# Table of Contents

1  Introduction  

2  A review of the current literature on apathy  
   2.1  Introduction  
   2.2  Schizophrenia  
   2.3  Definition of apathy and related terms  
   2.4  Apathy as a symptom of schizophrenia  
   2.5  Literature overview  
   2.6  Preliminary conclusions  

3  The biomedical model and its inherent reductionism  
   3.1  The history of the biomedical model  
   3.2  Limitations of the Biomedical Model  

4  The Biopsychosocial Model  
   4.1  Enter Engel: The Biopsychosocial Model  
   4.2  Background and development of the biopsychosocial model  
   4.3  The Biopsychosocial Model  
   4.4  Application of the biopsychosocial model  
   4.5  General systems theory  
   4.6  The notion of science in the biopsychosocial model  
   4.7  Concluding remarks: Biomedical versus Biopsychosocial  

5  A critique of the biopsychosocial model  
   5.1  Introduction  
   5.2  Four levels of analysis  
   5.3  Back to Engel on the aim of the biopsychosocial model  
   5.4  The false dichotomy  
   5.5  Intermezzo: Evidence Based Medicine  
   5.6  How would Engel implement a general systems approach?  
   5.7  Answer to the first central question of the thesis  
   5.8  Definition of disease  
   5.9  A missing dimension  

6  Philosophical Models of Explanation  
   6.1  Introduction  
   6.2  How does an explanation explain?  


6.3 Constraints for a good explanation 100
6.4 Three models of scientific explanation 103
6.5 Covering Law Model 104
6.6 Representation Model 106
6.7 Unification Model 109
6.8 Summary 111

7 Mechanistic Explanation II6
7.1 Introduction 116
7.2 A Little on Levels 117
7.3 Levels of science versus levels of organisation in Engel 118
7.4 Levels in the literature on apathy 120
7.5 Levels of mechanism 122
7.6 Mechanisms and mechanistic explanations 123
7.7 Comparison of different definitions of mechanism 125
7.8 Entities and activities that make up a mechanism 125
7.9 Dualist and non dualist accounts of mechanism 129
7.10 Ontic and Epistemic implications 130
7.11 Mechanistic approach in current apathy research 135
7.12 The Mechanistic Model in psychiatry: testing Craver’s additional norms 139
7.13 Mental Mechanisms 145
7.14 How Now? Where we stand 148

8 Network Analysis 152
8.1 Introduction 152
8.2 What is Network Analysis? 153
8.3 Psychometrics 156
8.4 Types of networks 163
8.5 Advantages and Disadvantages of using Network Analysis 167
8.6 Network analysis and Craver’s causal constraints 170
8.7 Discussion: causality and network analysis in the science of psychiatry 178
8.8 Do Network Analysis and Mechanistic Explanation converge? 180
8.9 Mechanistic Property Clusters: a hybrid approach? 181
8.10 Conclusion 186

9 Perspectival Mosaic Unity 190
9.1 Introduction 190
9.2 Mosaic Unity 191
9.3 Six fundamental assumptions 194
9.4 The ontic-epistemic divide 201