Example 12.1 Political Ideology by Political Party Identification

Table 12.1 summarizes observations on political ideology for three groups, based on data from subjects of age 18-30 in the 2004 General Social Survey. The three groups are the (Democrat, Independent, Republican) categories of the explanatory variable, political party identification (ID). Political ideology, the response variable, is measured on a seven-point scale, ranging from extremely liberal (1) to extremely conservative (7). For each party ID, Table 12.1 shows the number of subjects who made each response. For instance, of 91 Democrats, 9 responded extremely liberal, 20 responded liberal, . . . , 0 responded extremely conservative.

Since Table 12.1 displays the data as counts in a contingency table, we could use methods for categorical data (Chapter 8). The chi-squared test treats both variables as nominal, however, whereas political ideology is ordinal. That test is not directed toward detecting whether responses have a higher or lower mean in some groups than others. Likewise, the ordinal methods of Chapter 8 (such as the gamma measure of association) are inappropriate, because they require both variables to be ordinal. Here, the groups, which are the categories of political party ID, are nominal.

When an ordinal response has several categories, in practice it is common to assign scores to its levels and treat it as a quantitative variable. This is a reasonable strategy when we would like to focus on a measure of center such as the mean rather than on the proportions in particular categories. For Table 12.1, for instance, interest might

Table 12.1: Political Ideology by Political Party Identification (ID), for those of Age 18-30

	Political Ideology							Sample		Standard
Group (Party ID)	1	2	3	4	5	6	7	Size	Mean	Deviation
Democrat	9	20	17	36	4	5	0	91	3.23	1.28
Independent	7	11	17	48	12	11	5	111	3.90	1.43
Republican	0	2	7	23	23	17	2	74	4.70	1.10

Note: 1 = extremely liberal, 2 = liberal, 3 = slightly liberal, 4 = moderate, 5 = slightly conservative, 6 = conservative, 7 = extremely conservative.