline Panic Attack in Northern and Southern Countries (DSM-III-R)

Symptom	North	South	Total
Palpitations	89.0	86.5	87.6
Shortness of breath	68.9*	80.7	75.2
Choking or smothering sensations	51.8*	75.2	64.2
Chest pain or discomfort	53.4*	67.1	60.6
Nausea/abdominal distress	51.5†	58.8	55.4
Trembling or shaking	80.5*	71.6	75.8
Sweating	75.3	75.6	75.4
Paresthesias	48.6‡	58.2	53.7
Flushes or chills	77.9	82.2	80.2
Dizziness, faintness	88.6	88.4	89.0
Depersonalization, derealization	50.3	49.4	49.8
Fear of going crazy	58.6	54.7	56.6
Fear of dying	51.9*	74.6	63.9

North = United States, Canada, Sweden, Denmark, United Kingdom, Germany, and Austria.
 South = Mexico, Colombia, Brazil, Belgium, France, Italy, and Spain.

* $P \leq .001$.

† $P \leq .05$.

‡ $P \leq .01$.

TABLE 5
Percentages of DSM-III-R Panic Disorder Patients With and Without Agoraphobia

Variable	NE	SE	NA	LA	North	South	Total*
DSM-III-R PD with agoraphobia	79.3†	71.7	90.5‡	65.0	83.8‡	68.9	75.9
DSM-III-R PD without agoraphobia	20.4	24.3	9.6‡	31.5	16.0‡	27.2	22.0

NE = Sweden, Denmark, United Kingdom, Germany, and Austria.

SE = Belgium, France, Italy, and Spain.

NA = United States and Canada.

LA = Mexico, Colombia, and Brazil.

*2.7% not classifiable.

† $P \leq .01$.

‡ $P \leq .001$.

some contradiction with the already quoted epidemiologic findings that agoraphobia rates in Puerto Rico are

within the range of frequencies found in the North American ECA sites.⁸

In any case, these clinical data suggest that PD occurs in such different places as Göteborg, Rio de Janeiro, Mexico City, Vienna, Paris, and Ann Arbor, Michigan. Whether the differences found in symptoms are true differences remains to be proven by further studies.

PANIC ANXIETY IN CULTURE-BOUND SYNDROMES

One way to learn about panic anxiety in different cultures is to look into what is known as culture-bound syndromes, a term coined by Yáq in the early 1960s to describe "psychogenic reactions that are in fact nonvolitional elementary biopsychological reactions sensitive to culturally specific stimuli and... moulded pathoplastically by the distinct belief systems related to illness or disorder."¹⁷ Today, there are about 150 conditions (culture-bound syndromes) that can be found in the literature.¹⁸ Most descriptions of these so-called culture-bound syndromes are based on reports of travelers, nonpsychiatric medical doctors, anthropologists, and other nonpsychiatrists and for this reason lack substantially in what is called reliability and validity in modern psychiatric research. Consequently, most case descriptions identified as representing a specific culture-bound syndrome are neither representative nor of high clinical quality.

On the other hand, these descriptions often deal with dramatic behavior of short duration, with eye-catching events for an observer. We searched these descriptions for the occurrence of the short-lived, rather dramatic event of a sudden surge of intense feeling of anxiety that is accompanied by somatic symptoms and subsides spontaneously after short duration. We have found quite striking similarities to the new Western concept of panic attacks and PD in such "exotic" and therefore seemingly different conditions as Kayak-Angst, ascribed to the Eskimo culture of West Greenland, and Koro, one of the few well-studied culture-bound syndromes that for a long time was believed to

