

# At Issue: Are Traditional Societies Schizophrenogenic?

by John S. Allen

## Abstract

Schizophrenia is apparently less common in traditional than in nontraditional societies, and the course of illness in these cultural settings may also be more benign. Viral, political, economic, social labeling, and other explanations have been offered over the years for these differences. In contrast to those ideas that suggest the presence of a schizophrenogenic stress in urbanized, Westernized populations, I propose that traditional societies are actually schizophrenogenic compared with nontraditional societies. Assuming a multifactorial threshold model for the development of schizophrenia, traditional societies may be characterized by a lower threshold for developing schizophrenia in at-risk individuals. In the short term, this leads to a greater proportion of all clinical cases being of a less severe variety; in the long term, genes predisposing individuals to develop schizophrenia are exposed to the effects of negative selection, ultimately resulting in a relatively lower level of overt schizophrenia in these populations. The greater social demands placed on individual actors in traditional societies and the lack of variability in social network size may contribute to the (relatively) schizophrenogenic environment.

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Schizophrenia seems to be less common in traditional or developing societies than in Western or developed societies. This rather old and somewhat contested insight is not accepted by all researchers in the field (e.g., Leff 1981; Jablensky 1987; Jablensky et al. 1992). However, reviews of epidemiological studies of schizophrenia (Eaton 1985; Torrey 1987) do not support the assertion of a uniform rate of schizophrenia in all populations. Further, Warner's (1985) careful review of legitimately comparable epidemiological studies affirms the contention that schizophrenia is less common in developing countries,

although he points out that the data are not good enough to prove the point. Researchers with viewpoints as different as Torrey (1980) and Sass (1992) have also supported this position. As Sass (1992) states: "The evidence does seem to indicate that the most clear-cut cases of schizophrenia—those characterized by the core symptoms of chronicity and withdrawal, by flat and inappropriate affect, by Schneiderian First Rank Symptoms, and by unusual and abstract styles of thinking—may well be less common in cultural settings where traditional or premodern forms of social organization prevail" (p. 364).

Although it is difficult to say anything about schizophrenia with absolute certainty, the available evidence can be reasonably interpreted to indicate that schizophrenia is rarer in traditional or small-scale societies. Less contentious is the notion that the prognosis for schizophrenia is better in these traditional societies (Murphy and Raman 1971; Waxler 1977; Warner 1985; Jablensky 1987; Hopper 1991; Marcolin 1991; however, see Edgerton and Cohen 1994). Since prevalence is in part a function of duration (Kramer 1957), it should come as no surprise that schizophrenia may be rarer in traditional societies, given the better prognosis. In fact, the results of the World Health Organization (WHO) Ten-Country Study (Jablensky et al. 1992), in which incidence rates in developing and nondeveloping countries were found to be roughly equivalent but with a shorter duration of schizophrenia in developing countries, are consistent with the pattern of lower prevalence in traditional societies.

More difficult still is to assess what happens to the people at risk for schizophrenia who do not develop the condition. If we accept a multifactorial model for the development of schizophrenia (Gottesman and Shields 1982) that combines genetic liability with environmental

Reprint requests should be sent to Dr. J.S. Allen, Dept. of Anthropology, University of Auckland, Private Bag 92019, Auckland, New Zealand.

stressors, then lower prevalence in a given population could be a function of a lower frequency of susceptibility genes or a reduction in environmental stress or both. Conversely, a population in which schizophrenia is relatively common could actually be low in environmental stressors but high in susceptibility genes. In such an environment, many at-risk individuals would not develop the disease, but would instead find socially acceptable roles to fill.

Several explanations have been offered over the years to explain the apparent difference in the expression of madness in civilized and primitive societies. Speculation on the issue dates almost from the time that European scholars began to define the primitive "other" in contrast to themselves (Ackernknecht 1968). As psychiatric classification became more precise and explicit in the early part of this century (Blashfield 1984), specific explanations for the apparently low frequency of schizophrenia in traditional societies began to be offered.

