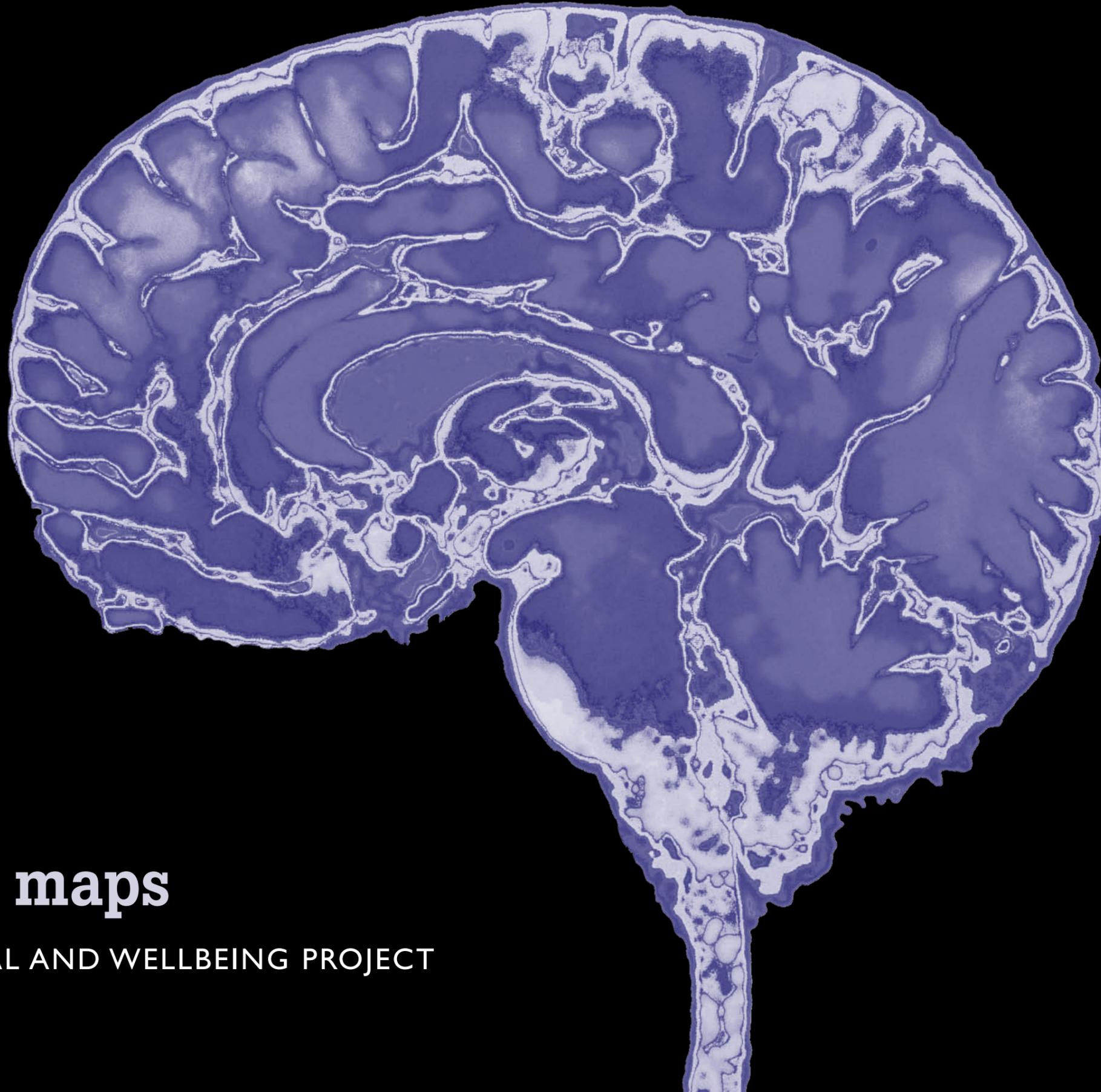




Government  
Office for  
**Science**

 **Foresight**



# Systems maps

MENTAL CAPITAL AND WELLBEING PROJECT

*This report has been produced as part of the UK Government's Foresight Project, Mental Capital and Wellbeing.  
The views expressed do not represent the policy of any Government or organisation.*

# **Mental Capital and Wellbeing: Making the most of ourselves in the 21st century**

## **Systems maps**

### **This report is intended for:**

Policy makers and a wide range of professionals and researchers whose interests relate to mental capital and wellbeing.

### **This report should be cited as:**

Foresight Mental Capital and Wellbeing Project (2008).  
Systems maps.  
The Government Office for Science, London

The Government Office for Science would like to thank the firm shiftN which led the systems work within the Foresight Project on Mental Capital and Wellbeing, and also the many experts and stakeholders from the UK and around the world who contributed to this work.

*The Foresight Programme is run by the UK Government Office for Science under the direction of the Chief Scientific Adviser to HM Government. Foresight strengthens strategic policy-making in government by embedding a futures approach.*

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# 1 Introduction

This report provides a catalogue of important systems diagrams that have been produced within the Foresight Project on Mental Capital<sup>1</sup> and Wellbeing<sup>2</sup>. Some of these diagrams also appear in particular Project reports<sup>3</sup>.

