Essay Review

Measured intelligence in childhood, social class and adult outcomes across Poland’s sociopolitical transitions, 1945–1995


In this review we declare at once what could well qualify as a conflict of interest. In 1968 the author, Anna Firkowska-Mankiewicz of the National Academy of Sciences and her colleagues Antonia Ostrowska, Magdalena Sokolowska, and Ignacy Wald, together with ourselves and Lillian Belmont at Columbia University, conceived, designed, and analysed the cross-sectional survey of mental performance in 11 year old children in Warsaw described in this book as Warsaw I. Dr Firkowska and colleagues executed that field survey. Here, she provides a sequel to that study in the book under review. It reports a selected sample of those children on two subsequent occasions. The work is of considerable interest and societal relevance.*

Intelligence and Success in Life tackles three important issues. First, Dr Firkowska examines and attempts to explain the social factors associated with ‘intelligence’ in Warsaw schoolchildren in her sample. Second, she explores the significance of these various associations as predictors of social status in adulthood. Third, perhaps most novel and interesting of all, she relates both these questions to the context and effects of the post-war history of Poland. For the English-speaking reader, most of this material becomes accessible now for the first time. There is much to ponder for those with related interests, in particular epidemiologists, psychologists, social scientists, and educators. The field work was rigorous and the findings are presented with care.

The unique post World War II history of Poland is an essential backdrop to comprehension. Between the wars, Poland had a capitalist economy, and a quasi-democratic government. The gap between rich and poor was wide. In the cities, the so called ‘intelligentsia’ (professionals, literati, and the like) flourished in a rich cultural milieu. In 1939, occupation by Hitler’s army brought an end to all that. The brutal Nazi regime was marked by oppression of Poles as an ‘inferior’ race fit only for slavery, by the infamy and ultimate destruction of the ghettos, by atrocities both random and systematic, and by the ‘final solution’ in the extermination of Jews, communists, gypsies, and the mentally incompetent. The closing episode in 1944, engraved on post-war Polish memory, was the appearance and encampment across the Vistula of the ‘liberating’ Russian army. The Russians left a residue of much bitterness by not attempting to cross

* In the interests of space, we have not commented in this review on interesting observations about gender, and about low scorers on intelligence tests, as well as on a few less-substantive inferences about genetic factors.

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the ‘macro-culture’). To disentangle the possible contributions of school, health services, and community inequalities from individual capacities in mental performance has been a persisting challenge. These ‘macro’ associations have been of special interest to epidemiologists in mental retardation. The offspring of manual labourers were always over-represented among low scorers and children defined as backward. Among better-off families, the rare child whose performance was poor practically always had neurological or medical disabilities.¹

The original question posed in Warsaw followed directly from those observations: given the virtual absence there of distinctions in education, health services, and community, would unimpaired schoolchildren still show the typical association of parental occupation with offspring mental performance?

In Warsaw I, ‘intelligence’ (discussed in detail in the introduction to Firkowska’s book) was measured on a battery of three tests, verbal and non-verbal. (Virtually, one language only was spoken in the city.) Whether in analyses of any one test or of various combinations of tests, the answer to the study question was unambiguous. The pattern of association of children’s scores with parental occupation and education was not only in the same direction as that repeatedly found in children’s scores with parental occupation and education was not only in the same direction as that repeatedly found in capitalist societies. In Warsaw, the distinctions were even more sharply skewed across classes. The original 1978 report in Science² saw no alternative to the hypothesis that narrowing the external inequalities in the facilities of school, housing, and physical environment allowed internal class inequalities in family function and ‘macro-culture’ all the more influence. This untoward result remains no less challenging than when first observed almost 30 years ago.

The senior investigators in the original team have either moved on from that research territory or died, but Dr Firkowska and the Polish Academy of Sciences continued to explore the implications. In 1976, she made a second sortie in a more detailed study. A sample of about 1000 13 year old children was drawn from the stratified IQ scores of the original 11 year old population. Visited at home, the mothers were interviewed while the children themselves completed the Wechsler IQ test and a physical examination. The purpose was to elicit specific elements in the home (or micro-culture) which contributed most to the social class distribution found for the macro-culture, and which thereby differentiated class mental performance.

None of the relevant findings were either clearly genotypic or environmental. The associations of measured intelligence, some across and some within the professional, lower non-manual and manual occupational groups remained sharp. Sometimes test scores were most influenced by such individual characteristics of the child as disability, gender, lack of self-esteem, or poor motivation to study. Sometimes the main influence stemmed from mothers who had brought into the family socioeconomic advantage, or good education and high intelligence; in a ‘lower non-manual’ family, it might stem from a mother who brought only the advantage of a strong aspiration for her child to do well. Family income and the physical character of the home (excepting available space in the manual classes) mattered little.