Social labeling theory has played a major role, both implicitly and explicitly, in some of these explanations. The notion that people with schizophrenia might serve as shamans and in other important culturally sanctioned roles not associated with illness is a kind of implicit labeling theory. This idea has been in the literature for some time (Ackernknecht 1943; Spiro 1952; Silverman 1967) and remains, if my own personal communications with researchers and lay people are any indication, part of the general folk wisdom about schizophrenia. However, more recent researchers (e.g., Murphy 1976; Peters and Price-Williams 1980; Allen and Sarich 1988) discount this viewpoint, and Steadman and Palmer's (1994) cross-cultural review of the shaman's role indicates that it would be a difficult (although not necessarily impossible) role for a person with schizophrenia to fill.

Social labeling theory was applied explicitly in the 1970s to explain the difference in prognosis in schizophrenia between traditional and developed countries. Waxler (1977; see also 1974) argues that "each society, through the responses of its members to the mentally ill person, succeeds in molding the patient to meet expectations about what a mentally ill person should be" (1977, p. 233). Thus, the relative scarcity of patients with chronic schizophrenia in traditional societies would in part be due to the absence of an appropriate illness role to occupy. At a basic level, social labeling theory is anathema to the strongly biological orientation of schizophrenia research in the 1980s and 1990s, although it could still be seen as relevant in looking at the social acceptance and treatment of people with schizophrenia. Ironically, within medical sociology, labeling theory "has now fallen out of fashion" (Pilgrim and Rogers 1993, p. 16), in part because it allows

for the possibility that a disease can be identified and discussed objectively at some level.

Unique stressors in the Westernized, post-Industrial Revolution world have also been identified as possible factors affecting the distribution of schizophrenia. Warner (1985) suggests that the presence of stressors (e.g., unemployment) arising from the market economy, combined with the absence of the family and cultural support characterizing traditional societies (as identified by social labeling theorists), has contributed to the possible rise in schizophrenia over the past two centuries. In contrast, Torrey (1980, 1987), reviewing this same time period, points to a viral agent as a significant factor in the etiology of schizophrenia. In his view, schizophrenia is a "disease of civilization" in that civilization is a marker for high population density, which facilitates the spread of infectious agents (1980, p. 178). The role of infectious agents in the etiology of schizophrenia continues to be explored (e.g., Taller et al. 1996).

This brief review of some of the ideas put forth to explain the differences in the prevalence of schizophrenia in traditional and nontraditional societies illustrates the lack of consensus among researchers in the field. These ideas are necessarily speculative and difficult to test; nonetheless, they serve to focus and illuminate attitudes and perspectives on schizophrenia that might otherwise remain disparate. Furthermore, by focusing on universalistic aspects of schizophrenia and its occurrence across the human species, they help "desegregate" schizophrenia (to use Warner's [1985] term).

In this article, I introduce a new hypothesis to explain the distribution of schizophrenia in traditional and nontraditional societies; namely, that the difference in distribution is a result of traditional societies being in some sense more "schizophrenogenic" than nontraditional societies. This hypothesis is based on four assumptions: (1) Schizophrenia is a genetically mediated condition with environmental components in its etiology; (2) although some heterogeneity is present, there are cross-cultural similarities in the etiology of the disease; (3) a multifactorial threshold model for the development of schizophrenia, in which risk and severity are distributed throughout the population (even if only a single primary gene is responsible), is realistic; and (4) the better prognosis of patients with schizophrenia in traditional societies is a real phenomenon and not a measurement artifact. Underlying this discussion is a basic evolutionary/adaptationist assumption: The increased frequency of a given phenotype and associated genotypes in one environment relative to another usually indicates a relaxation of selection against (or selection for) that phenotype in the more hospitable environment.

Before presenting support for this hypothesis, it is useful to define what is meant by the terms "traditional" society and "nontraditional" society. Waxler (1977) describes traditional societies "as having some, if not all, of the following characteristics: largely rural, the basic unit is the family or kin group, economically self-sufficient, have small living groups, are mainly agriculturalists/fishermen/hunters, and have de-centralized political structures" (p. 250). Traditional societies are not necessarily small in population, and in fact, in larger, still-traditional populations, there is partitioning into smaller, more meaningful, and somewhat autonomous groups. In contrast, a nontraditional society is one in which "specialized institutions have taken over the integrating function and where the basic unit of society is the individual, not the family or kin group, [and] sanctions tend to alienate the deviant individual" (Waxler 1977, p. 240).