This report is not intended as a stand alone document. Rather, it should be read in conjunction with the final Project report, which describes the Project and its key findings, and the following reports which synthesise the science and evidence base:

- Mental capital through life: Future challenges;
- Learning through life: Future challenges;
- Mental health: Future challenges;
- Wellbeing and work: Future challenges; and
- Learning difficulties: Future challenges

The interested reader can also obtain detailed information on these diagrams in a report that has been produced by the firm shiftN, which undertook the systems work for the Project. In particular, that report details how the various diagrams were built up from their component parts, and provides other explanatory information. That contractual report can be obtained via [www.foresight.gov.uk](http://www.foresight.gov.uk).

## The production of the diagrams and their use within the Project

The systems diagrams mostly detail the many factors that affect aspects of mental capital and wellbeing. They were used within the Project to gain a clearer understanding of the complex interactions and interrelationships of these factors.

Their production involved extensive consultation with leading experts. However, the systems that they seek to capture visually are extremely complex, and therefore the detail which the diagrams contain is inevitably controversial: for example, some readers may argue for the inclusion of other factors, or for different linkages. Nevertheless, whilst the diagrams do not purport to be definitive, it is hoped that others will find them useful.

<sup>1</sup> "Mental capital" refers to the totality of an individual's cognitive and emotional resources, including their cognitive capability, flexibility and efficiency of learning, emotional intelligence (e.g. empathy and social cognition), and resilience in the face of stress. The extent of an individual's resources reflects his/her basic endowment (genes and early biological programming), and their experiences and education, which take place throughout the lifecourse.

<sup>2</sup> "Wellbeing" throughout this report refers to "mental wellbeing". Mental wellbeing is a dynamic state in which the individual is able to develop their potential, work productively and creatively, build strong and positive relationships with others, and contribute to their community. It is enhanced when an individual is able to fulfil their personal and social goals and achieve a sense of purpose in society.

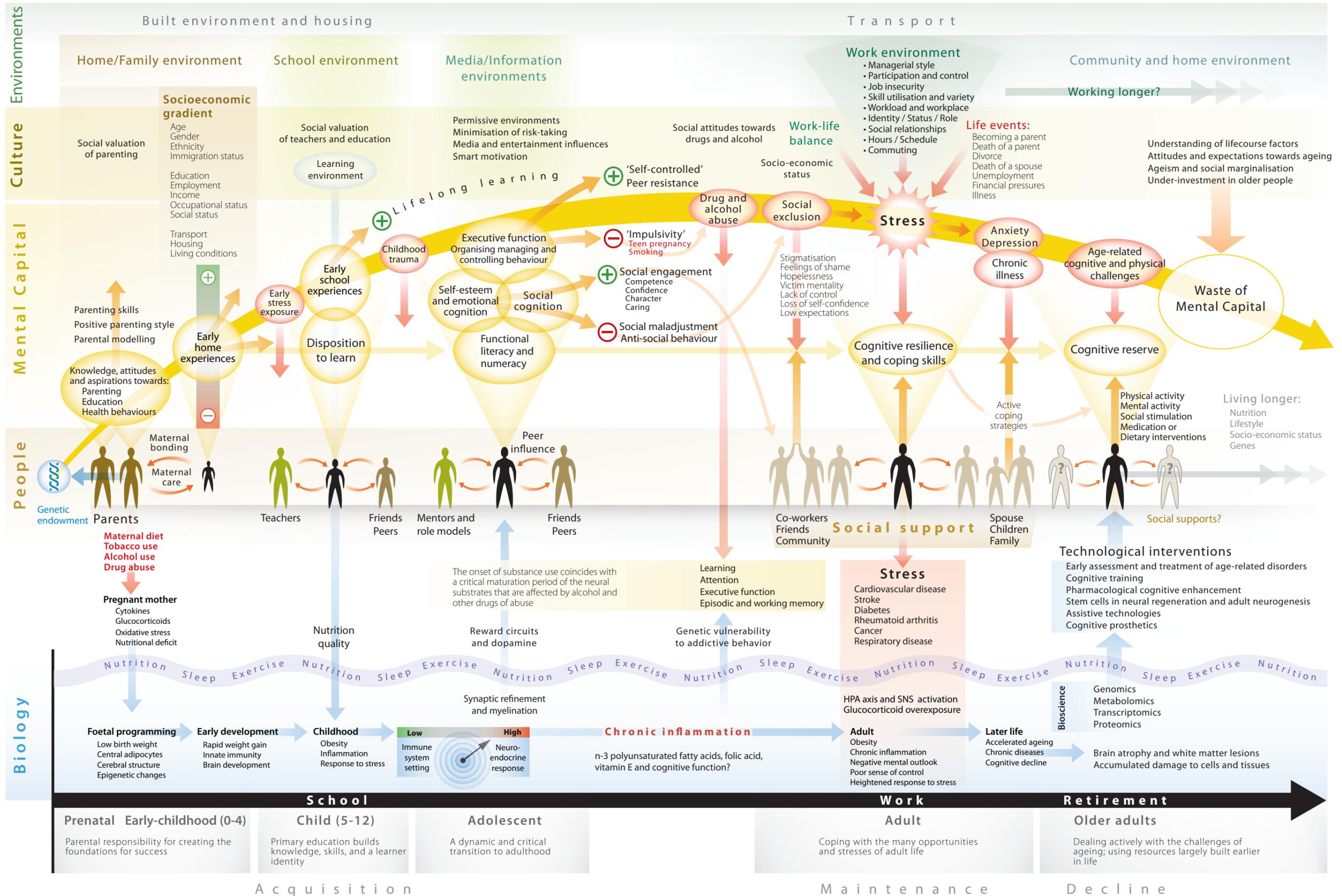
<sup>3</sup> See Appendix A for a list of the Project reports..

