



**FIGURE 14.15.** Components of variance can be estimated by comparing similarities between identical and nonidentical twins. A sample of 110 pairs of identical (i.e., **monozygotic**, MZ) twins, and 130 pairs of nonidentical (i.e., **dizygotic**, DZ) twins, from Sweden, all more than 80 years old, were tested for several measures of cognitive ability. (The *two leftmost columns* are alternative measures of overall cognitive ability.) (A) Correlations between genetically identical twins are significantly higher than between nonidentical twins. (B) About half of the variance was estimated to be genetic; with these data, it is not possible to distinguish additive from nonadditive variation. A small fraction of variance was attributed to shared environment (*gray*); this could be distinguished by comparing twins reared apart with those who grew up in the same family.

14.15, redrawn from McClearn G.E. et al., *Science* **276**: 1560–1563, © 1997 American Association for the Advancement of Science