"Schizophrenogenic" is another term that requires some discussion. A society that contains a large number of putative stressors (e.g., viruses, or anxiety associated with participation in the market economy) that contribute to the development of schizophrenia may be referred to as schizophrenogenic. The problem arises in assuming that a society with an abundance of cases of schizophrenia is necessarily schizophrenogenic relative to one in which the condition is rare. Without knowledge of the distribution of at-risk individuals in both populations, such a determination is impossible to make. Indeed, if we accept genetic involvement in the etiology of schizophrenia, a society with a lower expression of overt schizophrenia could be one in which the condition has been selected against over a long period of time, a process that would be facilitated if the social structure promoted the development of schizophrenia in a high percentage of at-risk individuals.

The relatively low levels of schizophrenia in traditional societies may occur because these societies are more schizophrenogenic than nontraditional ones. The relative increase in the expression of schizophrenia in nontraditional societies may be the result of relaxed selection against schizophrenia or selection for the condition (defined broadly) limited by some frequency-dependent process (Allen and Sarich 1988). The evolutionary origin of schizophrenia is not my primary concern here (for discussions, see Huxley et al. 1964; Carter and Watts 1971; Kidd 1975; Feierman 1994; Crow 1995). Clearly, there is something fundamental about schizophrenia that allows it to persist—even in traditional settings, at a low level—despite obvious fitness costs. Rather, my goal is to explore and explain synchronic patterns of distribution and prognosis of schizophrenia, with special emphasis on the differential expression of the disease in traditional and nontraditional societies.

## Schizophrenia and "Intelligence"

Intelligence testing (in the IQ test score sense) is one of the most pervasive tools for studying the relationship between cognition and social achievement. It is generally agreed that people with schizophrenia have normal intelligence. However, the phenomenon of downward social drift (social selection) in schizophrenia is well documented (Gottesman and Shields 1982; Dohrenwend et al. 1992), indicating that the kinds of correlations derived from normal populations with reference to IQ test score and socioeconomic status cannot hold for this clinical population (Jones 1973; Jones and Offord 1975). In other words, knowing the IQ test score of an individual diagnosed with schizophrenia provides little help in predicting the socioeconomic status of that individual. Recent work in the field of intelligence has sought ways of expanding conceptions of intelligence beyond the IQ test (Sternberg 1990). In an informative study, Sternberg et al. (1981) found one fundamental difference between "experts" (psychologists with doctoral degrees) and "laypersons" (people in the community who responded to an advertisement) in their conceptions of intelligence: The laypersons stressed social competence as an important factor in intelligence, whereas the experts did not.

The importance of social intelligence has been acknowledged in the formulation of the "Machiavellian intelligence" hypothesis (Byrne and Whiten 1988). This hypothesis states that, in the evolution of socially interactive species, the importance of social, or Machiavellian, intelligence may far outweigh the importance of the kind of intelligence (not so evocatively labeled) that deals with the technical or physical world. In social species, other members of the social group may constitute the most critical factor in the environment, especially in terms of generating differential reproductive success. According to Humphrey (1982, 1988) the development of social intelligence depends on "'sympathy' . . . a tendency on the part of one social partner to identify himself with the other and so to make the other's goals to some extent his own" (1988, p. 23). Sympathy is necessary for effective social intercourse. More generally, we cannot interact with another person unless we can make reasonably accurate predictions of the other's behavior in a given context and vice versa. Thus, sympathy is fundamentally a part of the cognitive basis of social behavior. But where does sympathy come from? Humphrey (1982) argues that, in conscious species such as ourselves, it comes from within: Humans are "introspectionists." According to Humphrey, "The introspectionist's privileged picture of the inner reasons for his own behaviour is one which he will immediately and naturally project on other people. He can and will use his own experience to get inside other people's skins" (p. 477).

Crow (1990, 1991) has explicitly linked the concept of Machiavellian intelligence to the origins of schizophrenia in human populations. He agrees that social factors have been critical in the evolution of mammalian and especially primate cerebral capacity. In hominids in particular, the expansion of cerebral capacity has been mediated through lateralization, as is shown by that most social or biobehavioral adaptations, language. Crow argues that, as social interactions increase in complexity, individuality and the ability to discern individuals on the basis of behavior become more important. Furthermore, cerebral expansion presumably leads to greater variability, which also contributes to the development of individuality. Crow (1991) concludes that "schizophrenia (and perhaps other psychoses) may represent a genetic anomaly of the late evolutionary development upon which man's particular capacity for communication depends" (p. 81).

