CONTENTS

List of illustrations Notes on contributors		xiii xvi
1	Introduction to a dynamic systems approach to psychosocial development in adolescence Naomi M.P. de Ruiter, Mandy A.E. van der Gaag, Bertus F. Jeronimus, and E. Saskia Kunnen	1
	Ergodicity and the relevance of a dynamic systems approach for adolescent development 2 How can we define dynamic systems based research? 4 Assumptions 4 Consequences of dynamic systems principles for research 9 This book 11	
2	Systems in transition: the adolescent phase transition Tom Hollenstein and Tiffany Tsui	17
	Self-organization and variability at different timescales 17 The adolescent phase transition 21 The adolescent phase transition (APT) design 23 Analytical possibilities of an APT design 25 APT in less-than-optimal designs 28 Conclusion 28	

3	Matching methods to theory: using dynamic systems models to understand nested systems of adolescent development Nancy Darling and Ian Burns	32
	Dynamic systems theory and the study of adolescent development 33 Traditional developmental approach 34 Dynamic systems modeling approach 34 Data and theory in developmental and dynamic systems models 35 Time 36 Sampling couples in the study of adolescent attachment 37 Modeling adolescent-teacher dyads in the context of peers 43 Nested data 45 Why model? 48	
4	A nonlinear dynamic systems approach to psychological interventions Günter Schiepek, Helmut Schöller, Roswitha Carl, Wolfgang Aichhorn, and Anna Lichtwarck-Aschoff	51
	The common view on interventions: a linear input–output model 51 Chaos and self-organization in human change dynamics 52 Critical instabilities and order transitions 53 Psychotherapy as dynamic support of clients' self-organizing processes 56 The dynamic sensitivity of change processes 60 Assessing and intervening with the SNS 63 Conclusion 65	
5	Conflict dynamics and the transformation of the parent-adolescent relationship Jessica P. Lougheed	69
	The parent-adolescent dyad as a temporal interpersonal emotion system 70 Conflicts in parent-adolescent TIES 72 Attractors 72 Flexibility and rigidity 74 Phase transitions 75 Novel insights from the DS perspective 77 Future directions for research and practical applications 78 Conclusion 79	

127

6 The nature of adolescents' real-time self-esteem from a dynamic systems perspective: the socially embedded self-esteem model 83 Naomi M.P. de Ruiter Introduction 83 Adolescent real-time self-esteem as situated in parent-child interactions 84 Components of adolescents' self-esteem 86 Components of parental behavior 86 The self-organization of socially embedded self-esteem attractors across real time 87 An empirical illustration: the emergence of embedded self-esteem tendencies 88 Participants 89 General procedure 89 Coding procedure 89 Measures 89 Components of adolescent self-esteem 89 Components of parental behavior 90 Analysis plan 90 Case study results 91 Self-esteem and parental behaviors as time series 91 Quantitative output from the SOM 92 Qualitative output from the SOM 93 Conclusion 94 100 7 Dynamic system perspectives on anxiety and depression Bertus F. Jeronimus

Nested systems 101 Affect and emotions: the micro level 101 Dynamic processes 106 Mood episodes (meso level) 107 Personality (macro level) 112 Dynamic perspectives 114 Conclusion 115

8 Trajectories preceding student dropout: an intra-individual process approach Mandy A.E. van der Gaag, E. Saskia Kunnen, and Paul L.C. van Geert

Introduction 127 Tinto's process perspective on dropout 128

Parallel processes of identity development 128 Combining Tinto with identity: hypotheses on micro-level processes of dropout 130 Present study 130 Method 131 Participants 131 Procedure 131 Measures 132 Analysis 132 Results 134 Cluster analysis of individual trajectories 134 Comparing trajectories of dropouts and persisters 136 Decision tree 137 Discussion 139 Trajectories of commitment and exploration 139 The relation between trajectory typologies and dropout 140 The interesting role of variability in dropout processes 141 Implications for practice 142 Limitations 142 Conclusion 143

9 Identity development from a dynamic systems perspective

E. Saskia Kunnen

A conceptual model of identity development: exploration and commitment 146 Mechanisms at different time levels: conflicts as the driving force of identity development 149 Individual trajectories of identity development 150 Ergodicity 154 Conclusion 156

10 Youth's sexual relationships and development: improving our understanding through a dynamic systems approach

Daphne van de Bongardt

Research on youth sexuality: sketching dynamics in approach 160 From risky to normative 160 From individuals to contexts 161 146

160

177

Longitudinal research on youth sexuality 162
Summary of trends: macro, meso, and micro time development 162
Dynamic systems approach in research on youth sexuality 164
Future directions 166
Multiple and interacting contexts 167
Bidirectional development-context linkages 168
Methodological considerations 169
Concluding remarks: practical applicability 171

11 Dynamic developmental complexity of moral motivation for adolescents and young adults Ulas Kaplan

Moral motivation dynamically reconceptualized 177 Intrapersonal multiplicity in moral motivation 179 A holistic approach to moral cognition and emotion 180 From stages of reasoning to structures of motivation 181 Moral development reconceptualized 183 Moral self-regulation and multiple motivations 183 Assessment of moral motivation 184 Empirical evidence for multiple motivational structures 185 Developmental relationships between multiple motivations 186 Multiple motivations are related to specific moral judgments 187 An iterative model for short-term moral motivation 188

Implications and conclusion 189

12 Social development and group processes: a social network application to bullying and network interventions Gijs Huitsing, Jan K. Dijkstra, and René Veenstra

193

A social network approach to social development 194 Social success and social network position 194 The interplay between peer relationships and behavior 195 Investigating the dynamics of networks 196 Data requirements for longitudinal social network analysis 196 RSiena for longitudinal social network analysis 197 Bullying, victimization, and social networks 199 Dynamics in bullying networks 199 Descriptive insights of bullying networks 202 Toward network interventions 203 Conclusion 204

13 Visualizing individual dynamics: the case of a talented adolescent 209 Joske K. van der Sluis, Steffie van der Steen, Gert Stulp, and Ruud J.R. den Hartigh Inter-individual differences in sports performance 210 Intra-individual dynamics 211 The current study 212 Method 213 Participants 213 Measures 213 Procedure 214 Visualization 214 Results 215 Variability of performance and psychosocial factors 215 Dynamics of performance and psychosocial factors 215 Discussion 217 Conclusion 218 14 Conclusion and discussion: what we can gain from a dynamic systems approach to psychosocial 223

development in adolescence

Mandy A.E. van der Gaag, Naomi M.P. de Ruiter, Bertus F. Jeronimus, and E. Saskia Kunnen

General adolescent development from a dynamic systems perspective 223 Domain-specific adolescent development from a dynamic systems perspective 225 Using a dynamic systems approach for generating case-specific understanding and recommendations 228 Commonalities 229 Diversity 230 How a dynamic systems approach has brought new insights to the study of adolescence 231 Limitations and future directions 232 Knowledge accumulation and generalization in the context of small samples and diversity 232 The gaps in adolescent dynamic systems research: missing domains and the issue of timescales 235 Concluding remarks 237