The Social Ecology of Intelligence and Suicide in Belarus

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THE RELATION BETWEEN INTELLIGENCE (IQ) AND SUICIDE mortality still needs more research in psychology and in suicidology, but some existing ecological-level accounts suggest that the relation is positive. Lester (1992, p. 392) surmised that “suicidal individuals . . . may also . . . have higher IQ scores.” Voracek (2004) proposed a general explanation of such findings (briefly reviewed later in the present article): According to de Catanzaro’s evolutionary theory of suicide, a threshold IQ is necessary for suicidality (1981, pp. 55, 65, 152, 154). This point is derived from the species generality of suicidal behavior in humans and from cross-species differences in self-damaging behavior. Rephrased, whereas the potential for suicide is a human universal, it is absent in nonhuman animals: “. . . it may take an intelligent animal to know when the situation is hopeless, to realize that purpose for life is removed in those circumstances, and that death can be self-induced” (de Catanzaro, p. 154). A corollary of this hypothesis is that intelligence and suicide mortality should be positively related, and this specific prediction is testable on both an individual level and an aggregate level (in ecological or geographical studies).
Although Lester (1993) found that across 87 départements (counties) of France, suicide rate was related neither to regional IQ nor to the population proportion of members of the Institut de France, Lester (1995) also reported that across 12 regions of Ireland and the United Kingdom, the suicide rate was strongly positively related to regional IQ.

Further, a significant positive relation between national IQ and total suicide rate emerged in a 72-nation study (Lester, 2003). Independently, Voracek (2004), arrived at the same conclusion for both male and female suicide rates in 85 countries around the world. When the countries’ per capita gross domestic product (GDP) and type of estimation of national IQ were statistically controlled, this relation was not attenuated, was commensurate for male and female suicide mortality, was also visible in continental subgroup analysis, and was still positive in further subgroup analysis (for 36 European countries), when national rates of the aged, divorced, and unemployed were additionally statistically controlled.

Similarly, Voracek (in press) reported a significant positive relation between national IQ and the suicide rate of a high-risk group (people aged 65 years and over) across 48 Eurasian countries. This relation survived statistical control for seven potential confounds (type of estimation of national IQ; national GDP; stabilities and recency measures for suicide rates; and national rates of adult literacy, Catholic denomination, and urbanization) and was commensurate for the suicide rates of male, female, and total elderly persons. Also, Voracek (2003) noted that twin–singleton differences in IQ could be one factor governing the reduced suicide risk of twins in comparison to the generality.

Finally, Voracek (2005) examined the IQ data from military conscriptions and the subsequent suicide mortality of an entire male year-of-birth cohort in a Western industrialized nation. Across 99 Austrian districts, regional IQ was significantly positively related to regional suicide rate and regional loss due to suicide mortality in this very cohort (with men’s regional divorce rate, unemployment rate, and net income statistically controlled).

In the present study, I further extended this research approach to a test of the social ecology of intelligence and suicide in Belarus (located in Eastern Europe and independent since the breakup of the Soviet Union in 1991).

IQ figures for Belarus that are based on direct evidence are presently not available (Lynn & Vanhanen, 2002). However, population-based indicators of scientific and artistic accomplishment appropriately reflect underlying population intelligence (for extensive review and applications, see Murray, 2003; Simonton, 1994, chap. 4), and Lester (1993) has already used such indicators in the present research line. More specifically, there is evidence indicating that there is a threshold IQ (of about 130 or higher) below which individuals are unlikely to achieve eminence (Gibson & Light, 1992); that above this threshold intelligence, there still is a positive correlation between intelligence and degree of eminence (Walberg, Rasher, & Hase, 1978); and that eminent people, such as university scientists, musicians, artists, nonfiction and fiction writers, philosophers, inventors,
statesmen, and military and religious leaders, invariably have high intelligence (Simonton, 1991; Strykowski & Walberg, 1983; Wallace & Walberg, 1987). In other words, high intelligence is a necessary (but not sufficient) prerequisite for eminence. Because intelligence is an approximately normally distributed trait, it appears admissible to assume that a geographical area that produces more eminent people than other areas does so primarily because it has a larger pool of people eligible for eminence, because the intelligence level of its general population is above average. Thus, the operationalization of regional intelligence that I will introduce later in the present article will have face validity.

Belarus has seven provinces (oblasti): Brest, Gomel, Grodno, Minsk (city), Minsk (province), Mogilev, and Vitebsk. Kondrichin (1999) extracted from national encyclopedias the regional birthplace distribution of 932 eminent persons and 599 writers in Belarus. I converted these regional numbers into regional prevalence rates (per 100,000 inhabitants), which served as proxy variables for regional IQ in Belarus. I gleaned regional Belarussian suicide rates (as of 1996) and regional per-capita income, population, and urbanization figures (as of 1994) from Kondrichin and Lester (1998). Because the direction of the pertinent relation was predicted by de Catanzaro’s (1981) evolutionary theory of suicide and has repeatedly been empirically observed (see review above), I used one-tailed significance testing.

Across the provinces of Belarus, ecological correlations of prevalence of eminent persons and of writers with suicide rate were strongly positive, Pearson’s $r = .89$, $p = .004$, and Pearson’s $r = .78$, $p = .02$, respectively. These relations remained when controlled for regional income and urbanization, partial $r = .87$, $p = .03$, and partial $r = .69$, $p = .10$, respectively. I made several complementing analyses using other, less recent yearly suicide rates (1990–1995). Also, I recalculated all associations reported in the present article, which used Pearson’s $r$, with Spearman rank-order correlation coefficients, and found the strength of these associations essentially unchanged, suggesting robustness of findings despite the limited number of units available for the present ecological study.

Do these region-level associations imply a correlation at the individual level? I think the scientific principle of parsimony leads us to a tentatively affirming answer to this question. The most likely reason why an association between two variables is observed on an aggregate level is that these two variables are also associated on an individual level. Otherwise, mediators or confounds that nullify or invert individually observed associations on the aggregate level would have to be invoked or assumed, and such a circumstance generally is difficult to conceive and to argue for. The validity of inferences from ecological-level analyses to individual-level analyses and vice versa is a very common observation in suicide research. For instance, a multitude of individual-level studies have shown that divorced people are overrepresented among those who commit suicide, i.e., divorce is a risk factor for suicide. Unsurprisingly, the same association is also regularly found in ecological analyses: Areas with high divorce rates have higher
suicide rates (for a review of recent studies, see Lester, 2000, p. 110). Therefore, the most parsimonious explanation for region-level associations of intelligence and suicide risk remains that this association holds on an individual level. Importantly, Voracek (2004) has already shown that there is excess suicide mortality in the highly gifted, and this was done using a research design allowing for a reasonably conclusive inference. Voracek’s (2004) reanalysis of the Terman Genetic Study of Genius, which had a participant pool with an average Stanford-Binet IQ of 151, yielded a lifetime suicide mortality rate of 2.25%, or roughly four times that of the general population from which the participants were drawn.

In conclusion, the present geographical data support de Catanzaro’s corollary, that is, the hypothesis that intelligence and suicide mortality are positively related, even when potential confounds are accounted for. It appears that the suicide–IQ relation applies both across nations and within nations, although it goes without saying that further data on this point would be interesting.

REFERENCES


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