# 2 Catalogue of diagrams

The following table lists the systems diagrams that are reproduced here, together with a brief description.

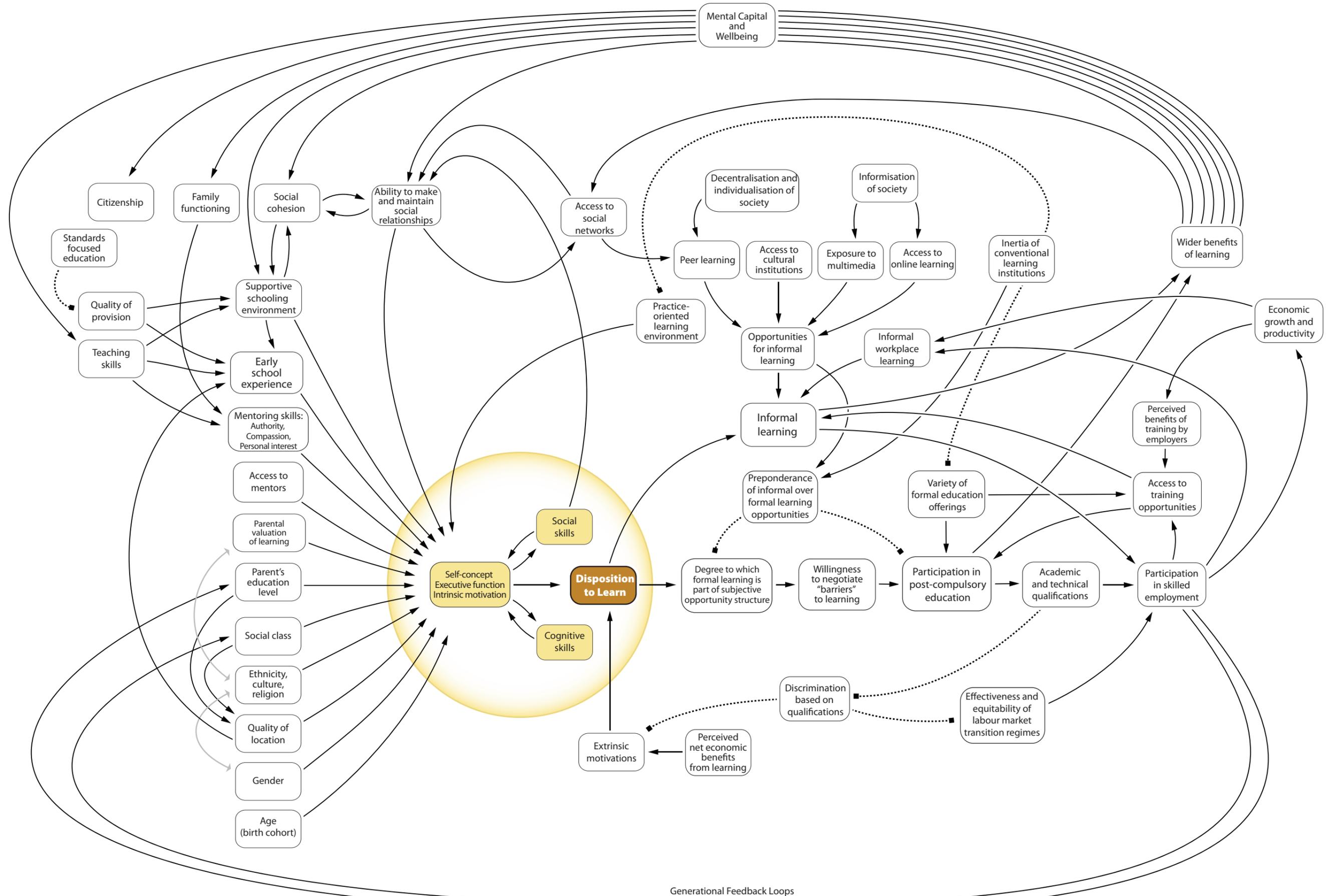
Page	Systems diagram
3	<b>Mental capital through life – conceptual overview</b> The trajectory of mental capital through life, detailing some of the many factors that influence mental capital and how they are connected across the lifecourse
4	<b>Learning through life – conceptual overview</b> A visualisation of the issues associated with learning through life
5	<b>Disposition to learn – influence diagram</b> A diagram of the many factors that interact to affect disposition to learn
6	<b>Learning difficulties – conceptual overview</b> A visualisation of the many factors that affect learning difficulties
7	<b>Functional literacy – influence diagram</b> A diagram of the causal factors that drive the development of functional literacy
8	<b>Functional numeracy – influence diagram</b> A diagram of the causal factors that affect the development of functional numeracy
9	<b>Executive function – influence diagram</b> A diagram showing the causal factors involved the development of executive function
10	<b>Mental health – conceptual overview</b> A visualisation of the principal factors that affect mental health and mental ill-health, and their inter-relationships
11	<b>Stigma associated with mental ill-health – influence diagram</b> A diagram of the many factors affecting the stigmatisation of, and discrimination against, people with mental illness
12	<b>Stigma associated with mental ill-health – actors</b> An illustration of some of the people and settings that can influence stigma and discrimination
13	<b>Wellbeing at work – conceptual overview</b> A visualisation of the factors that affect wellbeing at work and the associated positive and negative outcomes of healthy versus unhealthy workplace environments
14	<b>Stress at work – influence diagram</b> A diagram of the many factors that interact to affect stress at work