As Crow demonstrates, the application of the Machiavellian intelligence hypothesis yields insights into the origins of schizophrenia. Can it also be applied productively to a consideration of interpopulational variation in schizophrenia within the human species? Recent research has more precisely characterized deficits in social intelligence seen in schizophrenia. Using questionnaire data, Cutting and Murphy (1990) showed that, compared with manics and depressives, patients with schizophrenia have an impaired ability to "appreciate social knowledge about their culture." However, their performance on "nonsocial" questions was equivalent to that of the manic patients. Cramer et al. (1992) found that schizophrenia patients performed worse than controls on a task in which they were asked to identify the emotional state of the principal protagonist in videotaped social interactions. They likened the difference between controls and patients on this task to the difference between a chess Grand Master and a chess-playing computer program. If a person with schizophrenia is given the task of making social judgments in a structured environment with well-established rules, his or her performance can, with training, match that of the controls. However, in an unstructured social perception test (as described in their study), which may approximate real-world situations more closely, the schizophrenia patients cannot formulate an accurate "general strategic concept" and thus make social errors. In another relevant study, Amador et al. (1994) found that "poor insight is a prevalent feature of schizophrenia and that severe unawareness is more common in patients with schizophrenia than in those with schizoaffective disorder or major depressive disorder with or without psychosis" (p. 832). They concluded that poor self-awareness is not a generalized feature of psychosis, but may be a unique feature of schizophrenia, stemming from "neuropsychological dysfunction associated with the disorder" (1994, p. 826).

The studies discussed above indicate that patients with schizophrenia have deficits in social intelligence that are discrete and isolable from the more florid signs of the condition. In fact, these deficits share with the many information-processing deficits in schizophrenia the distinction of being nonpathognomonic: Nobody will be diagnosed with schizophrenia for having poor insight or poor social judgment in the absence of other symptoms. However, these features, which help provide a broad characterization of the schizophrenia phenotype, are important in addressing the problem of the distribution of schizophrenia genotypes in different populations.

## Traditional Societies and Social Competence

In an article on the evolution of language, Aiello and Dunbar (1993) attempt to calculate a "natural" social group size for *Homo sapiens*. In looking at 20 contemporary hunter-gatherer groups, they calculated a mean group size of 153 individuals; this figure approximated other natural assemblages of humans, including Hutterite communities, military units, and research specializations (revolving around specific research problems) in science. In older ethnographic terminology, such a group might constitute a face-to-face society. Any traditional, small-scale society, whether egalitarian or hierarchical, necessarily maintains interactive social group sizes characteristic of a face-to-face society. Even some large-scale but substantially traditional and developing populations are likely to be partitioned into highly interactive social units of this size. In contrast, large-scale nontraditional societies, especially industrialized societies that tolerate a large degree of inter- and intrapopulational movement, deviate significantly from the face-to-face pattern. As demonstrated by Aiello and Dunbar (1993), group sizes on the order of 150 are prevalent; however, larger and, more importantly, smaller group sizes are also found. Variation in individual social network size increases, with individuals in some positions requiring direct contact with hundreds of individuals, whereas others get by with regular contact with a mere handful. Anyone who has taught a large lecture class consisting of hundreds of students has experienced this paradoxical aspect of living in a large-scale society: One may have regular contact with hundreds of people, yet not have a single conversation with any of them or know any of them by name. In terms of social networking, large-scale societies provide options that are not available in small-scale, face-to-face groups. To some extent then, traditional societies require larger social networks at the individual level.

Ethnographic studies provide ample evidence for the

notion that traditional societies value a basic level of social competence more so than less-traditional societies (e.g., Turnbull 1961; Salmond 1975). Indeed, if anything defines the transition from a traditional to nontraditional society, it is the loss of opportunities for face-to-face social engagement on a regular basis. Isolation and anomie are common themes in the literature of urban life. These are themes that would probably be quite foreign to the majority of hunter-gatherers. Another important aspect of traditional society is that social rules and roles are often defined implicitly, rather than explicitly. Again, functioning in such a system requires a great deal of social expertise.

