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Nota di contenuto	chapter 1 What is System Science? / Z.P. Neal -- part PART 1 Health and Human Development -- chapter 2 The Social Symbiome Framework: Linking Genes-to-Global Cultures in Public Health Using Network Science / B.A. Pescosolido and others -- chapter 3 The Impact of Urban Form on Weight Loss A. Ligmann-Zielinska et al -- chapter 4 Promoting Social Contagion of Preventive Behavior during Influenza Epidemics: An Agent-based Simulation / L. Mao -- chapter 5 Simulating Syndemic Risk: Using System Dynamics Modeling to Understand Psycho-Social Challenges Facing Women Living With and At-Risk for HIV / A.W. Batchelder and D. Lounsbury -- chapter 6 System Dynamics Modeling and Finding Solutions to the “Wicked” Public Health Problem of Preventing Chronic N. Unwin et al / Diseases -- chapter 7 Network Analysis and Psychology / M. Vitevitch -- chapter 8 Using Cognitive Social Structures to Understand Peer Relations in Childhood and Adolescence / J.W. Neal and M. Kornbluh -- chapter 9 Chains of Affection: The Structure of Adolescent Romantic and Sexual

Networks / P.S. Bearman and others -- chapter 10 The Art of Building Dynamic Systems Models / S. Kunnen -- part PART 2 Environment and Sustainability -- chapter 11 A System Dynamics Examination of the Willingness of Villagers to Engage in Illegal Logging / R.G. Dudley -- chapter 12 Exploring Complexity in a Human–Environment System: An Agent-Based Spatial Model for Multidisciplinary and Multiscale Integration -- chapter 13 Agent-Based Modeling in Coupled Human and Natural Systems (CHANS): Lessons from a Comparative Analysis / (CHANS) -- chapter 14 Eutropia: Integrated Valuation of Lake Eutrophication Abatement Decisions Using a Bayesian Belief Network / D.N. Barton and others -- chapter 15 Using System Dynamics to Model Industry's Developmental Response to Energy Policy -- chapter 16 Integrated Agent-Based and System Dynamics Modelling for Simulation of Sustainable Mobility / E. Shafiei and others -- chapter 17 Stakeholder Analysis and Social Network Analysis in Natural Resource Management -- chapter 18 The Multilevel Participatory Modelling of Land Use Policies in African Drylands: A Method to Embed Adaptability Skills of Drylands Societies in a Policy Framework / P. d'Aquino and A. Bah -- chapter 19 A Systems Approach to Stakeholder Management / R. Boutilier and others -- part PART 3 Communities and Social Change -- chapter 20 Modeling Social Ties and Household Mobility / S.S. Metcalf -- chapter 21 Simulating Sprawl / P.M. Torrens -- chapter 22 Agents of Change M. Ellis et al -- chapter 23 The (In)compatibility of Diversity and Sense of Community / Z.P. Neal and J.W. Neal -- chapter 24 Spatializing Social Networks S.M. Radil et al -- chapter 25 Social Networks and the Study of Language Variation and Change / S.E. Wagner and M.R. Abtahian -- chapter 26 Community as Method, Community as Net: Social Network Analysis as a Tool for Studying Mutual Aid between Therapeutic Community Residents / K. Warren and N. Doogan -- chapter 27 Circles of Association: The Connections of Community-Based Food Systems / D.S. Connor and R. Levine -- chapter 28 Using System Dynamics Modeling to Understand the Impact of Social Change Initiatives / G.B. Hirsch and others.

Sommario/riassunto

The Handbook of Applied System Science is organized around both methodological approaches in systems science, and the substantive topic to which these approaches have been applied. The volume begins with an essay that introduces three system science methods: agent-based modeling, system dynamics, and network analysis. The remainder of the volume is organized around three broad topics: (1) health and human development, (2) environment and sustainability, and (3) communities and social change. Each part begins with a brief introductory essay, and includes nine chapters that demonstrate the application of system science methods to address research questions in these areas. This handbook will be useful for work in Public Health, Sociology, Criminal Justice, Social Work, Political Science, Environmental Studies, Urban Studies, and Psychology.