

Descriptive Statistics Worksheet using MINITAB 14



Effects of Breakfast on Children's Hunger and Calorie Consumption

Introduction

This worksheet uses data on a sample of children who took part in a study of the effects of different types of breakfasts on how hungry children are and how much they eat at lunchtime.

The children ate their usual breakfast one day and different test breakfasts on three other days. On each day of the study, their hunger and calorie consumption at lunchtime were recorded. The test breakfasts consisted of one breakfast with a low glycemic index (GI), a low GI breakfast with added sugar and a high GI breakfast. The glycemic index refers to how fast the energy from the breakfast is used by the body: the energy from foods with a low GI is released slowly over a long period. Foods with a high GI give a quick energy boost but only for a short period. It is thought that this makes low GI foods more satisfying than high GI foods.

Some of the exercises in this worksheet are concerned with comparing the calorie consumption and other characteristics of boys and girls, while other exercises are concerned with the effects of different breakfasts on the calories consumed at lunchtime.

Getting started

The data are supplied in Excel format in the file *Breakfast.xls* which contains thirteen columns of data on 37 children.

- Start MINITAB and from the main menu select **File > Open Worksheet**
- In the dialog box that appears choose to view **Files of type: Excel (*.xls)**
- In the **Look in** box navigate to the folder containing *Breakfast.xls*
- Click on this file and then **Open**.

The five variables used in this worksheet are:

<i>gender</i>	1 = Boy, 2 = Girl
<i>bmi</i>	Body Mass Index, a measure of weight relative to height $\text{BMI} = \frac{\text{Weight}}{(\text{Height})^2}$, the units of which are kg/m ²
<i>wtstatus</i>	Weight status 1 = normal, 2 = overweight, 3 = obese
<i>hunusual</i>	Hunger rating after usual breakfast 1 = extremely hungry to 7 = extremely full
<i>ccusual</i>	Calories (kcal) consumed at lunchtime after eating usual breakfast