In professional families, child rearing patterns were quite distinct from those in other classes. The ‘social legacy’ (the author’s words) of the professional classes was more democratic, articulate, and openly argumentative; non-professional families tended towards autocracy.

Thus the nature and associations of measured intelligence in Warsaw conform on the whole with published literature. The macro-culture associations dominate the picture. The sharp differentiation of micro-culture features by class and macro-culture made it difficult to disentangle them from those of the broad class categories. The findings from neither level seemed readily transferable to educational practice.

Twenty years later, perhaps impelled by the striking associations with macro-culture, Firkowska turned to a further set of questions regarding intelligence. Since macro-culture in the form of socioeconomic status of the parent proved to be so critical in childhood, what of adulthood? Might the effect of parental status overshadow the effect of intelligence? Or might measured intelligence itself play the most significant role in the achieved social status of the adult? This basic question regarding the nature of social mobility takes on special significance given the historical reversals and turnings-about of Polish society over the lifetime of these children. The first 25 years of life of these 1963 births was experienced under a socialist regime: the 5 years remaining until the follow-up were experienced as a socialist system that was transformed into a capitalist democracy. In 1994–1995, the cohort followed was 33 years old. A central question was whether the ready access to higher education available to all who aspired to it under the socialist system could be a crucial mediator of attained class. As with Warsaw I, this is again a unique natural experiment relevant to social mobility.

The emphasis of the book is on high scorers (the so-called ‘gifted’) and results will be fully reviewed here for this group alone. This last study draws on several samples, most very large but some smaller and more intensely structured. From this substantial body of material three main questions were posed. The first question considers differences in adulthood between gifted and low-scoring children in educational attainments and occupations. The second question compares the life situations of the gifted with those of national urban samples of the same age. The third question examines in what ways the careers of the gifted were affected by the social class circumstances in which they were raised.

In order to separate the influence of intelligence score from that of social origin among the follow-up samples, high scorers (mean IQ 130 on the Wechsler test) were selected from among the 13 year old children. The high scorers were assembled into pairs, one from a professional and one from a non-professional family. Virtually no high scorers were found in the offspring of manual workers; hence the high-scoring offspring of non-professionals were of necessity the children of ‘lower non-manual’ fathers only. Another matched set of pairs each consisted of a man and a woman selected for identical test scores and social origins. The study group also included a residual group of high scorers for a total of 170 young adults. The entire group of 104 low scorers in the IQ range 69–85 was also included in the follow-up. All were first followed in 1994; a postal questionnaire to each family elicited a response of almost 100%. In 1995, another home-based interview conducted solely with gifted individuals was completed by 85% (141 of the 170) of those invited.

From the data in the postal questionnaire, the gifted were first compared with the low scorers; second, from the data in the
home-based interview, they were compared with two different contemporaneous national Polish series. One of these was a 1995 national sample of men and women born between 1956 and 1965 and living in the largest cities. The other, in 1995, comprised men only who were born between 1959 and 1963 and living in the city of Lodz in 1994. These three groups provided answers to identical questions on education, occupation, income, and ‘success in life’. For all the interview-based comparisons, questions relevant to the societal changes of 1989 were included.

For the 31 year old respondents, the data from the postal questionnaire comparing the 170 ‘gifted’ with the 104 low scorers proved to be consistent, credible, and revealing. Level of attained education, occupational class, and economic situation all corresponded closely to IQ test performance at 13 years. Education was polarized in the extreme. No low scorer attained a higher education, and hardly any high scorer entered a vocational school. Occupation and earnings, although somewhat less polarized than schooling, were still strongly associated with test performance. Parental social class was much less associated with adult status than test score, pointing to a significant if unsurprising role in social mobility for the native capacities of individuals.

Parents were canvassed as to how well their child had ‘done in life’, and the ratings showed some congruence with the child’s scores: low scorers were more often described as doing ‘very poorly’ or ‘rather poorly’; high scorers more often described as doing ‘rather well’ or ‘very well.’ Only on this one scale did both high and low scorers tend towards clustering around an ‘average’.

The responses of the ‘gifted’ were then compared with the representative national samples. Again, higher measured intelligence appeared to confer considerable advantage. The ‘gifted’ acquired a university education nearly three times as often as the average for their national contemporaries. Conversely, the education of about one-third of their national contemporaries had proceeded only as far as primary or vocational school. None of the gifted group had had so limited an education. The occupations of the gifted were four to five times as likely to be in a professional field as the national average for contemporaries (33% versus 8% or 6%). In this light, it is no surprise that the ‘gifted’ reported much higher family incomes.