Mental capital through life – conceptual overview



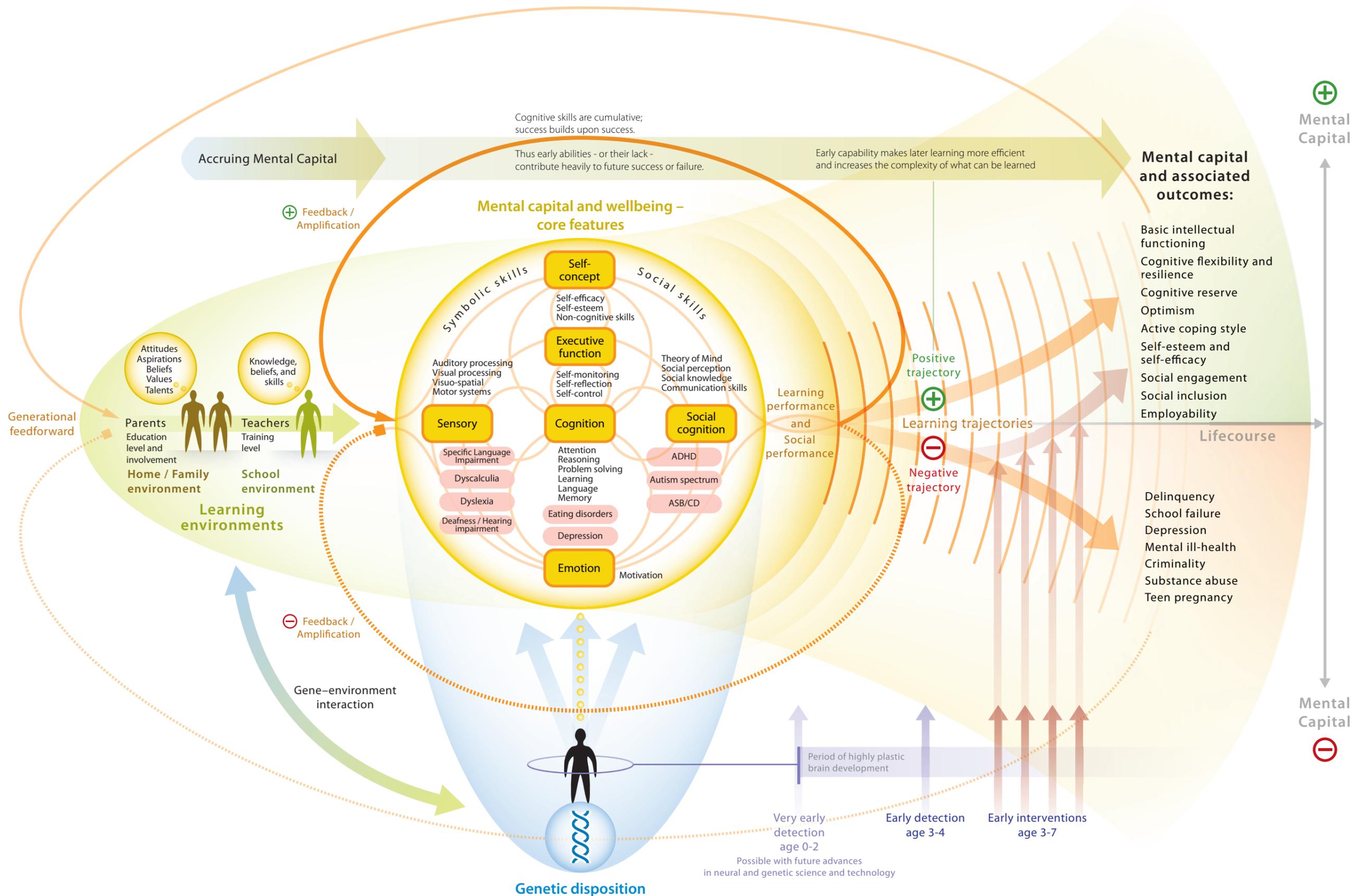


