

CHILDHOOD PHYSICAL AND MENTAL HEALTH RECORDS OF HISTORICAL GENIUSES

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The enigma of genius presents no more perplexing problems than those implied in the definition of its psychophysiological constitution. The health and more especially the mental health of men of genius has proved to be not only the most fascinating but also perhaps the *most provocative question involved*. Are genius and insanity subtly related? Is genius itself a nerve affection? Or are the observed relations between genius and mental aberration merely occasional and fortuitous? Philosophers and scientists reviewing the lives of many men of genius have emphasized the elements of mental ill health in some, the mental balance of others. But genius itself is still variously defined and the men of genius studied are never the same in any two investigations.

Definitions of genius are generally of two kinds: in terms of intrinsic quality and in terms of extrinsic achievement. The question as to the qualifications for the highest human classification is still in the fascinatingly vague region of thought where subjective exploration attracts one to pleasant excursions without limiting effort in terms of a prescribed scientific goal. We perceive that the criterion of intrinsic quality is in an important sense more rigid than that of world recognition and we would prefer a definition which explicitly emphasizes both. Genius in the intrinsic sense demands not only "the highest conceivable form of original ability, something altogether extraordinary and beyond even supreme educational powers," but also "inexplicable and unique endowment." Genius in terms of achievement requires "the ability to create special values bearing a personal stamp; such values include novel ideas and forms of expression and the production of factors which initiate new historical

efforts." The studies of many investigators seem to show that a rigid definition of the intrinsic kind makes objective agreement regarding any considerable group of qualifying persons practically impossible. Results, in terms of the names of geniuses, selected with primary emphasis on qualitative divergences in endowment indicate that common agreement is not attainable for any very large number of persons in recent or in more remote centuries. It would perhaps prove more interesting and would seem to some also more profitable if there were in the qualitative sense of unique superiority a group of "certified geniuses" to whom study could be devoted. Because there is no recognized group of this kind, one must attempt either subjectively to select in terms of uniqueness of endowment as Lombroso (7), Lange-Eichbaum (6), and Nisbet (8) have done, or else objectively to measure in terms of eminent achievement following the method of Galton (4), Ellis (3), and Cattell (1). For the present study we have followed the second course. This procedure implies what is perhaps a less rigorous definition of genius but it offers a more objective method, depending as it does upon the world's cumulatively discriminating estimate with respect to eminence. The fact that our series of fifty geniuses selected in objective terms of achievement overlaps the selections of the subjective nominators shows that the two definitions do depend in part on the same criteria. Comparison of the persons whose names come forward in both ways with those chosen by one method but not the other may also throw some side light on the controversy regarding genius and insanity.

The 50 geniuses whose childhood records we have searched for the evidences of physical and mental health evaluated here have been drawn from a larger group the records of whose early years were previously scanned for intellectual and other personal characteristics as reported in Volume II of the Stanford Genetic Studies of Genius (2). Among 100 who were most thoroughly studied for the previous report were 45 for whom the childhood records were found adequate enough to afford inter-agreement of raters on personality traits expressed statistically in coefficients of .50 or higher. To these 45 we have added 5 others with

somewhat less complete biographical records. For the present study we have made no new appraisals of the reliability of the data for the purpose to which it is put. The reliability range of the data for the series of 50 when estimated in terms of adequacy to furnish intelligence indices extended from .43 to .82, average .65. The reliability of the earlier trait ratings ranged from .39 to .81, average .61 (2).

The material used for the study of health reported in this paper consisted in the available data as assembled in case studies covering the first 16 years of life for each of the 50 geniuses. A preliminary study of 6 geniuses not included in the 50 was made independently by each of us with case-by-case discussion of the data and of our appraisals. In this preliminary study arbitrary 9-point scales were used with indices designated as follows: (A) physical health: (1) invalidism; (3) frail health; (5) average health; (7) definitely above average; and (9) robust health. For (B) mental health, the indices were: (1) marked mental or emotional derangement or definite mental or emotional disorganization; (3) mental or emotional weakness; (5) average mental and emotional health; (7) mental and emotional health definitely above average; and (9) exceptionally superior mental and emotional health.

