

# Comment on the Lewis and Griffin Explanation for Season of Birth Effect in Schizophrenia

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## Abstract

*The contention of Lewis and Griffin that the reported tendency for schizophrenics to be born in winter months is an artifact is refuted. In addition to weaknesses in their argument, the present note points out that the composite of relevant literature produces a meaningful assemblance of findings that includes an excess of schizophrenic winter births in the southern hemisphere.*

Lewis and Griffin (1981) contended that the widely published trend for schizophrenics to be born in the winter and early spring is an artifact. Their rationale is based upon the not untenable assumptions that risk of first admission begins at age 18 and that the peak of first admission for schizophrenia is age 34. They stated, "In 1954, the people born in 1936 are at their second year of risks: those born in January have been at risk for 23.5 months, and those born in December have been at risk for 12.5 months." They said, "In a population born in 1937 and diagnosed at the end of 1954, people born in January

would be almost 18 years old. Since the incidence of schizophrenia for 18 year olds is higher than it is for 17 year olds, it follows that people born in January will have a higher incidence than people born in December. Consequently, there will appear to be an excess of schizophrenics born in January."

Lewis and Griffin determined the number of obtained and expected births each month for schizophrenics first admitted to Missouri State Hospitals between 1966 and 1977 and born between 1927 and 1959. They did this in two ways. In the first, they compared the monthly distribution of schizophrenic births to that in the general population as had been done by previous investigators. They found an excess of schizophrenic births in the winter and spring months as previous researchers reported. In the second determination, they corrected for "person-months at risk." They corrected for example, for the fact that in a given year, if two persons are born in the year that is 20 years before, the person born in April will have been at risk a month longer than the person born in May. With such a correction there were no significant excesses or deficits of schizophrenic births.

The present author acknowledges that in any given year there will be youthful schizo-

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phrenics, let's say, born in the year two decades before who have a disproportionate number born in the early months because of the effect that Lewis and Griffin describe. However, even Lewis and Griffin acknowledge that their "age prevalence effect" declines with greater years of risk. Thirty year olds have been at risk for a longer time than twenty-year olds, and therefore a few months of at risk differential requires proportionately less correction for the former. However, it appears that Lewis and Griffin did not consider in their calculations the fact that after the peak incidence, i.e., 34 years of age, months at risk should be negatively related to the number of persons becoming schizophrenic. Let us consider the persons born in the year 40 years before the year of first admissions under consideration. Those born in January would be further removed from the age when a first schizophrenic admission is likely and would therefore be proportionately under-represented in first schizophrenic admission. Rather than simply a negatively accelerating positive relationship between time at risk and probability of having a schizophrenic first admission in the year under consideration as Lewis and Griffin would appear to imply, it would seem that this relationship is positive only until age 34 and negative afterward.

If the artifact described by Lewis and Griffin actually exists and exerts considerable influence, then there should be a pronounced decrease in excess of schizophrenic births, as one goes from January through December. To determine if such is the case the present author rank ordered, from greatest excess of schizophrenic births to greatest deficit, from Lewis and Griffin's Table 1 in which number expected is not corrected for their contended age prevalence effect. Excess was defined as the ratio of the obtained to the expected. The Spearman rank order correlation between temporal position of month (January = 1, December = 12) and excess of schizophrenics is only  $-.41$ . It therefore certainly does not appear that the age prevalence effect is a profoundly distorting, one, especially when one considers that the earlier months tend to be colder. In fact, the rank order correlation between temporal

position of month and average of the U.S. Weather Bureau mean monthly temperatures for Missouri from 1927 to 1959 is  $-.39$ . The evidence is quite consistent that seasonality of schizophrenic births is negatively and appreciably associated with temperature (Barry, 1940; Barry and Barry, 1964; de Sauvage Nolting, 1934; Hare and Price, 1969; Hare, Price and Slater, 1974; Huntington, 1938; Lang, 1931; McNeil, Raff and Cromwell, 1971; Norris and Chowning, 1962; Odegard, 1974; Petersen, 1934; Templer and Austin, 1980; Templer, Halcomb, Barth-low, Ayers and Ruff, 1978; Tramer, 1929). For the Lewis and Griffin Table 1 data, the correlation between excess of schizophrenia and mean temperature of month is  $-.71$ . It is noteworthy that for the Table 2 data, which are correlated for the age-prevalence effect, the correlation is  $-.52$ , lower than with the non-corrected data but still significant.

