

# Table of Contents

<b>1 The Demographic and Epidemiological Context.....</b>	<b>1</b>
1.1 Cohort Studies .....	7
1.2 Ecological Studies and Place of Birth.....	10
1.3 The Fetal Origins Hypothesis of Adult Diseases.....	13
1.4 Life-Course Factors .....	15
1.5 Month of Birth.....	16
<b>2 Month-of-Birth Patterns in the Northern and Southern Hemisphere .....</b>	<b>19</b>
2.1 Life Span by Season of Birth.....	22
2.2 A Different Approach.....	30
2.3 Bias in the Month-of-Birth Pattern.....	31
<b>3 Five Hypothesis.....</b>	<b>37</b>
3.1 Seasonal Distribution of Deaths .....	37
3.1.1 A Descriptive Approach Based on Death Rates.....	39
3.1.2 An Event-History Model to Separate the Effect of Month of Birth, Age, and Current Month .....	43
3.1.3 A Model Based on Death Rates to Separate the Effect of Month of Birth, Age, and Current Month .....	46
3.2 The Procreational Habits Hypothesis .....	49
3.3 The Deadline Hypothesis.....	51
3.4 Selective Survival or Debilitation.....	53
3.5 Conclusion .....	57
<b>4 Differences in Life Span by Month of Birth in the United States .....</b>	<b>61</b>
4.1 Data.....	65
4.2 Methods .....	67
4.3 Results.....	69
4.4 Conclusion .....	76

<b>5 Month of Birth and Causes of Death in the United States.....</b>	<b>81</b>
5.1 Malignant Neoplasms.....	82
5.2 Diseases of the Circulatory System.....	86
5.3 Diseases of the Respiratory System and Infectious Diseases.....	88
5.4 Non-Natural Causes of Death.....	92
5.5 Diseases of the Nervous System and Psychiatric Disorders.....	93
5.6 Conclusion.....	95
<b>6 Cohort and Age Effects.....</b>	<b>105</b>
6.1 Method and Data.....	107
6.2 Results.....	111
6.2.1 Comparison of the Month-of-Birth Pattern in the Danish Register Data and the Danish Twin Data.....	111
6.2.2 Age-Specific Mortality at Ages 50+ in the Danish Register Data.....	112
6.2.3 Age-Specific Mortality at Ages 20+ in the Danish Twin Data..	116
6.2.4 US Census Data.....	119
6.3 Discussion and Conclusion.....	121
<b>7 The Month-of-Birth Patterns of Migrants and Farmers.....</b>	<b>125</b>
7.1 Data and Method.....	126
7.1.1 Migrants.....	126
7.1.2 Farmers, Non-Farmers and Farm Workers.....	127
7.2 Results.....	129
7.2.1 British Migration to Australia.....	129
7.2.2 Internal US Migration.....	132
7.2.3 The Month-of-Birth Patterns of Farmers, Non-Farmers, and Farm Workers.....	137
7.3 Conclusion.....	138
<b>8 Does the Month-of-Birth Effect Exist in Cohorts Born Today?....</b>	<b>141</b>
8.1 Introduction.....	141
8.1.1 Birth Weight.....	143
8.1.2 Current Weight.....	144
8.1.3 Length at Birth and Height Gain During the First Year of Life.	146
8.1.4 Current Height.....	146
8.2 Data and Method.....	147
8.3 Results.....	151
8.4 Conclusion.....	159

<b>9 Summary</b> .....	<b>167</b>
9.1 Early-Life Circumstances and Adult Mortality .....	167
9.2 How to Study the Effect of the Month of Birth on the Life Span? ...	170
9.3 The Month-of-Birth Effect Depends on the Season .....	172
9.4 The Month-of-Birth Pattern of Migrants.....	174
9.5 Alternative Hypotheses for the Month-of-Birth Effect.....	176
9.6 The Causal Mechanisms.....	178
9.7 Does the Month-of-Birth Effect Exist in Cohorts Born Today? .....	181
9.8 Summary of Accomplishments and Outlook .....	184
<b>References</b> .....	<b>187</b>