Disposition to learn – influence diagram

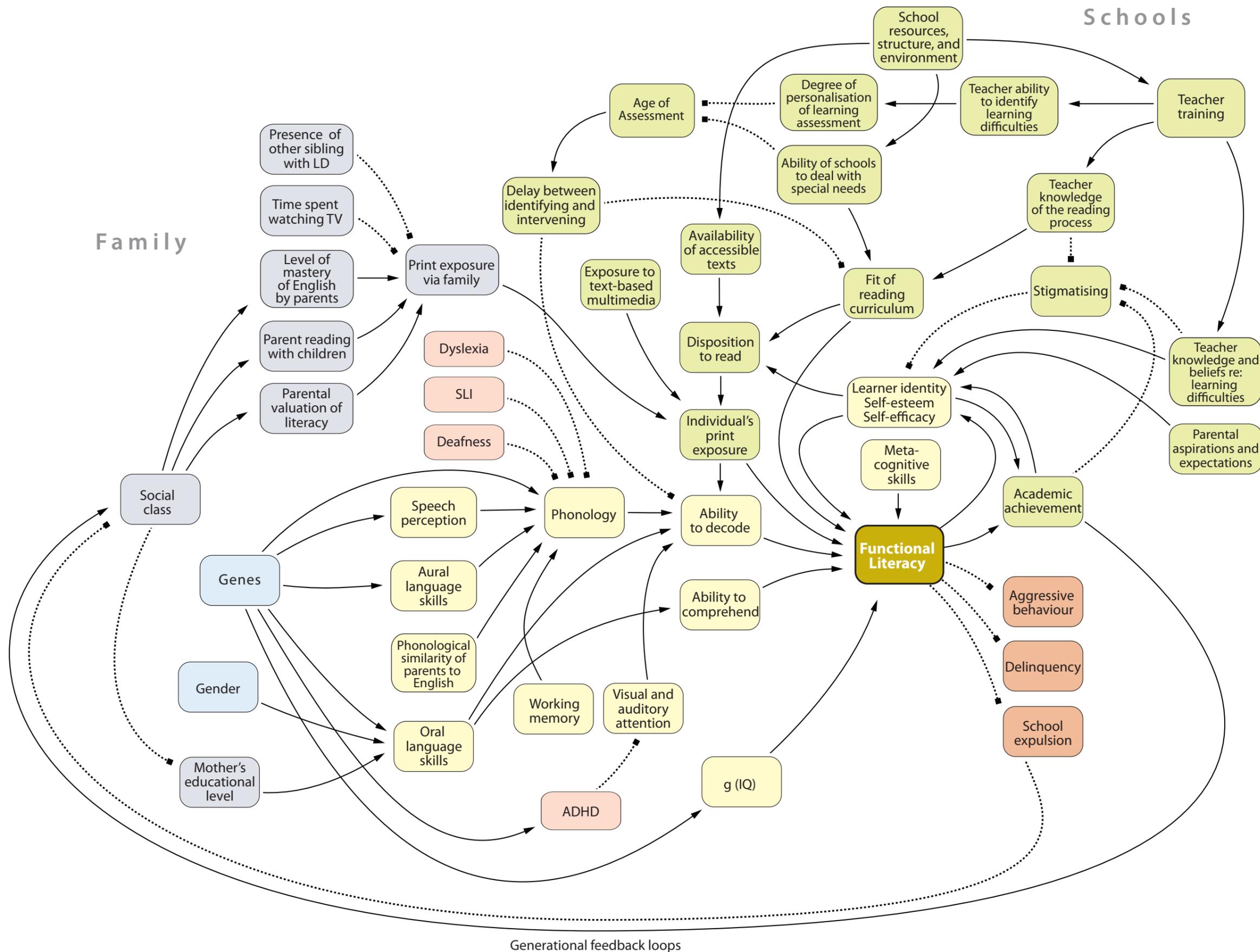


Generational Feedback Loops