The effect of education on social mobility did turn up a surprise. As expected, for the national and Lodz samples, higher education was commonly an antecedent of relatively high adult income and social position. For the ‘gifted’, however, educational attainment made no difference at all to adult income level.

Across all classes among the groups under study the societal change of 1989 contributed to a perception of improved material status. Among the national samples, however, level of education affected this perception to some extent. But yet again, among the ‘gifted’ it did not affect perceptions.

In one striking analysis, the occupations are tabulated for the ‘gifted’ versus both the national and Lodz samples, first in 1988 (just before radical political change had displaced the prevailing regime), and then again 7 years later, in 1995. Among the ‘gifted’, the degree of upward social mobility is quite remarkable in this short period: for example, in 1988, 6.8% were top managers and entrepreneurs; in 1995, 27% (four times as many) occupied this category. In the national sample in 1988, 13.6% had been top managers and entrepreneurs; in 1995 the percentage was 26%, approximately double. The superior record of the national sample in 1988 might possibly have resided to some degree in their somewhat older average age (the national sample was then 23–30 years, while the ‘gifted’ were all 25 years). The rate of advance among the ‘gifted’ twice to four times as high as before in the first flush of the new capitalist regime leaves little doubt that this societal change opened new paths of opportunity for them. What the consequences are for those with less scintillating scores is not known and, one hopes, might be examined at some later time.

‘Success in life’ is another complex outcome for which Firkowska undertakes an analysis. Again her comparisons are between the ‘gifted’ and the national sample. She began by asking how the respondents themselves would define ‘success in life’. Across the age groups in the national sample, the average person (51%) emphasized material success; among the ‘gifted’ less than half the national proportion (24%) shared that sentiment. ‘Self actualization’ yielded an equally large contrast: among national respondents, only 28% had such an aspiration; among the ‘gifted’, 52% aspired to it. Whether because of different aspirations or life’s realities, at 33 years of age 62% of the ‘gifted’ saw themselves as successful, and only 35–40% of the national sample did so.

In summary, the ‘gifted’ had attained occupational status and income much superior to the national average. This success was less dependent on higher education than it was for the average case of age peers across the nation. Not unexpectedly, in a transition from a socialist to a capitalist economy, benefits were greater and sooner for the ‘gifted’ than for their average age peers. Lastly, perceptions of ‘success in life’ were more often rated in material terms on average nationally than it was by the ‘gifted’. By these very different criteria on which each group rated success, the ‘gifted’ more often felt themselves successful than did their average age peers. All these comparisons underscore large advantages that accrue to children with high measured intelligence. That causal pathway, seemingly direct, was clearly modulated by the changing socioeconomic and political environment pertaining under successive regimes.

Firkowska sheds light on one more question: does disadvantage in social background in childhood persist to produce residual disadvantage in adulthood? In answering this question the samples available set limitations. The range of social background among the parents of the gifted is restricted (no manual workers, for instance), numbers in the longitudinal follow-up into adulthood are rather small, and the socialist era, appropriately for that ideological impulsion, levelled educational opportunity. Nonetheless, parental social position had some influence. High-scoring children of professional parents still acquired university education and degrees more often than high-scoring children of the less well-educated parents in other non-manual classes. Excepting this one inequality among the gifted by social origin, neither occupation nor economic achievement across the comparison groups showed evidence of any residual effect whatever, whether in the socialist society of 1988 or the capitalist society of 1995. The ‘gifted’ children from all strata did very well, improved themselves with the new opportunities, and tended to feel successful.
These life-course outcomes are as challenging as were the cross-sectional period observations in Warsaw I on mental performance, social class, and the larger environment. In a schooling system that offered no obvious alternative routes for children of the socially advantaged (excluding an unknown but probably modest number of so-called apparatchiks), intelligence tests in the original Warsaw study executed in 1974 still closely mirrored parental social origin. Warsaw II tells us that although high scorers among advantaged children had more often entered universities and obtained higher degrees, regardless of such advantage childhood intelligence score played a major role in adult occupation and income and in self-reported feelings of success in life. On reaching adulthood, high scorers at a social disadvantage in childhood seemed not to be handicapped.

How then should one think of the meaning of an intelligence test score? In socialist Poland, no privilege but only place of residence determined choice of schools. On leaving school, however, when social background did exert detectable effects on selection for university education, high measured intelligence in this socialist society promised superior achievement in adulthood. After the transition to capitalism it promised even more: high measured intelligence endowed subjects with feelings of ‘success in life’ and with a greater emphasis on self-actualization than on concrete material advantage. The array of provocative questions posed by the Warsaw studies needs to be faced, interpreted, and followed with further research. Ultimately it should yield fuller understanding of a significant segment of the variegated social and political worlds of the 20th century and of the future policies of the century now beginning.

References

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