I return now to the question posed in the title of this article: "Are traditional societies schizophrenogenic?" As discussed above, there is ample evidence to demonstrate that people with schizophrenia have deficits in social skills essential for the maintenance of normal social relationships. It is interesting to note that these specific social deficits are not related directly to the more florid signs of the expression of schizophrenia: the difference between schizophrenia patients and controls is therefore quantitative not qualitative. Individuals who are constitutionally at risk for developing schizophrenia might be expected to adapt at an individual level by avoiding social situations and roles demanding a high level of social competence. In a small-scale society, however, there would be relatively few options in this regard (with shaman not being one of these few). Although such roles would not be abundant in any society, they are certainly more prevalent in larger, more socially differentiated populations.

As Crow (1991, 1995) has argued, the potential for some individuals to develop schizophrenia may be a by-product of our social evolution; the cross-cultural data certainly suggest that the genes underlying schizophrenia can be found in virtually all populations. In traditional societies, the greater emphasis on social competence would lead to increased stress on individuals who are susceptible to developing schizophrenia. Such stress would contribute to crossing the "threshold" (Gottesman 1991) toward developing overt schizophrenia. An individual with a latent capacity for developing schizophrenia might not do so in a large and complex society with great role differentiation, but in a traditional society, the general and inescapable stresses of social life could well be a schizophrenogenic factor. Although social labeling theorists have suggested that traditional societies are in some ways kinder places for people with schizophrenia, Murphy (1983) points out that this is not necessarily the case: "Communities which provide much support for their members often also impose many demands, and quite high rates of schizophrenia in village communities are

found if the demands are such that persons with certain types of mental defect find difficulty in making adequate response" (p. 160).

Because people with overt schizophrenia have reduced fertility compared with people without the disease (see references above on the evolution of schizophrenia), there is negative selection operating against the genes underlying schizophrenia (at least when they are in the bodies of overt sufferers). If social stress contributes to a schizophrenogenic environment in traditional societies, selection against schizophrenia genes would be greater in these populations than in nontraditional societies. Consequently, over time, schizophrenia should be less common in them relative to the marginally more accommodating nontraditional, large-scale societies.

Evidence in support of this hypothesis comes from two areas. First, studies of families with members with schizophrenia strongly indicate the importance of the social and emotional environment in promoting or preventing relapse (Brown et al. 1972; Falloon et al. 1984). Scales of expressed emotion have been developed that attempt to identify styles of interpersonal communication and involvement that may be indicative of family environments more likely to cause schizophrenia relapse. Jenkins and Karko (1992; see also Jenkins 1991) have argued cogently that expressed emotion in relation to schizophrenia-type illness should and does vary cross-culturally; however, the communication/interactive styles of other family members are still a critical factor in the course of illness of the individual with schizophrenia. Studies of expressed emotion have, logically enough, concentrated on the nuclear families of schizophrenia patients; in urbanized, Westernized societies, the nuclear family is the social unit most concerned with the well-being of the ill individual and the one with which he or she will have the most contact. But the nuclear family is of course an arbitrary construct: Both biologically and culturally, a human family has no strict boundaries. Traditional societies are noted for the maintenance of extended families and kin groups; indeed, in some cases, relatively large-scale social units may in effect be regarded as kin. The expressed emotion studies indicate that the welfare of a person with a schizophrenia-type illness is to some extent in the hands of those with whom he or she interacts regularly and that family members (kin) are of especially critical importance (Grenell 1987). Like everyone else, people with schizophrenia need some level of social contact to stave off loneliness and feelings of marginalization; however, increasing regular contact with greater numbers of individuals simply increases the chances of becoming involved with kin, other individuals, or social groups exhibiting patterns of expressed emotion that would pro-

mote relapse. A nuclear family or a small support group, provided it maintains an appropriate level of expressed emotion, may be a good compromise: large enough to provide adequate social support, but small enough, from the perspective of the ill individual, to manage or reduce social risks. In a traditional or small-scale society, the option to reduce the size or magnitude of social or kin networks and obligations would be less available.