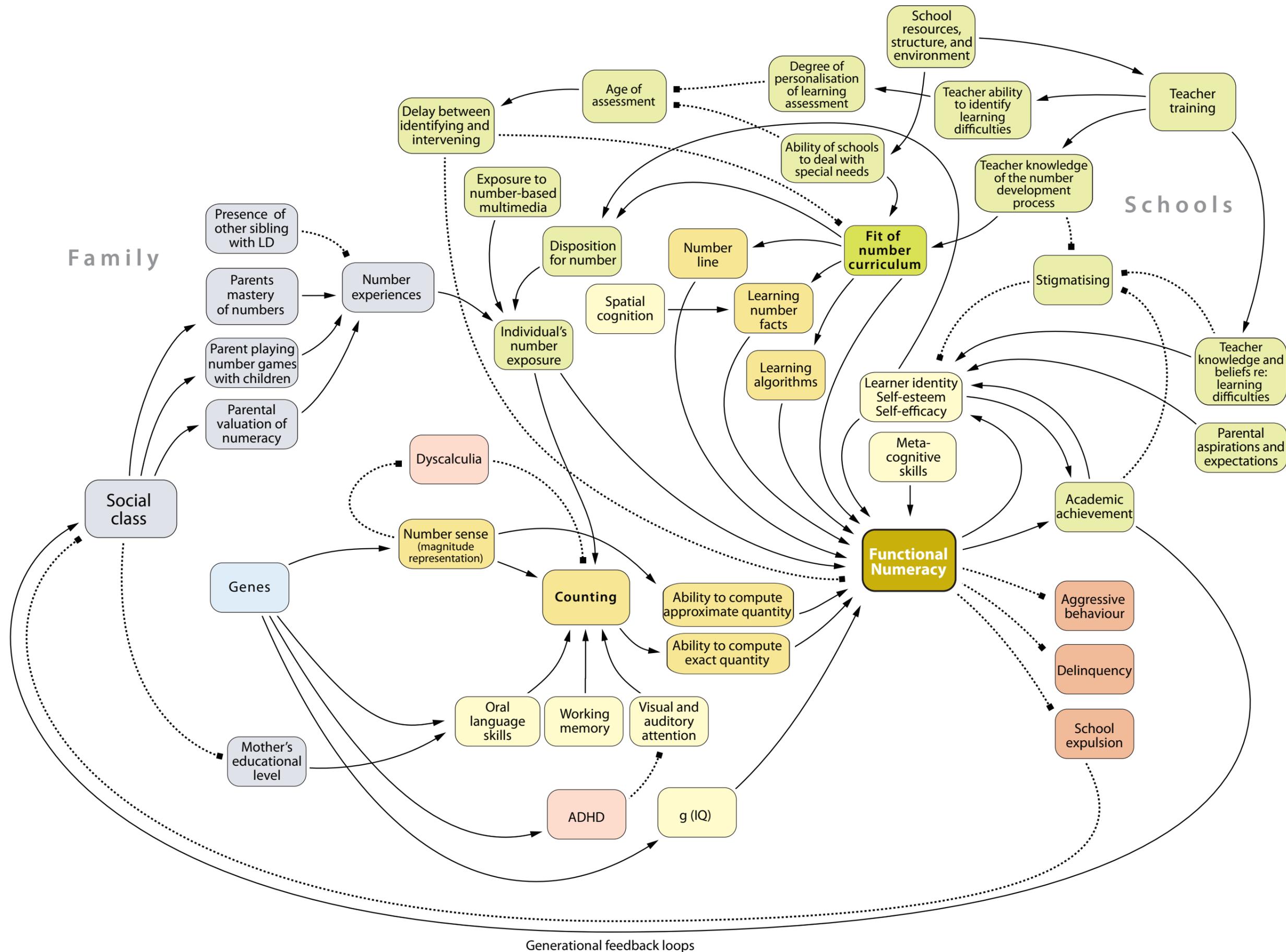
Learning difficulties – conceptual overview



