

## WHAT HIGH SCHOOL STUDENTS EAT.

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Why are we "too fat" or "too skinny"? This is a vital question for many high school girls, and some boys, to say nothing of older maidens, middle aged matrons and some gentlemen, of either the rotund or the bean pole type. What does the quantity of food eaten have to do with this momentous question?

Not in the hope of adding much, if any, new information to what has already been scientifically demonstrated, but more with a view to learning whether the girl, already underweight and anemic, who is starving herself even now against the day when she *may* be too stout, is or is not striving against fate, we undertook to gather the following data.

A class of one hundred-twenty second year biology students averaging nearly sixteen years in age were asked on a certain Wednesday to record as they came to the laboratory the various portions of food consumed during the preceding twenty-four hours. Kinds and amounts eaten at breakfast, the noon lunch, supper, and between meals were listed separately. There were sixty-five girls and fifty-five boys. They came from the homes of merchants, miners, railroad workers, farmers and professional people. They represented the average family of a prosperous community. Wednesday was chosen to avoid irregularities in diet due to week end social activities.

A high class cafeteria is maintained in the school. The majority get their noon meal there. Some go home for lunch and others bring all or part from home. Of course the food was not weighed but each item was carefully estimated as to amount, and its food value in calories was estimated by use of standard tables, the calories from fat, carbohydrate and protein being listed separately. The data do not represent precisely any one child's actual food consumption, but we believe the errors above and below normal in both the amount consumed daily and in estimation of

calories are such that we get an average that has value. In most cases the students said that the record represented fairly well their average daily consumption.

It is apparent, from questions put to this class, from studies made with other classes, from observations made in the cafeteria where three or four hundred students eat daily and from the observations of restaurant and hotel people, that most individuals and most families fall into a routine as regards the kind and quantity of food used. When you know the person or the family you can guess with reasonable accuracy what will be ordered and eaten at the next meal. So intent are students on getting the thing to which they are accustomed that they pass by without notice some foods which are served frequently such as loganberries or figs in sirup. Some students were unaware that such foods had been before their eyes at meal time. So we think and many of the students said that this snap shot at their daily food habits is a fairly good likeness.

In this connection other facts appeared. A surprising number of students had never tasted foods which are more or less commonly used in other families, such as mackerel, codfish, asparagus, rhubarb, okra, turnips, dried beef, veal, currant jelly, gooseberry pie and even the meat of turkey. Strange to say, many expressed a positive (imaginary of course) dislike for foods which they admitted they had never tasted. These and other illustrations too numerous to state here point to the fact that the average American when he is at his regular eating place uses food that varies little more than the rations of an army or the menus of charitable or penal institutions. The good wife may plan and stew both literally and figuratively to get up something new but the fact remains that she and her family after all stick to much the same substantial fare.

Our record of the sixty-five girls and fifty-five boys shows that eight girls and none of the boys omitted breakfast. Seven girls and one boy did without lunch at noon. Two boys and three girls went without supper. Forty-two boys and sixty-two girls ate between meals. Some of the reasons for omitting meals were trivial. Some likes and dislikes for certain foods grew from chance impulses. Insistence on the part of parents that certain foods should be eaten grew

into positive dislikes on the part of the child. One boy always drinks much water with his meals at home but takes no water with his lunch at school. His mother keeps his glass full at home, but he must stop at the cafeteria fountain to fill his glass at school so he goes without. Those in charge of the young in the development of their food habits might profit by more scientific inquiry into why we eat what we do eat. What a multitude of parents would rise up to call him blessed who could point the way to prevent children from being "finicky" about their eating!

Our grand totals for the one hundred twenty young people show 67,649 calories supplied by the breakfasts, 70,796 at noon and 91,291 at the evening meal. To this we add 38,449 calories from the candy, cake, fruit, bread, meat, etc. eaten between meals, making a total of 268,352 calories for the day. Thus more than 14% of the food was taken between meals.

The averages per child are more interesting. They are, estimated in calories; for breakfast 564; for lunch 590; for supper 761; between meals 320; total 2,235 calories per day for each child. The average for boys is 2,612 and for girls 1,918.

Nine boys and eleven girls were more than five pounds overweight, and twenty-one boys and thirty-one girls were more than five pounds underweight. Getting down to the school girl's problem of what makes one "too fat" or "too skinny", we find that, of the nine boys who were overweight, five ate more than the average boy and four ate less. Of the eleven girls who were overweight, three ate more than the average and eight less. The evidence is slightly in favor of eating *more* if you would be slender.

Now, considering the fifty-two who were underweight, nine boys ate more than the average and twelve ate less. Fifteen girls who were underweight ate more than the average and sixteen ate less. Here the evidence is slightly in favor of eating *less* if you would be slender.

Considering extreme cases, four girls who were credited with more calories between meals than at any regular meal were little, if any, either overweight or underweight. This interferes with our theories concerning the importance of eating only at regular meal times, but the sting is less

penetrating when we remember that these girls rather regularly eat much at certain times between meals. The girl charged up with more calories per day than any other girl, a total of 3,383, is very active, weighs ninety pounds and is nineteen pounds underweight. Another girl whose record is but 958 calories per day is twenty-eight pounds overweight. Still another who eats two meals a day and nothing between meals used but 1,042 calories and is 52 pounds overweight. A boy charged with 4,155 calories, more than any other boy, is but seven pounds overweight.

So far as our limited data indicate, the amount eaten has very little to do with whether one is stout or slender. Other influences such as heredity, sleep, exercise, regularity of habits and the variety and kinds of food used seem to have far more to do with the problem. However, careful note of the nutritive ratio was made with each individual, and there was little to indicate that even the kind of food had much to do with the weight. Just as often as otherwise, the child whose protein ratio was high was of good weight, and the eaters of starch and sugar were about as often as not thin. So most of us have decided to forget whether we are to be fat or skinny and to eat as much as we crave of those things which do not interfere with our comfort or health while we go about attending to those habits which we believe have more to do with our well being and comfort.