Contents

Pı	reface	vii
PA	ART I I NEED TO DO REGRESSION ANALYSIS TOMORROW	
1	BUILDING MODELS WITH REGRESSION AND CORRELATION	1
	What are models? • Least squares models • A very simple model • The standard error of the mean • Modelling relationships • The standard error and significance of parameter estimates • Standardised estimates • Looking more at correlations • Correlations and scattergraphs • Correlations and variance • Correlations and size • Notes • Further reading	
2	MORE THAN ONE INDEPENDENT VARIABLE - MULTIPLE REGRESSION	27
	Introduction: multiple regression in theory • What's multiple regression all about? • Multiple regression in practice • R and R square • Adjusted R square • Analysis of variance (ANOVA) table • Coefficients • Variable entry • Hierarchical variable entry • Methods of variable entry • Note • Further reading	
3	CATEGORICAL INDEPENDENT VARIABLES	40
	Introduction • Categorical data: a special case • The t-test as regression • ANOVA as regression • Coding schemes for categorical data • Notes • Further reading	
PA	ART II I NEED TO DO REGRESSION ANALYSIS NEXT WEEK	
4	ASSUMPTIONS IN REGRESSION ANALYSIS	58
	Introduction • Assumptions about measures • Levels of measurement • Conservative interpretation of assumptions • A more liberal approach • Assumptions about data • A bit about normal distributions • Univariate distribution checks • Outliers and the mean • Normal distribution • Detecting and dealing with non-normality • Calculation-based methods • Skew and kurtosis • Outliers • Dealing with outliers, skew and kurtosis • Dealing with outliers • Effects of univariate skew and kurtosis • Multivariate distributions • Assumption 1 • Assumption 2 • Assumption 3 • Assumption 4 • Time-series designs • Clustered sampling designs • Notes • Further reading	

5 ISSUES IN REGRESSION ANALYSIS

	Causality • Association • Direction of causality • Isolation • The role of theory in determining causation • Sample size • Why should we worry about sample sizes? • Rules of thumb • Power analysis • Collinearity • What is collinearity? • Detecting collinearity • Dealing with collinearity • Measurement error • Notes • Further reading	
PA	ART III I NEED TO KNOW MORE OF THE THINGS THAT REGRESSION CAN DO	
6	NON-LINEAR AND LOGISTIC REGRESSION	136
	Non-linear regression • Linear and curvilinear relationships • Generating a curve • Carrying out non-linear regression • An example of non-linear regression • Logistic regression • The case of the dichotomous dependent variable • The logit transformation • Using the logit: logistic regression • An annotated example of logistic regression • Hierarchical logistic regression • Polynomial logistic regression • Further reading	
7	MODERATOR AND MEDIATOR ANALYSIS	165
	Introduction • Moderator analysis • Two categorical variables • Categorical and continuous variables • Two continuous predictors • Mediator analysis • Example of mediation • Some concluding points on moderation and mediation • Note • Further reading	
8	INTRODUCING SOME ADVANCED TECHNIQUES: MULTILEVEL MODELLING AND STRUCTURAL EQUATION MODELLING	192
	Multilevel modelling (MLM) • Algebraic formulation • Hierarchies everywhere • Even more hierarchies • Structural equation modelling • Why use SEM? • Identification • Latent variables • Estimation in SEM • Model testing • Structural models • Programs for MLM and SEM • MLM software • SEM software • Notes • Further reading	
A	ppendix 1 Equations	216
	ppendix 2 Doing regression with SPSS	228
	ppendix 3 Statistical tables	237
	eferences	245
	ame index ubject index	251

113