Functional literacy – influence diagram

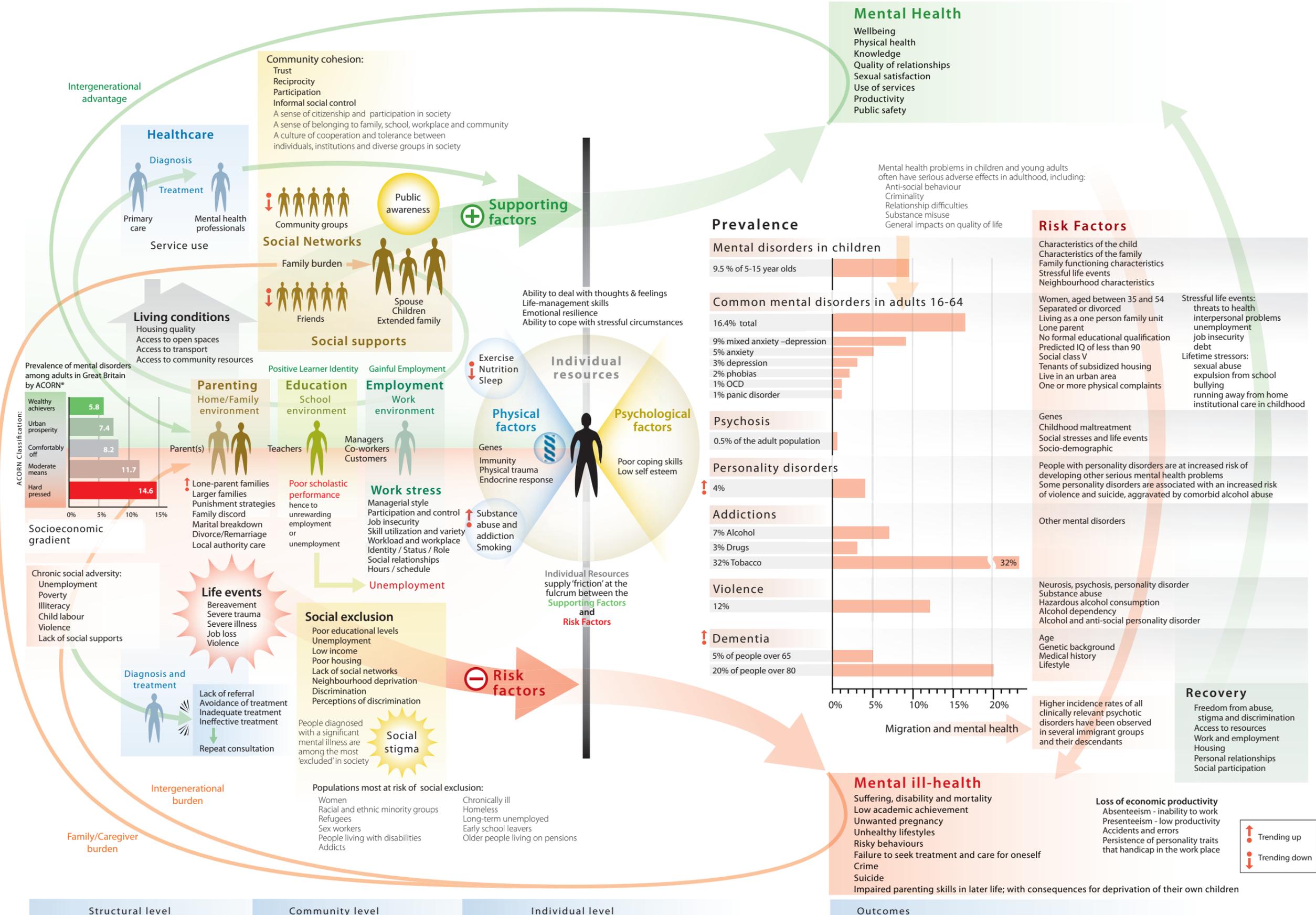


Functional numeracy – influence diagram

