

ACCOUNT OF A FAINTING EPIDEMIC IN A HIGH SCHOOL

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A number of studies have been reported in the literature on epidemics of tremor, jumping, spasmodic coughing, hysterical convulsions, fainting, and similar disorders. Burnham has reported the results of a survey of such epidemics in *The Normal Mind*.¹ The studies surveyed were made for the most part during the last decade of the nineteenth century and are to be found largely in the German literature. Because of the infrequency with which school epidemics have been reported in recent years and their unique nature when they occur, the writer wishes to describe some of the major features of one such epidemic. The increasing growth of personnel service in the high school further justifies a report of the incident as a matter of record and as an example of an occasional problem which may be encountered in working with adolescent girls.

The epidemic which is the subject of this report occurred in a four-year high school enrolling 135 boys and 135 girls. The writer was called into consultation concerning the problem on December 10, 1927, just prior to the Christmas vacation and near the close of the school semester. The history of the epidemic was supplied by the dean of girls of the high school. In the month preceding the consultation nine girls had fainted in the assembly hall, corridors, or classrooms of the high school building. The dean of girls reported that in ten years of experience with the institution not over three cases of fainting had occurred. The occurrence of nine cases within the space of one month thus became a matter of considerable concern—particularly since it was uncertain how long such an epidemic might continue.

The series of fainting episodes was initiated by three girls in the assembly hall when a flashlight picture was taken. At least one of the three is known to have fainted previously. The pictures were taken on the tenth day of November. Between that time and December 6, six additional girls fainted. Apparently in all instances except one there was a complete loss of consciousness without convulsions, and the girls were taken to the rest room for recovery.

¹ Burnham, William H. *The Normal Mind*. New York: D. Appleton and Company, 1924. Chapter XI.

In the case of the exception there is a question as to whether the girl actually lost consciousness. The symptoms appeared to be those of nausea produced by work in the biological laboratory. In no instance was there a coincidence between the fainting spell and the menstrual period.

In view of the beneficial effects of vacations upon epidemics previously reported, the writer counseled that no immediate attempt be made to deal with the problem directly. Additional cases were to be referred to the home and a physician and made the subject of immediate study. In this instance the intervention of an enforced vacation due to deep snow and the Christmas vacation immediately thereafter apparently sufficed to break the epidemic, for no additional cases were reported during the remainder of the school year.

Unfortunately, an exact chronology of the cases was not kept and an exact description of the situation and symptoms was not made at the time of each occurrence. The lack of such a record limits the amount of analysis which can be made of possible etiological factors. Apparently the excitement, the crowded condition of the room, and the sudden explosion of the flashlight powder were sufficient stimuli for the fainting response in a girl already somewhat predisposed. The added excitement and suggestion at this event was sufficient to overcome two others. In the days which followed, the incident was the subject of much discussion and many students were probably in a morbidly introspective and unhealthful mental state. In this condition others succumbed to what ordinarily would be inadequate stimuli. Thus after the eighth girl had fainted a teacher remarked to a group of girls of which Miss — was a member, "I cannot imagine such a strong, husky girl like Miss — fainting." It may be without significance that Miss — fainted a few days later with no apparent cause except that she had a violet ray treatment shortly before. The precise mechanisms at work must remain a matter of conjecture in the absence of an intensive study of each individual concerned.

In an attempt to give a somewhat more exact description of the girls participating in the epidemic, certain characteristics have been entered in Table I. Four of the girls were sophomores, three were juniors, and two were seniors. The nine girls ranged in age from fourteen years and three months to seventeen years and eight months. The mean age was fifteen years and ten months. The results of five group intelligence tests were available for each child

in the school. The mean intelligence quotient on the five tests was determined for each of the nine girls. The values so determined varied between 108 and 137 with 120 as the mean. This may be compared with the mean intelligence quotient of 120 for the students of the school as a whole and the theoretical mean of 100 for the generality of the population.

TABLE I. CHARACTERISTICS OF HIGH SCHOOL GIRLS INVOLVED IN THE EPIDEMIC.

