

## Correspondence

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### Genetic risk factors and variation in European suicide rates

Marušič & Farmer (2001) adduce selective evidence in support of the hypothesis of greater genetic influence on suicide than has previously been considered. In advancing this idea, they pay insufficient regard to national variations in a number of factors potentially relevant to differences in suicide rates. Data on national differences in the prevalence of psychiatric disorders – surely an important potential confounder – are glaringly absent from the paper, and cultural differences not appearing in conventional tables of ‘known’ risk factors, including patterns of alcohol consumption, are also neglected.

At the level of population genetics, Marušič & Farmer make a crucial error in grouping Hungarians genetically with Finns: Finno-Ugrian is a language family, not an ethnic one; and although both Finnish and Hungarian populations contain comparable (although by no means identical) proportions of non-European genes (see, for example, Guglielmino *et al*, 1990), the Finnish population is highly unusual, enriched as it is with certain rare hereditary disorders (see, for example, Ranta *et al*, 2001). Cavalli-Sforza (2000) suggests that this is due to abnormal statistical fluctuations that arose in a very small founding population. Unless Marušič & Farmer can suggest genes that might plausibly affect suicidal behaviour, specific polymorphisms which are shared by different Finno-Ugrian-speaking populations but not by less suicide-prone populations, then their grouping together of these geographically separated nations appears, at best, questionable. Accepting that there are true differences in suicide rates between, say, Finnish and Swedish populations, it is sensible to consider potential, unexamined cultural explanations. There are several from the sociological literature, including the proposal that Finland has a more

anxious culture than Sweden (reflected in its significantly higher score on a measure termed ‘uncertainty avoidance’; Hofstede, 1991). Another is differential social capital. Interestingly, in this regard, Swedish-speaking Finns have a longer active life than Finnish-speaking Finns (Hyypä & Maki, 2001); the authors interpret this as reflecting differences in social capital, and certainly it illuminates the possibility that such differences might influence propensity to suicide. There are other relevant comparisons. Estonia, for example, is cited by the authors as having the third highest suicide rate in Europe, in contrast to a relatively low rate in Sweden. The fact that Estonia and Finland share a (Lutheran) faith with Sweden does not lead to the conclusion that attitudes toward death and suicide are identical.

The purported ‘black swan’ of Slovenia, matched with Mediterranean neighbours such as Italy on some psychosocial variables but with a higher suicide rate, is an interesting observation meriting further study. But there is another, non-genetic explanation for the difference: a 40-year history of separation. There is ample anecdotal evidence from the former USSR of decreasing confidence, self-esteem and standards of health after the fall of communism.

By emphasising the likely interaction of environmental and genetic influences on suicide, Marušič & Farmer implicitly recognise that suicide is a complex and ‘emergent’ trait, yet they make too much of the implications for suicide prevention of genetic research into suicide. I would argue that a more realistic target for future genetic research in this field might be the detection of genetic influences on various measures of impulsive behaviour, including some forms of suicide, as a means to guide biological research into impulsivity – itself a mercurial construct that probably has complex associations with clinical outcomes.

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**Marušič, A. & Farmer, A. (2001)** Genetic risk factors as possible causes of the variation in European suicide rates. *British Journal of Psychiatry*, **179**, 194–196.

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Marušič & Farmer (2001) argued that genetic factors may play a role in the variation of suicide rates in European nations. They suggested the role of the Finno-Ugrian ethnic group and the possibility that genetic factors play a role in the alcohol–suicide link. We have conducted two studies that support their argument.

First, we quantified the influence of Finno-Ugrians on European suicide rates by correlating the suicide rate of all 30 European nations with the percentage of Finno-Ugrians in the population (Kondrichin & Lester, 1997). The Pearson correlation coefficient was 0.58 (two-tailed  $P < 0.01$ ).

Second, Lester (1987) calculated the proportion of people with type O blood in 17 industrialised nations (including 12 Western European nations) and correlated this with the suicide rates. The Pearson correlation was  $-0.67$  (two-tailed  $P < 0.01$ ). Lester then noted that people in Hungary and Czechoslovakia (both in the Eastern European bloc at the time and not in the original sample) had very low proportions of type O blood and very high suicide rates compared with the original sample.

These two studies support the suggestion of Marušič & Farmer that genetic factors may play a role in the variation in European suicide rates.

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**Lester, D. (1987)** National distribution of blood groups, personal violence (suicide and homicide), and national character. *Personality & Individual Differences*, **8**, 575–576.