The physical-health scale was defined somewhat more fully as a result of the preliminary study of cases and the following scale points were agreed upon: (1) invalidism; (2) chronic ill health; constitutional inadequacy of physique without complete invalidism; (3) frail constitution; frequent illnesses, poor recovery; (4) probably somewhat less than average health but not actually frail; (5) average health or no evidence of either especially good or especially poor health; (6) probably somewhat better than average health; (7) definitely above average in health and strength, athletic activity; (8) superior health and ability for sports or hard physical work; exceptional physical resistance; and (9) robust health and vitality, inexhaustible energy.

The mental-health scale revised in the light of the case studies was defined as follows: (1) marked mental or emotional derangement or definite mental or emotional disorganization; (2) painful sensitiveness, marked mood swings, passion or emotional excess;

(3) poor mental and emotional health, evidence of less than average freedom from sensitiveness or indecision; occasional temper outbursts or disagreeableness, occasional gloominess, hyperactivity, or an inclination to self-conceit; (4) mental and emotional health probably slightly less good than average; (5) average mental and emotional health, slight disabilities offset by slight abilities or lack of evidence that health was notably above or below average; (6) mental and emotional health probably slightly better than the average; (7) definitely above average in social adjustment indicative of mental and emotional health, definitely without unfavorable mental or emotional symptoms, or showing behavior indicative of absence of such symptoms; (8) superior in mental and emotional health; and (9) markedly superior in mental and emotional health.

Appraisal and rating of the evidence in the entire series of 50 case studies was made by each of us without comparison of results until after all had been independently evaluated. That clinical experience had given us a similarity in point of view approximately equal to that of the three intelligence raters in the earlier genius study (2) was shown by the coefficients of correlation for the two series of ratings. For physical health the Pearson coefficient was $.73 \pm .04$; for mental health, $.72 \pm .05$. The intercorrelations for three raters in estimating the intelligence of the longer series of 282 cases with a wider correlation range had been .73, .74 and .75 (P.E.'s .02). The absolute agreement in scale level for the series of 50 was somewhat less good than the relative agreement in position. On the physical-health scale W's ratings averaged 5.1; M's 4.8; combined the average was 4.95; on the mental-health scale the mean for W's ratings was 5.3, for M's 4.6; combined 4.95. Neither rater had tried to achieve a normal distribution nor had either attempted to consider the form of distribution of the ratings. The completed series show the following distributions:

Scale points	Below Average		Average			Above Average	
	2-2.5	3-3.5	4-4.5	5-5.5	6-6.5	7-7.5	8-8.5
Physical health	1	14	10	12	7	3	3
Mental health	4	7	11	12	9	7	0

The physical and the mental health ratings correlate to the extent of $.40 \pm .08$. Both show approximately half of the cases

below average, half at average or above. We have no objective means of making comparison of the genius health ratings with similar estimates based on an unselected child population of today. Perhaps we may safely conclude from our subjective findings that since the biographers' informants did not more frequently report physical and mental health below average this group of geniuses did not number more than the general population does of individuals so notably deficient in health in childhood that the fact was remembered. And we may perhaps also safely believe that for every weakly or sickly member of the group there was one whose physical vitality was average or above average.

