Determinants of Cognitive Performance in Warsaw

Firkowska et al. (1) investigated determinants of cognitive performance in Warsaw, where the variance in extrinsic determinants (such as the quality of schools, health care, and housing) was greatly reduced owing to social policy. A determinant that does not vary cannot explain variability in cognitive performance. Thus, Firkowska et al. observed stronger correlations between cognitive performance and certain intrinsic determinants (parents’ education and occupation) than between cognitive performance and extrinsic determinants. They conclude that “an egalitarian social policy executed over a generation failed to override the association of social and family factors with cognitive development that is characteristic of more traditional industrial societies” (p 1358).

It could hardly have been otherwise. The egalitarian social policy could have eliminated individual differences in performance only under two unlikely sets of circumstances: if intrinsic factors did not affect cognitive performance, or if extrinsic factors were systematically and inversely correlated with intrinsic factors. Neither of these conditions is met in Warsaw nor, probably, in any other society.

Assessed extrinsic factors in the study by Firkowska et al. did not vary and therefore were not important in explaining the variability in cognitive performance in Warsaw. This does not mean that they may not be important in other populations where they do vary. Furthermore, although assessed extrinsic factors could not explain variability of cognitive performance in Warsaw, they may have been an important determinant of performance. Nutrition cannot explain any of the variability in height of a uniformly well-nourished population, but it is certainly an important determinant of height. The same may be true of extrinsic determinants in Warsaw and elsewhere.

The study by Firkowska et al. has mainly emphasized a statistical fact: reducing the variability of only one determinant of a multiply determined capability can only reduce the portion of the variance which that determinant explains.” Quite apart from the untenable assumption of perfect knowledge of confounding on which the statement rests, Lasky leaves out of account the possibility of interaction among factors. In the real world, manifestations of interaction are prototypic, and can rarely be safely ignored.

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References
2. February 1979; revised 24 May 1979

On the specific subject of the ability of our study to explain the contribution of extrinsic factors to cognitive performance, Lasky seems not to be aware that he is in agreement with us. We make the same point more than once in our paper, for instance:

...the range of variation among the extrinsic variables themselves is not great; however, such effects as they may have would be largely neutralized by their even distribution across districts.

For this reason one cannot say from our study that extrinsic factors are not salient in mental performance, but only that they are not salient under the equalized conditions of habitation found in Warsaw. In other words, social policy may have removed the effects of extrinsic factors from the reach of measurement...
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