TABLE 6

Common Features of DSM-III Panic Attacks, Koro, and Kayak-Angst

Feature	DSM-III	Koro	Kayak-Angst
Speed of onset	Sudden onset	Attack of koro, seized suddenly	Attacks out of the blue, like a fit
Intensity	Intense apprehension	High intensity, severe	Intense state of anxiety
Symptoms	Dyspnea	Breathlessness	Palpitations
	Palpitations	Palpitations	
	Chest pain or discomfort	Precordial discomfort	Sweating
	Choking or smothering sensations	Nausea/abdominal distress	
	Dizziness, vertigo, or unsteady feelings	Dizziness, nausea	Dizziness, unsteady feelings, nausea
	Feelings of unreality		
	Paresthesias (tingling in hands or feet)	Paresthesias	Feelings of unreality
	Hot and cold flushes	Hot and cold sensations	Paresthesias
	Sweating	Hot and cold sensations	Hot and cold sensations
	Faintness	Sweating	Sweating
	Trembling or shaking	Faintness	Faintness
Fear of dying, going crazy or doing something uncontrolled during an attack		Trembling or shaking	Trembling or shaking
		Fear of dying	Fear of dying, fear of losing control
Duration	Usually minutes, rarely hours	20, 30, or 60 minutes; terminates spontaneously or by group support or reassurance	Terminates on reaching land or with arrival of other

be restricted to Chinese living in Southeast Asia (Table 6).

Kayak-Angst

Information on Kayak-Angst, a formerly well-known condition common in East and West Greenland and Polar Eskimos,¹⁹ consists largely of material gathered by Scandinavian doctors. For example, in 1900, Gustav Meldorf²⁰ estimated that 10% of all men over the age of 18 in the Julianaab district suffered from Kayak-Angst; in 1901, Pontoppidan²¹ even regarded it as the "national disease" of the West Greenland Eskimos.

Kayak-Angst is described as an acute state of anxiety that affects hunters when they are out in the sea in their one-man boat hunting for seals. It occurs out of the blue,

especially on days with sunny skies and a calm sea, and is characterized by a violent vegetative reaction, a feeling of helplessness, a loss of orientation, and a fear of drowning that can only be overcome by somehow managing to get close to the shore or that subsides when fellow hunters arrive.

Koro

Reports in the literature about cases of Koro range from single case descriptions over small samples of very few cases^{22,23} to reports on epidemics affecting several thousands of people,²⁴ some of which were even studied by psychiatric teams with the specific purpose of clinical and sociodemographic data collection on Koro patients. Koro is experienced as the sudden feeling

of shrinkage and retraction of the penis into the abdomen (in the less common event of women being afflicted, the breast nipples and labia are thought to shrink), accompanied by vegetative symptoms, and great fear that eventually complete retraction will result in the death of the individual.

A number of additional features in both Kayak-Angst and Koro support the suspicion that a considerable proportion of people affected by these syndromes suffer from a condition that is equivalent to panic attacks and even PD as defined by the *DSM-III* or *DSM-III-R*. Anticipatory anxiety seems to play an important role in the origin as well as in the course of Kayak-Angst and Koro; avoidance behavior develops, not rarely to an extent that social handi-

cap results, like the severe consequence of having to give up hunting in afflicted Eskimo hunters. It is a prevalent idea that emotionally upsetting experiences increase risk for the occurrence of both conditions. In both cases, cognitive factors as suggested by Clark²⁵ seem to be important: in Kayak-Angst, a sensory deprivation situation leading to perceiving physiologic sensations as threatening obviously triggers the anxiety state¹⁹; in Koro, a heightened awareness and "catastrophical misinterpretation" of physiologic changes in penile circumference²⁶ may contribute to the onset.

CONCLUSION

From the empirical evidence existing so far, it can be concluded that panic attacks and PD to some extent are a universally occurring phenomenon. However, this finding alone does not allow a clear interpretation as to whether biological or psychological factors are more important. In contrast, it seems clear that how panic attacks present themselves depends to some degree on specific cultural patterns of norms and values, culture-specific concepts of time, semantic issues of labelling emotional states, and the likelihood of getting professional help. Disentangling these many influences is the task that lies ahead for cross-cultural research into panic anxiety.

REFERENCES

1. American Psychiatric Association. *DSM*

III-R: Diagnostic and Statistical Manual of Mental Disorders. 3rd ed, rev. Washington, DC: American Psychiatric Press Inc; 1987.