The subjective mental-health ratings show just more than half of the geniuses at average or above average. But how does our scale compare with other scales for rating mental health and how would our geniuses rate as compared to children today? In order to attempt some kind of an answer to these interesting questions we have tried to equate our mental-health scale with Olson's Schedule B on which he rated the behavior of 798 primary-school boys (9). We have done this by rating on Schedule B approximately half of our individual geniuses, choosing them so as to equate with points on the B scale as many points as possible on our health scale. The results indicate that our average point, 5, fairly well approximates to Olson's median, and that the points below average on our scale agree with his in terms of the per cent distribution of the cases in the two populations. Specific agreement is less clear above the median, and especially for the upper 40 per cent. We are inclined to attribute this failure at the upper levels chiefly to lack of specific data concerning our highest-rating geniuses. The results appear in the following tabulation:

	Below Average				Average			Above Average	
Subjective mental-health scale	2	2.5	3	3.5	4	4.5	5	5.5	6 6.5 7
Rating on Olson's Schedule B	116	99		82		73	69	66	48
Per cent of Olson's cases at or above a given per cent	98	91		72		59	52	45	5
Per cent of 50 geniuses at or above a given per cent	100	98		82		62	56	40	16

Certain points of unlikeness in the two series of estimates should be kept in mind. Olson's ratings were made by first-grade teachers after a half to one year of acquaintance with children five to seven years of age. Our ratings are based on records collected many years later, often by people who did not know the individuals personally but who tried to cover, if meagerly, the entire childhood period. The average age of our geniuses in terms of the recorded data is usually definitely older than that of Olson's school children. It may be that this difference in age does not introduce a serious discrepancy between the two samples for Olson has shown that the range for median B scores for school children year by year from 7 to 13 is only 6 points, *i.e.* from 67 to 72, and this range includes the median B score of our geniuses. The differences in the kinds of data upon which the ratings of the two groups are made seem to present greater difficulties than a specific difference in age. But perhaps the historical data afford relatively more stable bases for estimates than one might at first suppose. For our raters of personality traits agree to the extent of .61, a coefficient which is certainly of the same statistical order as the agreement of Olson's raters for which his average coefficient is .63.

It is not essential that our scale agree with Olson's at every point. The significant finding in the comparison is, we believe, the evidence which it gives that the mental health of 50 geniuses was on the average no less satisfactory than is shown by unselected children today. If there is a subtle relationship between genius and insanity it is not shown in the childhood records of this group of 50.

Having reached this conclusion by comparing our distribution of mental-health ratings with that for a contemporary unselected group we have immediately to face the question as to whether the comparison is faulty by reason of specific defect in the historical records. In other words do the childhood accounts of the geniuses conceal mental peculiarities or inadequacies that were actually present? Recently Lange-Eichbaum, and classically Lombroso, found mental peculiarity or psychopathy a characteristic of their geniuses. Does this mean that historical records of

the adult lives of geniuses reveal nervous or mental imbalance that could not be recognized from records similarly reporting childhood? Perhaps the question can be partly answered by comparing the individual appraisals that support the genius-insanity theory with those for the same individuals rated in our series for childhood mental health. Lange-Eichbaum includes 8 of our 50 among his geniuses, as follows: Byron, Coleridge, Comte, Goethe, Napoleon, Robespierre, Rousseau, and Wagner, attributing some degree of psychopathy to each. Our ratings for the childhood mental health of the 8 average at 3.5 which is definitely below the general average of our group. Furthermore, no one of the 8 received in terms of the childhood data a rating as high as 5. So far then the childhood records and the estimates based upon them are in harmony with the general life history data upon which Lange-Eichbaum's appraisal of psychopathy is founded.

Lombroso's "psychopathic geniuses" include 15 of our 50 as follows: Bacon, Byron, Carlyle, Cavour, Coleridge, Comte, Cuvier, Goethe, Lamartine, Lamennais, Leibnitz, J. S. Mill, Milton, Napoleon, and Rousseau. Four of the 15, Bacon, Leibnitz, Mill, and Milton rate at average or above average on our scale; 11 fall below average. The 15 together have a mean mental-health rating of 4.0 in terms of the childhood data, a slightly higher index than was registered by Lange-Eichbaum's 8, but still one that shows for the group a definite tendency toward the psychopathic side of the general distribution.

