



FIGURE 14.13. (A) The average excess of an allele is the difference between the trait value of individuals carrying that allele and the overall mean. Here, we imagine that the population (*red*) is divided into those that carry a particular allele (*blue*) and those that do not (*black*). The average excess is an average over all the environments and all the other alleles with which the allele in question finds itself. (*Open circles* indicate alleles chosen randomly from the population.) (B) The average effect of an allele is the slope of a regression of trait value on the number of copies of the allele. This example shows the distribution of trait values for the three diploid genotypes, carrying zero, one, or two copies of the allele in question; the *line* shows the best fit to these values, and its slope is the average effect.