2. Leff JP. Culture and differentiation of emotional states. *Br J Psychiatry*. 1973; 123:299-306.
3. Robins LN, Helzer JE, Weissman MM, et al. Lifetime prevalence of specific psychiatric disorders in three sites. *Arch Gen Psychiatry*. 1984; 41:949-958.
4. Weissman MM. The epidemiology of panic disorder and agoraphobia. In: Frances, AJ, Hales RE, eds. *Review of Psychiatry*. Vol 7. Washington, DC: American Psychiatric Press Inc; 1988.
5. Von Korff MR, Eaton WW, Keye PM. The epidemiology of panic attacks and panic disorder: results of three community surveys. *Am J Epidemiol*. 1985; 22:970-981.
6. Norton GR, Harrison B, Hauch J, Rhodes L. Characteristics of people with infrequent panic attacks. *J Abnorm Psychol*. 1985; 94:216-221.
7. Karno M, Hough RL, Burnam MA, et al. Lifetime prevalence of specific psychiatric disorders among Mexican Americans and non-Hispanic whites in Los Angeles. *Arch Gen Psychiatry*. 1987; 44:695-701.
8. Canino GJ, Bird HR, Shrout PE, et al. The prevalence of specific psychiatric disorders in Puerto Rico. *Arch Gen Psychiatry*. 1987; 44:723-735.
9. Wittchen HU. Epidemiology of panic attacks and panic disorder. In: Hand I, Wittchen HU, eds. *Panic and Phobias*. New York, NY: Springer-Verlag; 1986:18-28.
10. Angst J, Dobler-Mikola A. The Zurich study. V: anxiety and phobia in young adults. *Eur Arch Psychiatry Neurol Sci*. 1985; 235:171-178.
11. Katschnig H, Pakesch G, Loimer N, Rasinger E. Panic attacks and depressive symptoms in a population survey in Vienna. *Pharmacopsychiatry*. 1988; 21:62.
12. Robins LN, Helzer JE, Croughan J, Ratcliff KS. National Institute of Mental Health Diagnostic Interview Schedule: its history, characteristics and validity. *Arch Gen Psychiatry*. 1981; 38:381-389.

13. Otakpor AN. A prospective study of panic disorder in a Nigerian out-patient population. *Acta Psychiatr Scand*. 1983; 365:541-544.
14. World Health Organization. *Report of the International Pilot Study of Schizophrenia*. Vol 1. Geneva, Switzerland: WHO; 1973.
15. World Health Organization. *Schizophrenia: An International Follow-Up Study*. Chichester, England: Wiley; 1979.
16. Cross-National Collaborative Panic Study Second Phase Investigators. Drug treatment of panic disorder: comparative efficacy of alprazolam, imipramine and placebo. *Br J Psychiatry*. In press.
17. Yap PM, Lau MP, Stokes AB, eds. *Comparative Psychiatry: A Theoretical Framework*. Toronto, Ontario: University of Toronto Press; 1974:74.
18. Simons RC, Hughes C, eds. *The Culture Bound Syndromes: Folk Illnesses of Psychiatric and Anthropological Interest*. Dordrecht, Holland: D. Reidel; 1985.
19. Gussow Z. A preliminary report of kayak-angst among the Eskimo of West Greenland: a study in sensory deprivation. *Int J Soc Psychiatry*. 1963; 9:18-26.
20. Meldorf G. Om Kajaksvimmelheden i Gronland og dens Forhold til Brugen af Nydelsesmidler. *Bibliotek for Laeger*. 1900; 92:524-539.
21. Pontoppidan K. Om den gronlandske Kajaksvimmelhed. *Bibliotek for Laeger*. 1901; 93:59-65.
22. Gwee AL. Koro—a cultural disease. *Singapore Med J*. 1963; 4:119-122.
23. Yap PM. Koro—a culture-bound depersonalization syndrome. *Br J Psychiatry*. 1965; 111:43-50.
24. Jilek WG. Epidemics of "genital shrinking" (koro): historical review and report of a recent outbreak in South China. *Currare*. 1986; 9:260-282.
25. Clark DM. A cognitive approach to panic. *Behav Res Ther*. 1986; 24:461-470.
26. Oyeboode F, Jamieson R, Mullaney J, Davison K. Koro—a psychophysiological dysfunction? *Br J Psychiatry*. 1986; 148:212-214.