

# CONTENTS

<i>List of contributors</i>	page xi	Experimental methods	93
<i>Editorial preface</i>	xv	JESSIE RICKETTS	
<i>Foreword</i> CHARLES A. NELSON III	xvii	Eye tracking	97
<i>Acknowledgments: external reviewers</i>	xviii	TIM J. SMITH AND IRATI R. SAEZ DE URABAIN	
 		Fetal and neonatal magnetoencephalography	102
<i>Introduction Study of child development: an interdisciplinary enterprise</i>	1	JANA MUENSSINGER AND HUBERT PREISSEL	
 		Fetal ultrasonography	107
<i>Part I Theories of development</i>		SARAH HAMILTON AND ALEXANDER HEAZELL	
Constructivist theories	19	Head-mounted eye tracking	113
PAUL VAN GEERT		JOHN M. FRANCHAK	
Ethological theories	35	Interviewing children for research	117
JOHAN J. BOLHUIS AND JERRY A. HOGAN		MICHAEL LEE ZWIERS	
Evolutionary developmental biology	43	Magnetic resonance imaging (MRI)	121
GEORGE F. MICHEL		MORIAH E. THOMASON	
Learning theories	50	Functional near-infrared spectroscopy	129
MIKOŁAJ HERNIK AND RUBEENA SHAMSUDHEEN		SARAH LLOYD-FOX	
Dynamical systems approaches	60	Direct observational methods	137
ANNE R. SCHUTTE AND GREGORY J. DEGIROLAMO		JILL MACLAREN CHORNEY AND AYALA GORODZINSKY	
 		Parent and teacher rating scales	141
<i>Part II Methods in child development research</i>		ANNEMARIE H. HINDMAN	
Biomechanics	73	Qualitative methods	145
JODY L. JENSEN		MARTIN J. PACKER	
Cross-cultural comparisons	78	Self-reports and peer ratings	149
AMINA ABUBAKAR AND FONS VAN DE VIJVER		JONATHAN B. SANTO AND ELLYN BASS	
Cross-species comparisons	84	Epidemiological designs	153
BRETT T. HIMMLER		PATRICIA R. COHEN	
Developmental testing	89	Longitudinal and cross-sectional designs	156
GLEN P. AYLWARD		RORY T. DEVINE	
		Twin and related designs	160
		HENRY H. YOON	
		Bayesian data analysis	165
		MARK ANDREWS AND THOM BAGULEY	
		Connectionist modeling	170
		GERT WESTERMANN AND PADRAIC MONAGHAN	

Individual and group differences in developmental functions	177
WOLFGANG WIEDERMANN AND ALEXANDER VON EYE	
Indicators of accuracy for screening tests	183
FRANCES PAGE GLASCOE	
Multilevel modeling	189
ROBERT AYE IMANOL DAVIES	
Structural equation modeling	196
KEVIN J. GRIMM AND JOHN J. MCARDLE	
Time-series analysis	201
TIMOTHY R. BRICK AND JOHN J. PRINDLE	
Ethical considerations in studies with children	207
TREVOR SPRATT	

### *Part III Prenatal development and the newborn*

Prenatal motor development	213
THOMAS W. GOULD	
Prenatal development of the musculoskeletal system in the human	221
JENNIFER Z. PAXTON AND LYNDISAY M. MURRAY	
Prenatal sensory development	231
EINO PARTANEN AND PAULA VIRTALA	
Childbirth	242
KAREN R. ROSENBERG	
Status of the human newborn	249
KIM A. BARD AND EMESE NAGY	

### *Part IV Perceptual and cognitive development*

Attention	259
JACOB A. BURACK, LISA N. JEFFERIES, JASON RINGO, AND ORIANE LANDRY	
Audition	266
LYNNE A. WERNER	
Biological motion perception	271
LARA BARDI	
Cognitive development during infancy	277
MORITZ M. DAUM	
Cognitive development beyond infancy	288
MELISSA L. ALLEN	
Executive functions	297
MARIËTTE HUIZINGA, DIETER BAEYENS, CAROLIYN OUWEHAND, AND JACOB A. BURACK	

