by Allan F. Mirsky

Abstract

The National Institute of Mental Health joint study by the United States and Israel, known as the Israeli High-Risk Study, is a unique long-term followup investigation of children at genetic risk for schizophrenia. We compared the development of psychiatric disorder in two groups of such children, one group raised in kibbutz environments, the other by their own parents. Matched controls were studied as well. The subjects were evaluated at ages 11, 17, and 26; an extensive battery of cognitive and clinical tests, as well as psychophysiological and diagnostic procedures, was used. This issue of the Schizophrenia Bulletin reports and summarizes evaluations conducted when the subjects were in their early thirties, as well as some previously unreported data obtained when the subjects were 17 years old.


In 1985 a progress report was presented on a unique longitudinal followup study of children at risk for the development of schizophrenia: the National Institute of Mental Health (NIMH) joint study by the United States and Israel, known as the Israeli High-Risk Study. The study was designed as an investigation of the relative contributions of genetic and environmental factors in the etiology of the disorder. Virtually all of Vol. 11, No. 1, 1985, of the Schizophrenia Bulletin was devoted to that report. This current issue of the Bulletin is devoted to a 25-year followup on the same group of children, who are now in their early to middle thirties.

The Israeli High-Risk Study was unique in that it capitalized on a childrearing circumstance, that is, the children's house in the Israeli kibbutz, found nowhere else in the world. This method of childrearing owes much to the utopian-feminist orientation of the early kibbutz movement. A professional child-care worker or metapelet is responsible for rearing the young in a communal children's house. Most of the children's day is spent in the communal setting, although they usually spend part of the day with their parents. This group experience prepares the children for later communal living and also frees the mothers for other occupations and activities.

In the 1960s when the study was conceived, theories of the etiology of schizophrenia emphasized the role of the dysfunctional family environment in which the offspring of parents with schizophrenia were raised (Lidz et al. 1957, 1965; Wynne et al. 1958; Wynne 1967, 1968, 1972; Lidz 1972) and promoted the view of the schizophrenogenic mother (Mahler 1952; Mahler et al. 1954). Alternative views, emphasizing the importance of genetic factors, were beginning to be expressed (e.g., Gregory 1960; Shields and Slater 1961), but most research to that point was based on either small samples or samples in which genetic and environmental factors were confounded. Ultimately, family, twin, and adoption studies would provide clear evidence of the salience of heredity in the disorder (Gottesman 1990).

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saw the possible relevance of the kibbutz childrearing experience for what he labeled the "nature-nurture" debate about the etiology of schizophrenia. He designed a study that would take advantage of this particular social circumstance: It would be necessary to identify a sample of children at genetic risk (because they had a parent with schizophrenia) who were being raised on kibbutzim and to follow their development over time. Rosenthal theorized that the stability and continuity afforded group-raised children at risk for schizophrenia would have a measurable impact on their development. Such children might be less likely than those raised in their nuclear families to suffer the frequent absences and unpredictable behavior of a parent with mental illness. Thus, the capacity of these vulnerable children to grow and develop normally should be modified, possibly in a favorable direction.

To execute a satisfactory research design, it would be necessary to recruit children from four groups of families: vulnerable (or index) cases being raised on kibbutzim, similar cases from nonkibbutz environments (i.e., cities and towns in Israel), and control families from both types of environments. The outcomes in the two groups of vulnerable children could then be compared after they reached the age of maximum risk for the disorder. Four groups of 25 children each, matched in terms of age and sex, were to be studied. While this design did not have the power of an adoption study, in which the offspring of persons with schizophrenia are raised by parents without schizophrenia, it would permit at least partial unconfounding of the effects of nature and nurture.

Although the project was conceived initially by Rosenthal, it would not have been possible without the wisdom and influence of the major Israeli collaborator, Shmuel Nagler of the Child Guidance Clinic, Oranim Teachers' College, Tivon, Israel. The kibbutz movement has been the focus of many sociological and psychological studies, but it is very protective of its members. Nagler was able to convince the members of individual kibbutzim of the importance of the proposed study, not only for the scientific world in general, but for the kibbutz movement itself. Nagler also sounded a note of caution in the Schizophrenia Bulletin, warning that a firm prediction of the study's outcome could not be made. "The kibbutz structure . . . might have a detrimental effect on the development of children of schizophrenic parents. In such a small, closely knit community, it might be more difficult than in a city or town to keep knowledge of mental illness in the family; parents' bizarre behavior in public might induce feelings of embarrassment and shame in children. . . . Unlike the child in town, the kibbutz child has to stay with his classmates day and night without any possibility of escape" (Nagler and Mirsky 1985, p. 25).