The relatively few discrepancies do not outweigh the general trend of agreement between estimates based on the meager childhood records and estimates based on the more complete reports including the pertinent data for maturity. For those geniuses studied by Lange-Eichbaum, Lombroso, and ourselves there is no significant disharmony in the appraisals. The disharmony enters if we compare our ratings for the remainder of our series (average mental health above the general mean) with Lange-Eichbaum's or Lombroso's other geniuses who, like the small number from their series included also in our list, are appraised as more or less psychopathic.

If we view in some detail the Lombroso and the Lange-Eichbaum lists we find that they tend to include relatively more

TABLE 1

PHYSICAL AND MENTAL HEALTH RATINGS OF 50 HISTORICAL GENIUSES IN CHILDHOOD

(Ratings given are averages of the respective estimates of two raters, M. and W.)

A. Musicians, Writers, Philosophers, Reli- gious Leaders		Physical Health	Mental Health	B. Scientists, Soldiers, Statesmen		Physical Health	Mental Health
Bacon ¹		4.5	6	Agassiz		7	7
Bunsen		5.5	7	Arago		6	7
Byron ^{1, 2}		6	3	Burke		3	5.5
Carlyle ¹		5	3	Canning		5	6.5
Chalmers		8	5	Cavour ¹		7	4.5
Chatterton		5	2	Cobden		5	6
Coleridge ^{1, 2}		3.5	2.5	Cuvier ¹		3.5	6
Comte ^{1, 2}		3.5	3	Danton		4.5	4
Cousin		6.5	4	Davy		6	5.5
Fichte		5.5	4	Fox, C. J.		4	5.5
Gibbon		2.5	4	Franklin, B.		6	7.5
Goethe ^{1, 2}		4.5	4.5	Grant		7	7
Guizot		5	5	Hamilton, A.		3.5	5
Lamartine ¹		3.5	3.5	Herschel		3.5	6
Lamennais ¹		3	2.5	Humboldt, A.		3.5	5
Leibnitz ¹		6	6	Jefferson		8	7.5
Mill, J. S. ¹		4.5	5	Liebig		6	4.5
Milton ¹		5.5	5	Mazzini		3.5	4
Niebuhr		3.5	3.5	Mirabeau		5	2.5
Penn		5.5	5	Napoleon ^{1, 2}		5	3
Prescott		4.5	5	Nelson		4.5	6
Rousseau ^{1, 2}		3.5	3	Peel		4.5	5
Schleiermacher		5.5	4.5	Pitt		3	6
Wagner ²		4.5	4	Robespierre ²		4.5	4
Weber		3.5	6	Washington		8	7.5
Health Average		4.7	4.2	Health Average		5.1	5.5
Other Averages: ³				Other Averages: ³			
Eminence rank			89	Eminence rank			84
Date of birth			1752	Date of birth			1769
Length of life ⁴			66.1	Length of life ⁴			64.4
Rel. of trait data			.63	Rel. of trait data			.59
Rel. of intell. data			.66	Rel. of intell. data			.63
I.Q. (from childhood data)			150	I.Q. (from childhood data)			141

¹ Listed by Lombroso.

² Listed by Lange-Eichbaum.

³ These values are derived from the data given by Cox (2).

⁴ Not including those who met death by violence.

subjective or introvert geniuses, relatively fewer objective or extrovert geniuses as compared, for example, to our list or the longer lists of Cox and of Cattell from which ours is taken. Thus

in Lombroso's group of 173 (omitting nobility and royalty) 34 per cent are poets, novelists or dramatists. In Cox's corresponding group of 282, only 18 per cent achieved eminence for subjective literary creation in these three modes. On the other hand Lombroso includes no more than 5 per cent of statesmen, Cox 15 per cent. These two comparisons will perhaps suffice as illustrations of the differential results following the subjective and the objective selection methods. The subjective selections regularly include relatively more of those who are known in part because they reported themselves most fully, relatively less of those whose fame depended on more objective achievement. It is probably true that the first group contains more of those demonstrably unique in personality, the latter more of those whose achievement has influenced history most directly. Again, the first group inevitably contains more of those whose mental life ran a peculiar course, the second group the more stable, those who could be depended upon to advance and to lead others along a fairly straight course.

