

BOOK REVIEWS

G. FRANK: *The Wechsler Enterprise: An Assessment of the Development, Structure and Use of the Wechsler Tests of Intelligence*. Pergamon Press, Oxford (1983). vi + 191 pages. £15.

If the author has his way, you are now reading a review of the last book about the Wechsler tests of intelligence that will ever need to be written:

"The Wechsler tests are like the dinosaur, too large, cumbersome and ill-fitted and awkward in the age in which they developed, unable to remain viable in a psychometric age which has passed it by in conceptualization. As with the dinosaur it is time for the Wechsler test to become extinct" (p. 126).

An impressive array of documentary evidence is amassed to demonstrate the uselessness of the Wechsler. The list of references alone occupies 47 pages. Based on analyses of the research evidence, the author's conclusions include the following:

- The various forms of the Wechsler are insufficiently correlated with each other to be useful as alternative forms.
- The Deterioration Quotient (developed to reflect impairment due to ageing) is a faulty indicator of mental deterioration.
- The research on differences between Verbal and Performance IQs leave us unable to interpret their meaning.
- Patterns of subtest scores have no clinical utility in diagnosing cerebral pathology, alcoholism, schizophrenia, neurosis or most other psychiatric categories.
- While some studies show moderately consistent subtest patterns for sociopathic personalities (e.g. good scores on Object Assembly, poor on Arithmetic) and for anxious individuals (e.g. low scores on Digit Span), these conditions are far better diagnosed using more direct methods.
- Scores are confounded by differences arising from the gender, age, race and socio-economic status of examinees as well as by the factor analytic 'impurity' of the subtests.
- Even the Wechsler's ability to predict scholastic performance is modest, and grade point averages can be predicted more efficiently by other means.

I sensed only a limited objectivity in this evaluation of the Wechsler. The author seemed to be building a case against it from the start. Research studies were cited generally without criticism of their methods. Tables of correlations were reported without sample sizes. And certain fundamental psychometric principles (e.g. the effect of restrictions of range on correlation coefficients) seemed to go unrecognized.

Despite these faults, the author's general conclusion is probably correct. The age of individually administered intelligence tests is finished. The end of an era is sad in some ways. I recall with nostalgia the thrill of learning how to administer the Wechsler-Bellevue, "the best intelligence test available", when I was a graduate student 34 years ago. Almost all that I learned then has subsequently proved to be untrue... including now the value of the Wechsler tests. I am overawed by the magnitude of human effort that has gone into developing, administering, interpreting and researching the Wechsler tests over the past 50 years. But with all that effort, how many individuals were really helped by the Wechsler? How many were damaged by faulty diagnoses and denigrating labels? We will never know, but the end of this era has a happier side too. We now know better how to help people learn to modify their inappropriate behaviours, emotions and cognitions without needing to label them first with an IQ score. Rest in peace, Dr Wechsler.

JOHN D. KRUMBOLTZ

R. B. CATTELL (Ed.): *Intelligence and National Achievement*. The Institute for the Study of Man, Washington, D. C. (1983). 176 pages. \$25.00.

This slim volume deals with a momentous topic indeed: the educational, cultural, social and economic consequences of the distribution of human intelligence in communities and nations. In recent years, we have seen a great renewal of interest in research on the nature of intelligence. From this scientific ferment, at least four major findings have gained a high degree of consensus among the experts in this field.

(1) There is a general factor of ability which enters in some degree into every kind of mental task; this general factor is the core of the popular conception of intelligence.

(2) It is possible to measure individual differences in intelligence objectively and reliably by a variety of psychometric tests.

(3) A substantial part of individual variation in intelligence is conditioned by genetic factors, which can be modified in their expression, within relatively narrow limits, by variations in environmental conditions.

(4) Intelligence is the overwhelmingly predominant factor in scholastic achievement.

Current research in this field has been concerned largely with the detailed analysis, refinement and theoretical integration of all these phenomena, and with attempts to relate them to elementary cognitive processes, neurophysiological variables and evolutionary concepts. What has been most conspicuously lacking in all this recent effort, so far, is a thorough analysis and theoretical development of the broader social implications of intelligence. As one of the major natural resources of a nation, the overall level and distribution of intelligence in its population must influence to some important degree the physical, economic, political, cultural and moral well-being of the whole society. The popular concern with the protection of natural resources and endangered species should include concern with the nation's intelligence as well.

The present book should help in opening this topic for further serious discussion and empirical investigation. Its editor, one of the most distinguished contemporary psychologists, has shown a long-term interest in this topic, introduced in his 1937 book, *The Fight for Our National Intelligence*, and since then, in scattered journal articles and in one of his major