Face perception and recognition	304
CHIARA TURATI AND ERMANN QUADRELLI	
Imitation	310
REBECCA A. WILLIAMSON AND ANNA GONSIOROWSKI	
Intelligence	316
LEONIDAS A. A. DOUMAS	
Memory	322
YANA FANDAKOVA AND SIMONA GHETTI	
Multisensory development	330
ANDREW J. BREMNER	
Olfaction and gustation	339
BENOIST SCHAAL AND KARINE DURAND	
Perceptual-motor calibration and space perception	350
VERONICA RAMENZONI	
Sleep and cognitive development	358
JOSEPH A. BUCKHALT	
Vision	364
MARKO NARDINI	

### *Part V Language and communication development*

Language acquisition	375
BEN AMBRIDGE	
Bilingualism	385
GIGI LUK	
Reading and writing	392
NENAGH KEMP	
Schooling and literacy	398
KERRY A. HOFFMAN	
Speech development	403
LUCIE MÉNARD AND BARBARA L. DAVIS	

### *Part VI Social and emotional development*

Social development	415
MARGARITA SVETLOVA AND MALINDA CARPENTER	
Emotional development	424
HEATHER A. HENDERSON, CATHERINE A. BURROWS, AND LAUREN V. USHER	
Moral development	431
MARINE BUON	
Aggressive and antisocial behaviour	441
DANIEL CONNOR	
Attachment in early childhood	447
ELIZABETH MEINS	

Attachment in middle childhood	454
KATHRYN A. KERNS AND MAHSA MOVAHED ABTAHI	
Early childhood education and care	459
HENRIK DAAE ZACHRISSON AND EDWARD C. MELHUIH	
Joint attention	464
RECHELE BROOKS	
Parenting and the family	470
LEE T. GETTLER	
Play	476
KERRIE LEWIS GRAHAM	
Peers and siblings	482
CHRISTINA SALMIVALLI	
Selfhood	487
MICHAEL LEWIS	
Socialization	492
ALICE P. JONES BARTOLI	
Temperament	498
KATHRYN A. DEGNAN	
Theory of mind	505
HANNES RAKOCZY	

### *Part VII Motor and related development*

Perception and action	515
GUSTAF GREDEBÄCK AND CLAES VON HOFSTEN	
Handedness	523
HÉLÈNE COCHET	
Handwriting	530
EMMA SUMNER AND ANNA L. BARNETT	
Locomotion	537
DAVID I. ANDERSON, JOSEPH J. CAMPOS, AND MARIANNE BARBU-ROTH	
Prehension	542
JENNI M. KARL	
Sucking and chewing	549
BRIAN HOPKINS	
Throwing	557
MARK A. MON-WILLIAMS	

### *Part VIII Postnatal brain development*

Brain and behavioral development	565
LARA M. WIERENGA, BOB ORANJE, AND SARAH DURSTON	

Cognitive neuroscience	576
PRZEMYSŁAW TOMALSKI	
Educational neuroscience	582
DENIS MARESCHAL AND ANNIE BROOKMAN-BYRNE	
Social neuroscience	588
JENNIFER H. PFEIFER	

### *Part IX Developmental pathology*

Resilience and vulnerability	597
BIRIT F.P. BROEKMAN	
Classification of developmental disorders and diseases	605
CLARE S. ALLELY	
Behavioral and learning disorders	613
CLARE S. ALLELY	
Attention deficit hyperactivity disorder	621
PATRICK DE ZEEUW AND SARAH DURSTON	
Autism	629
EMILY J.H. JONES	
Cerebral palsies	635
KAREN WALKER, PETRA KARLSSON, IONA NOVAK, AND NADIA BADAWI	
Child and adolescent depression	641
CARLA SHARP AND WILLIAM MELLICK	
Childhood epilepsy	647
J. HELEN CROSS	
Developmental coordination disorder	653
KATE WILMUT	
Down's syndrome	658
DAVID S. STEIN AND NICOLE T. BAUMER	
Dyscalculia	664
CHUNG YEN LOOI AND ROI COHEN KADOSH	
Dyslexia	670
LORNA G. HAMILTON	
Fetal alcohol spectrum disorders	676
JANNI NICLASSEN	
Fragile X syndrome	684
ANNE GALLAGHER AND BRIAN HALLAHAN	
Hearing disorders	691
LORNA F. HALLIDAY AND HANNAH COOPER	
Prader-Willi syndrome	698
JOYCE WHITTINGTON AND TONY HOLLAND	
Prematurity and low birthweight	705
SAMANTHA JOHNSON AND DIETER WOLKE	