

CONTENTS

Series Editor Introduction	ix
About the Authors	xi
1. Introduction	1
Model Specification	2
Prerequisites and Preliminaries	5
Looking Forward	9
2. The Exponential Family	11
Justification	11
Derivation of the Exponential Family Form	13
Canonical Form	14
Multiparameter Models	16
3. Likelihood Theory and the Moments	23
Maximum Likelihood Estimation	23
Calculating the Mean of the Exponential Family	25
Calculating the Variance of the Exponential Family	29
The Variance Function	32
4. Linear Structure and the Link Function	34
The Generalization	34
Distributions	37
5. Estimation Procedures	49
Estimation Techniques	49
Profile Likelihood Confidence Intervals	58
Comments on Estimation	66
6. Residuals and Model Fit	69
Defining Residuals	69
Measuring and Comparing Goodness of Fit	76
Asymptotic Properties	82
7. Extensions to Generalized Linear Models	105
Introduction to Extensions	105
Quasi-Likelihood Estimation	106
Generalized Linear Mixed-Effects Model	112
Fractional Regression Models	118
The Tobit Model	121
A Type 2 Tobit Model With Stochastic Censoring	123

	Zero-Inflated Accommodating Models	128
	A Warning About Robust Standard Errors	132
	Summary	134
8.	Conclusion	135
	Summary	135
	Related Topics	136
	Classic Reading	137
	Final Motivation	138
	Endnotes	139
	References	141
	Index	151