# Table of Contents

I: Introduction
   1. Introduction 10

II: Computational Models for Individuals with a Risk of Unipolar Depression
   2. An Agent Model for Temporal Dynamics in Relapse and Recurrence in Depression 36
   3. An Agent Based Simulation of the Dynamics in Cognitive Depressogenic Thought 52
   4. Simulating Cognitive Coping Strategies for Intelligent Support Agents 70

III: Ambient Agent Models to Support an Individual with a Risk of Unipolar Depression
   5. Modelling an Ambient Agent to Support Unipolar Depression Relapse Prevention 87
   6. Design of an Intelligent Support Agent Model for People with a Cognitive Vulnerability 104
   7. Computational Modelling of Therapies Related to Cognitive Vulnerability and Coping 120

IV: Computational Models for Depressed Individuals and their Social Support Networks
   8. An Agent Model for a Human's Social Support Network Tie Preference during Unipolar Depression 137
   9. Dynamics of Social Support Networks for Mutual Support in Coping with Stress 156
  10. Modelling Caregiving Interactions during Stress 174
  11. An Agent-Based Model for Integrated Contagion and Regulation of Negative Mood 193

V: Ambient Agent Models to Support Depressed Individuals and their Social Support Networks
  12. Intelligent Configuration of Support Networks around Depressed Persons 214
  13. An Ambient Agent Model for Support of Informal Caregivers during Stress 232

VI: Discussion
   14. Discussion and Future Work 257

SIKS Dissertation Series 276