The 50 geniuses in our series may be objectively subdivided into two groups in terms of the fields of activity in which eminence was achieved. First, and entirely without regard to the personalities included, we may combine the poets and prose writers, the musicians, the religious leaders and perhaps also the philosophers in a composite, supposedly representing subjective creative genius. We may make up a second subgroup, also without reference to the specific personalities of its members, but including the statesmen, soldiers, and scientists here assumed to be representatives of an objective creative type. The first group *A* (see Table 1) we may call introvert as well as subjective, the second extrovert as well as objective. Information available for both groups makes certain comparisons possible as follows: The extrovert group, *B*, averages slightly more eminent on the scale for 282 geniuses where No. 1 is the most, No. 282 the least eminent (2). Its members achieved eminence somewhat sooner (having been born on the average 17 years later); and they achieved it on the average with 4 years less activity in terms of life age. The extroverts have left somewhat less adequate data

regarding the early and perhaps also the later years of their own lives and, partly in consequence, have been rated in IQ on the average 9 points lower. Their physical health in childhood rates at 5.1 as compared to the average of 4.7 for the introverts, but the difference is not statistically significant. In mental health there is, however, probably a genuinely significant difference: the extroverts rate at 5.5, the introverts at 4.2, and this difference is more than 3 times its standard error.

We may now turn again to the subgroups whose members appear also in Lombroso's or Lange-Eichbaum's classifications. Of the 15 members of our group, listed also by Lombroso, 12 are in Group A, the introvert, subjective half; of Lange-Eichbaum's 8, 6 are in this half. If a tentative conclusion may be drawn from these small numbers it is this: as compared to the objective method the subjective selection of geniuses (as exemplified in Lombroso and Lange-Eichbaum) tends to overemphasize the right to inclusion as geniuses of those whose creative achievement was subjective and personal in character and to underemphasize the right of those whose achievement was objective and in this sense impersonal. The objective method shows by contrast the opposite tendency. In the lists of Lombroso and Lange-Eichbaum the relative disproportion of introvert as compared to extrovert genius weights the total groups more heavily with (A) those who by reason of their unique subjective preoccupations not only left more complete self-revelations, but also whose self-revelations disclose more abnormal selves. The disproportion weights the total relatively less heavily with (B) those whose objective preoccupations perhaps actually hindered them from extensive self-revelation, which, however, insofar as it was written, tended to disclose the more stable mental life of the objective extrovert. It appears then that the disharmony in the conclusions regarding the relation of genius and insanity (in childhood, genius and psychopathy) is the result of a difference in the definition of genius expressed in the method of selecting the individuals to be appraised.

In conclusion we may say (I) that two series of ratings by two appraisers of the physical and mental health of 50 geniuses

in childhood agree as adequately (a) as intelligence ratings similarly made and (b) as teachers' ratings of behavior traits in school children. (II) The average ratings for the 50 individuals fall into fairly normal distributions with respect to both physical and mental health. (III) When the mental health distribution is compared with one for unselected school children it appears that the geniuses do not show in childhood a larger percentage than the school children of ratable mental health deviations unfavorable in nature. (IV) Comparison of the "extrovert" with the "introvert" geniuses in our series and of these with the members of our 50 listed also by Lombroso and Lange-Eichbaum suggests that the disagreement among investigators regarding the relationship of genius and psychopathy or insanity may be to no small extent due to the relative inclusion or exclusion of imaginative geniuses or of men of action in the groups studied, *i.e.* to dependence upon (a) the subjective "unique endowment" or (b) the objective "eminent achievement" method of selection.

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