In conclusion, the Lewis and Griffin penetrating methodological contributions are useful, but are unlikely to invalidate the well established trend for schizophrenics to be born in the colder months. Artifacts are less likely than real phenomena to produce a meaningful assemblance of findings. To illustrate, seasonality of schizophrenic births has been found to be more pronounced in Europe than in the United States and in colder than warmer countries (Templer et al., 1978; Templer and Austin, 1980a). Such findings mesh with the harmful effects hypothesis (McNeil, Raff and Cromwell, 1971) insofar as factors as infection, nutritional deficiency, and various perinatal conditions could be relatively more devastating in the cold months in colder climates as well as in Europe which has had less prosperity and protection from the elements than the U.S. over most of this century. On the basis of reasoning stressing the role of technology and protection from the elements, Templer and Austin (1980b) predicted and found a significant decrease in the seasonality of schizophrenic births from 1900 to 1960 in Missouri. A number of the postulated harmful effects do display some seasonality (Tor-rey, 1980). Perhaps most difficult to be explained away by the Lewis and Griffin contended artifact is that in the southern hemis-

phere there is an excess of schizophrenic births in the winter months there (Dalen, 1965, 1968; Jones and Frei, 1979; Parker and Neilson, 1976).

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# Book Reviews

**Psychiatry Around The Globe:  
A Transcultural View**

**Julian Leff**

**Marcel Dekker Inc.**

**New York, 204 pages, \$19.50, 1981**

The latter part of the 20th Century has been characterized by the mingling through migration of diverse cultural and racial populations. In the past thirty years, for example, North America has hosted refugees from such far-flung geographical areas as Eastern Europe, South-East Asia, Africa, and the Caribbean. Not surprisingly, this jet-age form of cultural diffusion—typically involving close contact of persons of wholly different ethno-religious ideologies—has engendered its share of psychic costs. It has also afforded us the opportunity to make serious cross-cultural studies of how psychiatry operates in social environments relatively divorced from our own.

Julian Leff, a British social psychiatrist and author of **Psychiatry Around The Globe**, has addressed both of these subjects acutely, in an attempt to ascertain whether certain mental afflictions are strictly ethno-psychological, or whether they transcend all cultural boundaries. Leff succinctly underscores the importance of a cross-cultural

psychiatric investigation, (environmental psychologists take note):

"If a psychiatric disorder is found to have the same manifestation in two different cultural settings, then it must either be the product of genes that are common to man as a species or else the consequence of environmental features which are shared by the two cultures. The more diverse the cultures are, the more likely are genes to be the cause of illnesses which take an identical form. On the other hand, differences in manifestation of an illness in a number of cultures can lead to the identification of environmental features which may exert an influence on the form of the illness."

The quintessence of Leff's research can best be described by listing the four major questions through which he focused his studies:

- (1) Do psychiatric conditions look the same in different cultures?
- (2) Do psychiatric conditions have the same frequency in different cultures?
- (3) Are psychiatric conditions treated differently in other cultures?
- (4) Do psychiatric conditions have a different course in other cultures?

In answering the first inquiry, Leff cites the critical issues of semantics and cultural

relativism as crucial factors in determining morbidity, and the methodological problems which can surround them. (The discussion on the relevance of linguistics vis a vis diagnosis, will be of particular interest to philosophers of psychiatry.) Leff posits the means by which one may determine culture-bound or culture-free psychiatric symptoms.

Leff's acceptance that "certain psychiatric conditions can be recognized in a variety of cultural settings. . . schizophrenia is recognizable wherever it occurs in the world and its form is relatively independent of cultural influences. . ." leads him to question 2.

In attempting to answer question 2, Leff is wisely cautious. The overall dearth of international incidence-rate studies hampers a concrete conclusion. Yet, he tenders some empirical data that can persuade one to believe its answer to be in the affirmative.

For question 3, Leff undertakes a cross-cultural comparison of shared and disparate psychiatric treatment protocols. Here, it becomes obvious that the author has developed a certain objective respect for some bizarre, but effective, therapies utilized in primitive cultures. While traditional western psychotherapists might scorn such a proposal, Leff believes that there may be a few things we can learn from our so-called primitive cousins. Moreover, some may well be surprised to learn how much influence the primitives have had on contemporary western medicine.

Leff found answering the fourth question—again due to methodological constraints—somewhat problematic. With nonexistent after-care facilities in the underdeveloped nations, follow-up of a patient's long-term health is often next to impossible. The author does, however, adduce one sound study by which to compare treatment courses undertaken in the west; once more invoking interest in the reader.