Another line of evidence consistent with the hypothesis proposed involves the major differences in prognosis of patients with schizophrenia in traditional versus nontraditional societies once they are diagnosed with the disease (Murphy 1983; Jablensky 1987). For example, in the WHO study (Jablensky 1987), 40 percent of the patients diagnosed with schizophrenia in developing countries had a "good outcome" compared with only 15 percent in developed countries. Given the hypothesis outlined above, one would expect to see more "acute" or good-prognosis schizophrenia in traditional societies because they are more schizophrenogenic than nontraditional societies, and thus mental illness develops even in individuals who range toward the less at-risk end of the schizophrenia spectrum. In these societies, the threshold for developing schizophrenia is in effect lower; thus, an increased percentage of the total who are diagnosed will be from relatively low-risk (and presumably low-severity) cases. In a society with a higher threshold (i.e., with less of whatever stress is relevant), a higher percentage of those who actually develop overt schizophrenia will necessarily come from people who are more likely to develop severe forms of illness. Those who are less likely to be severely ill do not develop the disease.

In the long run, whatever the particular stressors are, a population with a lower threshold for inducing schizophrenia in at-risk individuals should have less overt schizophrenia developing (as the genes responsible are selected against), with an increasing percentage of relatively less severe cases. With a higher threshold, there would be a bias toward observing (diagnosing) more severe cases while paradoxically maintaining the genes underlying the development of the disease in the less at-risk individuals who do not become overtly mentally ill. In more real-world terms, small-scale, hunter-gatherer populations would have long ago reached an equilibrium maintaining a relatively low level of schizophrenia. With the advent of large-scale, agricultural, and, ultimately, nontraditional anomic societies, an increase in schizophrenia has resulted, accompanied presumably by an increase in the frequency of schizophrenia alleles in individuals who are not diagnosed with the disease.

## Conclusion

Talking about humankind in terms of the traditional and nontraditional or the developed and developing is of course an oversimplification. But clearly, in the context of schizophrenia, as indicated by the writings of Torrey, Warner, Sass, H. Murphy, and many others, there is some utility in doing so. It is also an oversimplification to talk about people with schizophrenia and those without it. For example, the unaffected identical twin of a patient with the disease is not like most other people in terms of risk for developing it. This becomes more complex in a population-wide assessment as the risk factors, both biological and environmental, become more diffuse and less discrete.

In this article, I have argued that traditional societies may be relatively schizophrenogenic compared with nontraditional societies. In other words, if we accept a multi-factorial threshold model for the development of the disease, then traditional societies have a lower threshold for inducing schizophrenia. This lower threshold results not only in the appearance of a relatively high frequency of good-prognosis schizophrenia but also in stronger selection against genes predisposing to the development of the disease; therefore, compared with nontraditional societies, schizophrenia is less common. I have also suggested that social stress in traditional societies may contribute to this schizophrenogenic environment; however, there are other factors that could be relevant. As Torrey (1980) points out, "Life in 'primitive' societies can be extremely stressful, with the constant threat of starvation, disease, and warfare" (p. 175). Torrey goes on, however, to equate a schizophrenogenic environment with one in which there is necessarily an abundance of the disease: "If stress were related to schizophrenia; one would expect a very high rate in such societies" (p. 175). This is a common conclusion, but as I have argued here, not the only one warranted by the available evidence.

Social labeling theorists and others have implied that it may be possible to learn something about the treatment of schizophrenia by observing what happens in traditional societies. In a broad sense, this is true. A comparative framework introduces new perspectives that may lead to new insights. Unfortunately, we really do not know whether traditional societies are "better" for people with schizophrenia, nor is it obvious that it would be possible to implement traditional treatment in a nontraditional setting. Certainly, whether or not traditional societies are compassionate and nurturing of their mentally ill has no bearing on how people with schizophrenia should be

treated in nontraditional societies. In fact, large-scale societies with great role differentiation and tolerance of individual expression may be the most nurturing (i.e., non-schizophrenogenic) environment possible for people at risk for developing schizophrenia, paradoxically resulting in an increase in chronic and severe schizophrenia observed at the clinical level.

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## The Author

John S. Allen, Ph.D., is Senior Lecturer in Biological Anthropology, Department of Anthropology, University of Auckland, Auckland, New Zealand.