Case Number	Grade	Age	I.Q.	Number of Symptoms Reported	Admitted Fainting
1	10	15-2	108	5	No
2	11	15-7	127	6	Yes
3	10	14-3	115	5	Yes
4	11	16-2	109	6	Yes
5	10	15-6	118	*	*
6	11	16-0	137	5	Yes
7	12	16-1	111	12	Yes
8	10	14-10	133	*	*
9	12	17-8	123	4	Yes
Means		15-10	120	6.1	

* No data.

About six months after the occurrence of the epidemic the students in the high school were given an abbreviated form of the Woodworth-Mathews Personal Data Sheet². The questionnaire is designed to measure emotional instability in children. Records were obtained for seven of the nine girls who had fainted (Table I). One girl was absent on the day the device was administered and one girl had left school. The fainting group is too small to warrant detailed statistical comparisons. It is of interest to note that the mean number of symptomatic responses for this group was 6.1 as compared to 4.5 for all other girls in the school (Table II). The difference cannot be considered as highly significant ($D \div P.E.D = 2.4$).

One item in the questionnaire, "Have you ever fainted away?", is of particular interest for our purpose. Six of the seven girls in the fainting group answered in the affirmative to this

²Published by C. H. Stoelting Co., Chicago, Ill. The abbreviation consisted in the use of the items numbered 72, 71, 30, 4, 12, 14, 15, 21, 25, 27, 29, 31, 34, 39, 40, 49, 50, 61, 67, 42, 59, 65, 56, and 13 in the original form.

question. The seventh who replied in the negative, was the case of doubtful diagnosis at the time of the epidemic. The reports thus offer some slight evidence for the validity of this particular item in the questionnaire. The extent to which the truthfulness was motivated by a prior knowledge of the fact on the part of teachers and others is not known. The records for the remaining 111 girls in the high school reveal 31 girls or 28% who report having fainted at some time or other. The difference in the percentage reporting fainting in the epidemic group as compared to the general group of girls would be considered significant by the usual tests ($D \div P.E.D = 6.2$).

TABLE II. CHARACTERISTICS OF FAINTING AND NON-FAINTING GROUPS ON THE ABBREVIATED WOODWORTH-MATHEWS PERSONAL DATA SHEET.

	Girls			Total Girls	Boys		
	Fainted* in School	Reported Fainting	Non- Fainting		Reported Fainting	Non- Fainting	Total Boys
N	7	31	80	111	19	106	125
Mean	6.1	5.6	4.0	4.5	5.0	3.8	4.0
S.D. _{.41s}	2.5	2.3	2.6	2.6	2.1	2.6	2.6

* Excluded from total.

The girls who fainted in school do not show a significantly greater number of symptoms than others who report on the questionnaire that they have fainted at some time (Table II). The difference between the school fainting group and the non-fainting group is 3.2 times the probable error of the difference, and the difference between those who report having fainted and the non-fainting group is 4.6 times the probable error of the difference. It should be pointed out, however, that a large part of each difference is accounted for by the presence of the fainting symptom itself.

The cases involved in the foregoing comparisons are too few to establish with a high degree of certainty the significance of the differences found. It is, however, suggestive that the differentiation is always in the expected direction.

SUMMARY

Nine girls in a high school enrolling 135 girls and 135 boys fainted during the course of one month. Their mean age was 15 years and 10 months and their mean intelligence quotient was 120.

They represented a random sample of the student body in intelligence, although they were superior as compared to the general population.

An abbreviated form of the Woodworth-Mathews Personal Data Sheet, given six months after the event, failed to give a marked differentiation between the fainting group and the other girls in the school. The differences found, however, were in the expected direction. The truthfulness with which the girls replied to the question, "Have you ever fainted away?" offers suggestive evidence for the validity of the report on this item.

The epidemic reported emphasizes the need for readily available psychological and medical service to study and treat such personality problems as they arise. The factors of importance for the mental hygiene of the girls concerned can only be reached by intensive individual study.