In addition to an in-depth investigation of psychiatry in alien cultures, Leff views psychological problems in the context of migration, and discusses the methodological difficulties which may be encountered in such a study. Leff's synthesis of cross-cultural psychiatric research is engrossing, encompassing and extremely well-considered. While this is science

at its finest, it is not the "dry bones" material of so many texts on comparative psychiatry. Rather, it is as absorbing and readable as Frazer's famed anthropological opus, **The Golden Bough**.

If one criticism could be leveled at this work, it would be that the book should have been longer. But Julian Leff can be applauded even on this account, for **Psychiatry Around The Globe** contains intelligent suggestions for further research, replete with suitable methodology.

**G. Charles Brown.**

### **What Happened To My Mother**

**Henry Edwards**

**Harper & Row**

**New York, 1981, 174 pages.**

The combination of a psychotic mother and a successful writer is rare. Even rarer is the use of orthomolecular treatment to help that mother recover. This story chronicles his mother's illness, her treatment at two of the best New York City private psychiatric hospitals and her failure to respond. Finally she is treated by an orthomolecular psychiatrist and then regains her mental health. The book is featured in the **Reader's Digest**, May, 1982.

The Katz family and their son, Henry Edwards, are treated by the best available psychiatric treatment, according to the physicians they consulted. In the first hospital, a very expensive psychoanalytic center in Manhattan, Mrs. Esther Katz was treated by what might be termed "benign neglect," even when she requested a bedpan. Because her leg was in a cast she could not go to the bathroom herself. She was also given Haldol in an amateurish way according to the second hospital she later entered. Her family were also treated with neglect. They were not given her diagnosis except to suggest Mrs. Katz probably had organic brain disease. Their calls were ignored. Both husband and son who started out with hope this excellent

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hospital could help wound up disillusioned and hostile. Eventually when she was able to walk Mr. Katz took her home, deciding he could do better than the hospital (then charging \$290.00 per day for room and board) or the nursing home the hospital advised. It is clear from the account in this book Mrs. Katz had one of the schizophrenias with depression, coming on late in life. It is possible previous treatment with corticosteroid drugs had something to do with this.

At home Haldol was discontinued and her paranoid delusions recurred. She was later admitted to the second hospital, on Long Island. This hospital specialized in milieu therapy (this has been defined by some critics as the right to smell the institution's air.) This hospital was kinder, more stimulating and to me appears to be a much nicer place. The results were no better and Mrs. Katz once more found herself at home, very ill.

Finally she reluctantly went to an orthomolecular center on Long Island. She was found to have hypoglycemia, which explained her craving for sweets, and she was given advice on following a good diet with vitamin supplements. The entire family which had tried standard therapy (analytic, individual and group) with hope, were thoroughly repelled by the best offered by modern psychiatry. They were very skeptical of nutrition and supplements but went along reluctantly because Mrs. Katz was so ill and they were so desperate, and she recovered.

There is a simple message: the most important treatment for psychosis is nutritional. Other treatments, which are considered the treatment by the American Psychiatric Association, are merely palliative.

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# SYMPOSIUM

**Huxley Institute for Biosocial Research**  
Hyatt Birmingham Hotel, Birmingham, Alabama  
October 15, 16, and 17, 1982

**Theme:** *Nutrition, Health and Human Behavior—the Orthomolecular Perspective*

**Speakers:** Dr. J. Beaton

*The Effect of Nicotinamide on Sleep*

Dr. S.T. Christian

*DMT—An Endogenous Hallucinogen*

Dr. A. Cott

*The Allan Cott School*

Dr. A. Hoffer

*Orthomolecular Nutrition*

Dr. R. Kunin

*Survey of New Discoveries in Minerals and Trace Minerals*

Dr. B. Rimland

*Treatment of Austic and Hyperactive Children*

Dr. H. Ross *Mood Disorders*

Dr. A. Schlosberg

*The Effect of Longterm Caffeine Injections in Rats*

Dr. J. Smythies *Physiological Psychiatry—A New Concept*

Dr. L. Tolbert *Ascorbate as an Inhibitor of the Brain Depressive Reactor; Potential for Ascorbate as an Anti-Schizophrenic Agent*

*One-Carbon Cycle Enzymes in Schizophrenia: a MAT Defect Demonstration*

Dr. G. Vickar

*Survey of Vitamins and Amino Acids*

Dr. R. Wunderlich

*Orthomolecular Pediatrics*

Banquet Speaker—*Glen Ireland, Commissioner Of Mental Health, State of Alabama, introduced by Dr. William Hill, President, of the University of Alabama in Birmingham.*

Dixie Annette Award Winner—*Dr. Allan Cott*

For further details—Huxley Institute for Biosocial Research, 219 East 31st Street, New York, N.Y. 10016.