books, *Abilities: Their Structure, Growth, and Action* (1971). He has written on this subject more thoughtfully and more outspokenly than anyone else. In his quite unsettling Introduction, Cattell points out that in a recent international survey of educational achievement, the U.S.A. has shown a decline over the past 20 years—the years of massive programs of compensatory education, Head Start and the like—falling below Japan and the Western European nations. The only student groups with lower achievement test scores were those from the underdeveloped nations. Cattell suggests that an important part of the cause is “a decline in the innate intelligence level due to a century-long dysgenic situation” (p. 10). The theoretical and empirical basis of this contention is carefully examined in a thought-provoking essay, “Fertility differentials and the status of nations” by Daniel R. Vining Jr, a population specialist at the University of Pennsylvania. Vining rejects R. A. Fisher’s theoretically ingenious but empirically contradicted genetic explanation for the negative correlation between fertility and social class. But he nevertheless shows a basis in population statistics for real concern about differential birth rates making for a dysgenic trend with respect to IQ in the U.S.A. Even a 5-point decline, from 100 to 95, in a population’s mean IQ would reduce the number of persons with IQs over 130 by almost 60%. This would have a drastic effect on an industrial civilization which depends upon the availability of high-level technical personnel. Vining notes, “The very high measured mean IQ and the very high economic productivity of the Japanese cannot be coincidental” (p. 117).

Besides the Introduction, Cattell has contributed three other papers, “The role of psychological testing in educational performance: the validity and use of ability predictions”, “Population intelligence and national syntality dimensions” (with J. M. Brennan) and “Some changes in social life in a community with a falling intelligence quotient”. The latter article, included as an appendix, is the only one in the book which has been published previously. Written in 1938, it is a kind of microcosm of the field of research on all the important consequences for the quality of life arising from the general level of intelligence in a population. Several of the most probable consequences of a downward shift in the intelligence distribution curve presaged by Cattell in 1938 are: a fall in scholastic standards, a change in the school curriculum towards less abstract and academic studies, an increased cost of education, increased unemployment in the less-skilled occupations, decrease in the average real earning capacity of the community as a whole and a rise in the frequency of delinquency. The relationship of all of these trends with respect to psychometric intelligence can and should be researched at present in the U.S.A. and elsewhere, using a large number of different communities as the units of analysis. There can be little doubt that the average quality of life differs from one community to another and from one country to another. How important a role do the parameters of the intelligence distribution play in creating these differences?

The third contributor to this book is Barbara Lerner, a psychologist-lawyer, who is a leading thinker on the legal and other broad societal implications of the use of psychological tests in educational and employment selection. Her chapter, “Test scores as measures of human capital and forecasting tools”, argues cogently that psychometric tests of mental ability provide much better indices of a society’s ‘human capital’ than do such traditional indices as ‘years of schooling completed’ or ‘diplomas received’, or the illiteracy rate in a population. When illiteracy was actually assessed by objective tests in large representative samples of persons reaching their eighteenth birthday in the 1970s in the U.S.A., the results were an eye-opener: 20% illiterate. Lerner also notes,

“... the black-white gap was still dramatic: 41.6% of all black 17 year olds still enrolled in school in 1975 were functionally illiterate; 82.7% were semi-literate. . . . On this basis it would have seemed reasonable to predict serious shortages of literate workers throughout the 1980s and perhaps beyond, along with high levels of structural unemployment, particularly among young black workers, and increasing difficulty in meeting economic competition from foreign countries with more literate work forces”. (p. 74)

Lerner goes on to show that abilities beyond mere literacy—higher levels of knowledge and skills—are also involved in international economic competition. These factors can now be accurately assessed by means of objective tests, and Lerner advocates that those economists who wish to make cross-national comparisons must heed psychological research on abilities and avail themselves of the techniques of psychometrics if they are to reach valid conclusions concerning the causes of differences in productivity, efficiency, living standards, and the like. Lerner’s brilliant essay is the best exposition I have seen on the relevance of differential psychology and psychometrics to research in economics. The functioning of different economic systems and cross-national comparisons cannot be properly understood without also taking into account a nation’s ‘human capital’—meaning largely the overall level of innate and developed abilities in the population. And Lerner describes a number of the most telling empirical studies which directly bear upon ‘mental test scores and economic realities’.

The crucial issues raised in this book should be of concern not only to psychologists and psychometricians, but to all students of the behavioral sciences and social studies, including especially education, sociology, sociobiology, political science, demography, economics and international relations. This book boldly opens the door to a field of study which we are likely to see much more of in the future.

ARTHUR R. JENSEN

MARVIN ZUCKERMAN (Ed.): *Biological Bases of Sensation Seeking, Impulsivity, and Anxiety*. Lawrence Erlbaum, London (1983). vii + 274 pages.

This is an edited symposium text in which members of seven laboratories review their research as it relates to the psychobiology of sensation seeking, impulsivity and anxiety. Both human and animal evidence is considered, and the analysis also moves between topics of construction and validation of personality scales and different types of psychobiological analysis (electrophysiological, neurochemical, genetical). As such, the book is something of an interdisciplinary challenge to the reader: academic thrill-seeking? Zuckerman, however, helps the reader along with a few informative pages of summary and comment between the chapters. This gives the book a little more cohesion and draws attention to points of commonality and divergence between the different views presented. As a result the book has considerable merit as both an introduction to current literature in this area, while at the same time allowing the authors room to fully elucidate the finer points of the knotty issues when academic swords cross. For the non-biologically inclined, there are also some important messages in this book. For instance, in the chapter on genetical analysis of sensation seeking, H. J. Eysenck provides some evidence suggesting that (unlike human intelligence) when environmental factors play a part, they are primarily external to the family.

MICHAEL J. KELLEY