CAKE-BAKING EXPERIMENT

7.   Describing the Data

The following SPSS output provides some numerical summaries of the ratings for each combination of baking time and temperature.

Report

RATING

TIME	TEMP	Mean	N	Std. Deviation
-1	-1.00	1.0000	3	1.7321
	.00	2.0000	3	2.0000
	1.00	5.0000	3	1.0000
	Total	2.6667	9	2.2913
0	-1.00	3.0000	3	1.0000
	.00	5.0000	3	1.7321
	1.00	2.0000	3	1.0000
	Total	3.3333	9	1.7321
1	-1.00	5.0000	3	1.0000
	.00	3.0000	3	2.0000
	1.00	1.0000	3	1.0000
	Total	3.0000	9	2.1213
Total	-1.00	3.0000	9	2.0616
	.00	3.3333	9	2.1213
	1.00	2.6667	9	2.0000
	Total	3.0000	27	2.0000

The table shows the means of the three ratings for each combination of levels of the factors. The overall mean is 3, the average of all 27 ratings. The marginal means differ very little from the overall mean of 3, which is why the time and temperature main effects do not seem to be statistically significant. On the other hand, the means vary from a low of 1 to a high of 5.

The table shows that the highest mean rating is achieved with the following combinations of time and temperature: (+1, -1), (0, 0), and (-1, +1). Thus it is possible to compensate for a lower time by using a higher temperature and vice versa. The lowest average rating is achieved with the following combinations of time and temperature: (-1, -1) and (1, +1).