

CONTENTS

Series Editor's Introduction	vii
Preface	ix
1. Introduction	1
The Concept of Interaction	3
Simple Effects and Interaction Contrasts	4
<i>Simple Effects</i>	5
<i>Interaction Contrasts</i>	5
A Review of Multiple Regression	7
<i>The Linear Model</i>	8
<i>Hierarchical Regression</i>	11
<i>Categorical Predictors and Dummy Variables</i>	12
<i>Predicted Values in Multiple Regression</i>	14
<i>Transformations of the Predictor Variables</i>	15
Overview of Book	16
2. Two-Way Interactions	16
Regression Models With Product Terms	16
Two Continuous Predictors	18
<i>The Traditional Regression Strategy</i>	18
<i>The Form of the Interaction</i>	21
<i>Interpreting the Regression Coefficient</i> <i>for the Product Term</i>	22
<i>Interpreting the Regression Coefficients</i> <i>for the Component Terms</i>	23
<i>Significance Tests and Confidence Intervals</i>	26
<i>Multicollinearity</i>	27
<i>Strength of the Interaction Effect</i>	28
<i>A Numerical Example</i>	29
<i>Graphical Presentation</i>	31
A Qualitative Predictor and a Continuous Predictor	32
<i>A Qualitative Moderator Variable</i>	33
<i>A Continuous Moderator Variable</i>	36

<i>More Than Two Groups for the Qualitative Variable</i>	39
<i>Form of the Interaction</i>	42
Summary	43
3. Three-Way Interactions	43
Three Continuous Predictors	44
Qualitative and Continuous Predictors	49
<i>A Continuous Focal Independent Variable</i>	51
<i>A Qualitative Focal Independent Variable</i>	55
<i>Qualitative Variables With More Than Two Levels</i>	57
Summary	60
4. Additional Considerations	60
Selected Issues	60
<i>The Bilinear Nature of Interactions</i>	
<i>for Continuous Variables</i>	60
<i>Calculating Coefficients of Focal Independent</i>	
<i>Variables at Different Moderator Values</i>	62
<i>Partialing the Component Terms</i>	64
<i>Transformations</i>	65
<i>Multiple-Interaction Effects</i>	66
<i>Standardized and Unstandardized Coefficients</i>	68
<i>Metric Properties</i>	69
<i>Measurement Error</i>	72
<i>Robust Analyses and Assumption Violations</i>	73
<i>Within-Subject and Repeated-Measure Designs</i>	75
<i>Ordinal and Disordinal Interactions</i>	78
<i>Regions of Significance</i>	81
<i>Confounded Interactions</i>	83
<i>Optimal Experimental Designs and Statistical Power</i>	84
<i>Covariates</i>	84
<i>Control for Experimentwise Error</i>	85
<i>Omnibus Tests and Interaction Effects</i>	86
<i>Some Common Misapplications</i>	86
<i>Interaction Models With Clustered</i>	
<i>Data and Random Coefficient Models</i>	87
<i>Continuous Versus Discrete Predictor Variables</i>	88
<i>The Moderator Framework Revisited</i>	88
References	
Notes	89
About the Authors	91
	92