Many Israeli colleagues, whose names appear as authors of articles in the 1985 Schizophrenia Bulletin (Vol. 11, No. 1), were enlisted by Rosenthal and Nagler to join the enterprise. Overall summaries of the design of the project are contained in Nagler (1985), Nagler and Mirsky (1985), and Silberman and Mirsky (1985). In brief, the study involved the assessment of a large number of clinical variables (including soft neurological signs), observational variables, and objective variables in the four groups of children: the Kibbutz-Index (KI), the Kibbutz-Control (KC), the Town-Index (TI), and the Town Control (TC) groups. The subjects would be evaluated at regular intervals before and after the period of maximum risk.

The NIMH-Israeli High-Risk Study began in 1964, a time when the excitement of genetic studies in schizophrenia was beginning to affect many investigators. At or about that time the landmark research of Heston (1966), Mednick and Schulzinger (1968), Kety and colleagues (1968), and others either was being planned or was under way, using in some instances the excellent national health records in Scandinavian countries. In 1971, Erlenmeyer-Kimling began her New York High-Risk Project (Erlenmeyer-Kimling et al. 1984).

The concept behind a longitudinal high-risk study, namely, following a group of children at genetic risk for schizophrenia until they reach the age of maximum risk and beyond, is not unique. The virtue of such a study is that it permits the early identification and tracking of variables that might interact with the schizophrenic diathesis to produce a disordered phenotype. Children at Risk for Schizophrenia contained reports from at least 10 groups of investigators (the high-risk consortium) with this goal (Watt et al. 1984). In at least three of the projects, data were still being collected as of 1991–92: the Israeli High-Risk Study, the New York High-Risk Project (Erlenmeyer-Kimling et al. 1984), and the Jerusalem Infant Development Study (Marcus et al. 1984). Progress reports on some of the remaining projects appeared in Vol. 13, No. 3, 1987, of the Schizo-
phrenia Bulletin, and a summary of the status of these studies as of 1988 was presented by Asarnow (1988).

The fortunate circumstance of the project's location under the aegis of NIMH's Intramural Research Program afforded a certain degree of long-term stability. Nevertheless, each of the four NIMH Intramural Research Directors during the period 1964–92 had to be sufficiently sanguine about the endeavor's value to allow it to continue.

The material we are presenting in this issue of the Bulletin represents a 25-year followup of the same cohort originally identified around 1964 and first assessed in 1966. The test and interview data we present were gathered for the most part during 1989 and 1990, although some information was added as late as the summer of 1991.

Three major themes tie together the articles in this issue dealing with the joint NIMH-Israeli study.

First: Diagnostic Outcome. Our initial result with respect to diagnostic outcome was that considerably more cases with a diagnosis of psychopathology (including six of the nine schizophrenia spectrum cases) were found in the KI group than in the other three groups combined. This result seemed to support the guarded prediction made by Nagler and Mirsky (1985), quoted earlier. The degree to which that result was sustained or modified by the incidence of new cases over the ensuing 8 to 9 years was obviously of great interest. Since the 1981 assessment, have more persons been identified as suffering from schizophrenia, schizophrenia spectrum disorders, or other Axis I or Axis II disorders? And, closely related to this question, how are the new cases, if any, distributed throughout the four groups (KI, KC, TI, and TC)? This is the focus of the article by Ingraham et al. (1995, this issue).

Second: Behavioral Assessments. Numerous assessments were conducted in 1966, 1972, and 1981, most of which suggested that the index cases did not do as well as the controls on measures of personality, cognition, and neurointegrative organization. The question of interest is whether these differences (to the extent that they could be reassessed) existed in 1989–91. This issue was pursued extensively in the 25-year assessment and is the theme of the articles in this issue by Frenkel et al. (1995), Ingraham et al. (1995), Kugelmass et al. (1995), Mirsky et al. (1995a, 1995b).

Third: Parental Rediagnoses. Questions were raised about the initial selection of the proband parents. It was suggested that some of the parents were misdiagnosed as having schizophrenia and that they were in fact suffering from schizoaffective or even affective disorders. This criticism stems from the identification of 11 persons with affective disorders (vs. 9 with schizophrenia spectrum disorders) among the 90 probands (Mirsky et al. 1985). We sought to rediagnose as many of the surviving parents of the probands as possible using the criteria of DSM-III-R (American Psychiatric Association 1987). The results are reported in the article by Ingraham et al. (1995, this issue).

Comment
We administered diagnostic interviews to 98 of the 100 subjects at least once as adults, that is, between 1981 and 1991; consequently, the articles dealing with the first theme, diagnostic outcome, leave fewer questions unanswered. Our answers to the questions raised in relation to the second and third themes (behavioral assessments and parental rediagnoses, respectively) must be somewhat more guarded, since many subjects were either unavailable for testing or refused further participation. Nevertheless, we believe that the present series of articles provides a considerable amount of new information and is a necessary complement and valuable followup to our 1985 publications describing this unique cohort.

References


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