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Maxwell, S.E., & Delaney, H.D. (1990). *Designing experiments and analyzing data: A model comparison perspective*. Brooks/Cole Publishing; Pacific Grove, CA.

116 Chapter 3 Introduction to Model Comparisons: One-Way Between-Subjects Designs

TABLE 3.7 Minimum Sample Size per Group Needed to Achieve Specified Levels of Power with $\alpha = .05$

		Power = 1 - β = .50					
<i>Number of Levels</i>		<i>d</i>					
<i>a</i>		0.25	0.50	0.75	1.00	1.25	1.50
2		124	32	15	9	7	5
3		160	41	19	11	8	6
4		186	48	22	13	9	7
5		207	53	24	14	10	7
6		225	57	26	15	10	8

		Power = 1 - β = .80					
<i>Number of Levels</i>		<i>d</i>					
<i>a</i>		0.25	0.50	0.75	1.00	1.25	1.50
2		253	64	29	17	12	9
3		310	79	36	21	14	10
4		350	89	40	23	15	11
5		383	97	44	25	17	12
6		412	104	47	27	18	13

		Power = 1 - β = .95					
<i>Number of Levels</i>		<i>d</i>					
<i>a</i>		0.25	0.50	0.75	1.00	1.25	1.50
2		417	105	48	27	18	13
3		496	125	56	32	21	15
4		551	139	63	36	23	17
5		596	150	67	39	25	18
6		634	160	72	41	27	19

is the case that in terms of between-groups designs we have already covered the most complex design we need to consider because all other designs can be considered as special cases of the one-way design. However, to appreciate the sense in which this is true and to develop the follow-up tests that are likely of interest in multiple-group designs, we must develop methods that allow particular combinations of means of interest to be tested. We will apply the model-comparison approach to these issues of testing specific contrasts of interest in the chapters that follow.