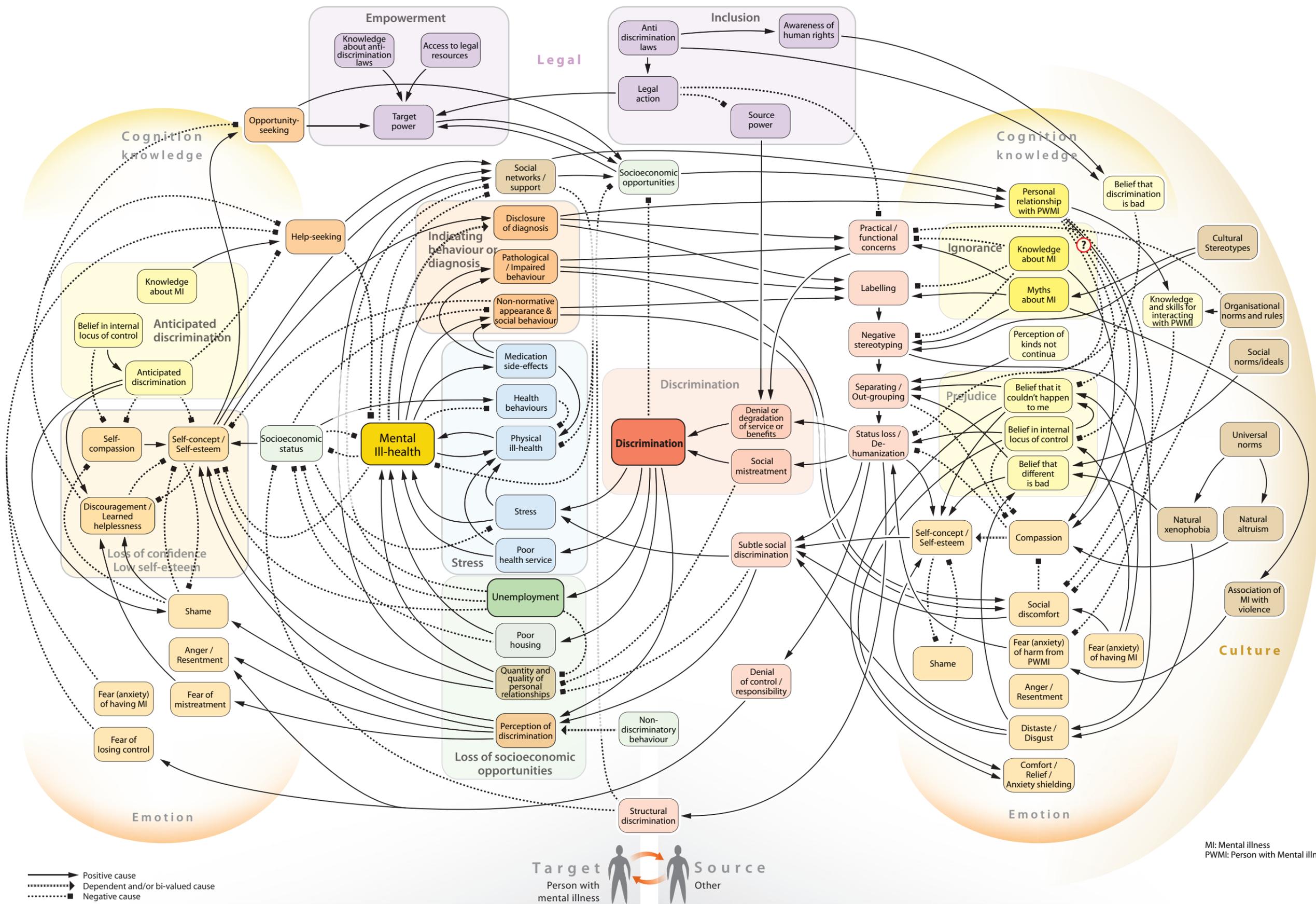




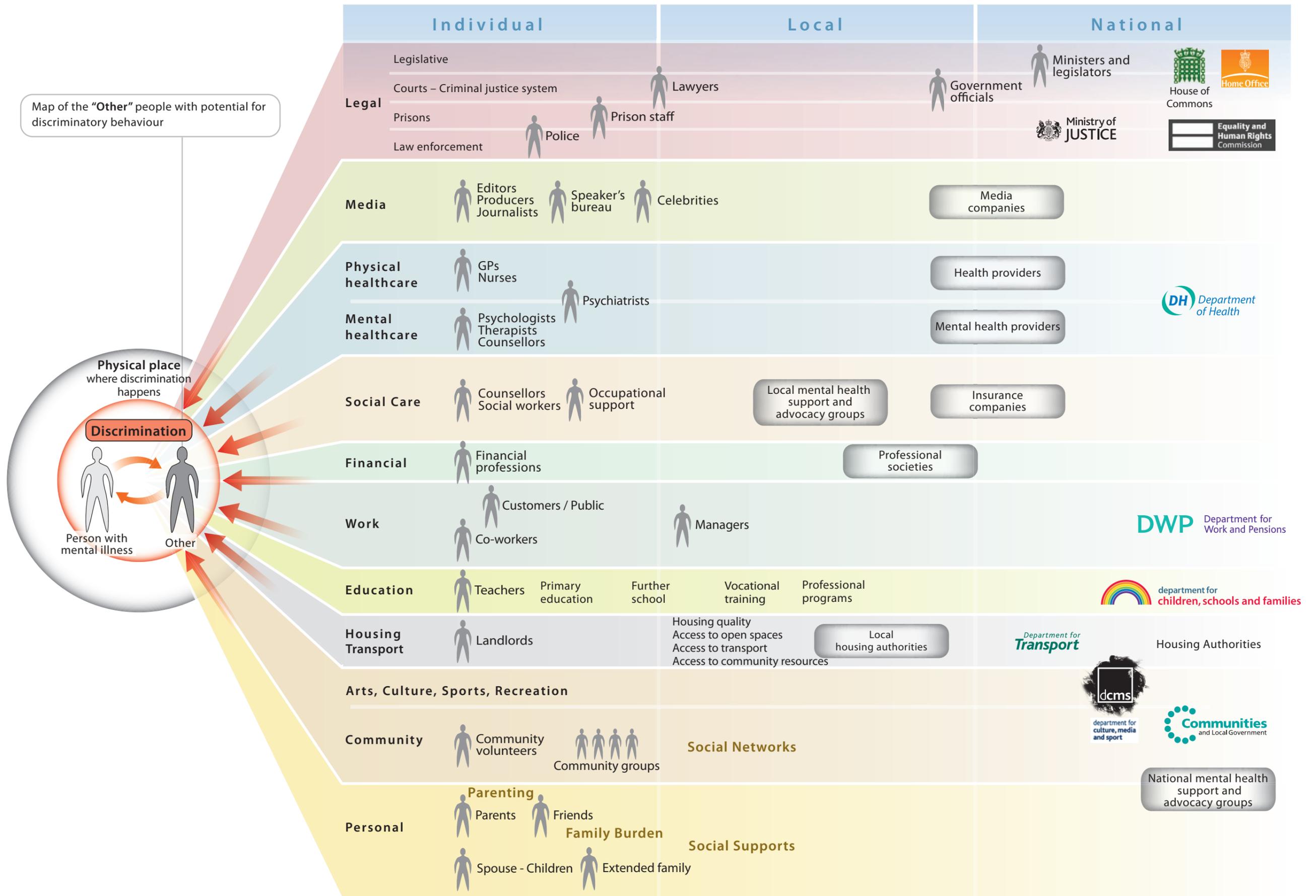
Mental health – conceptual overview



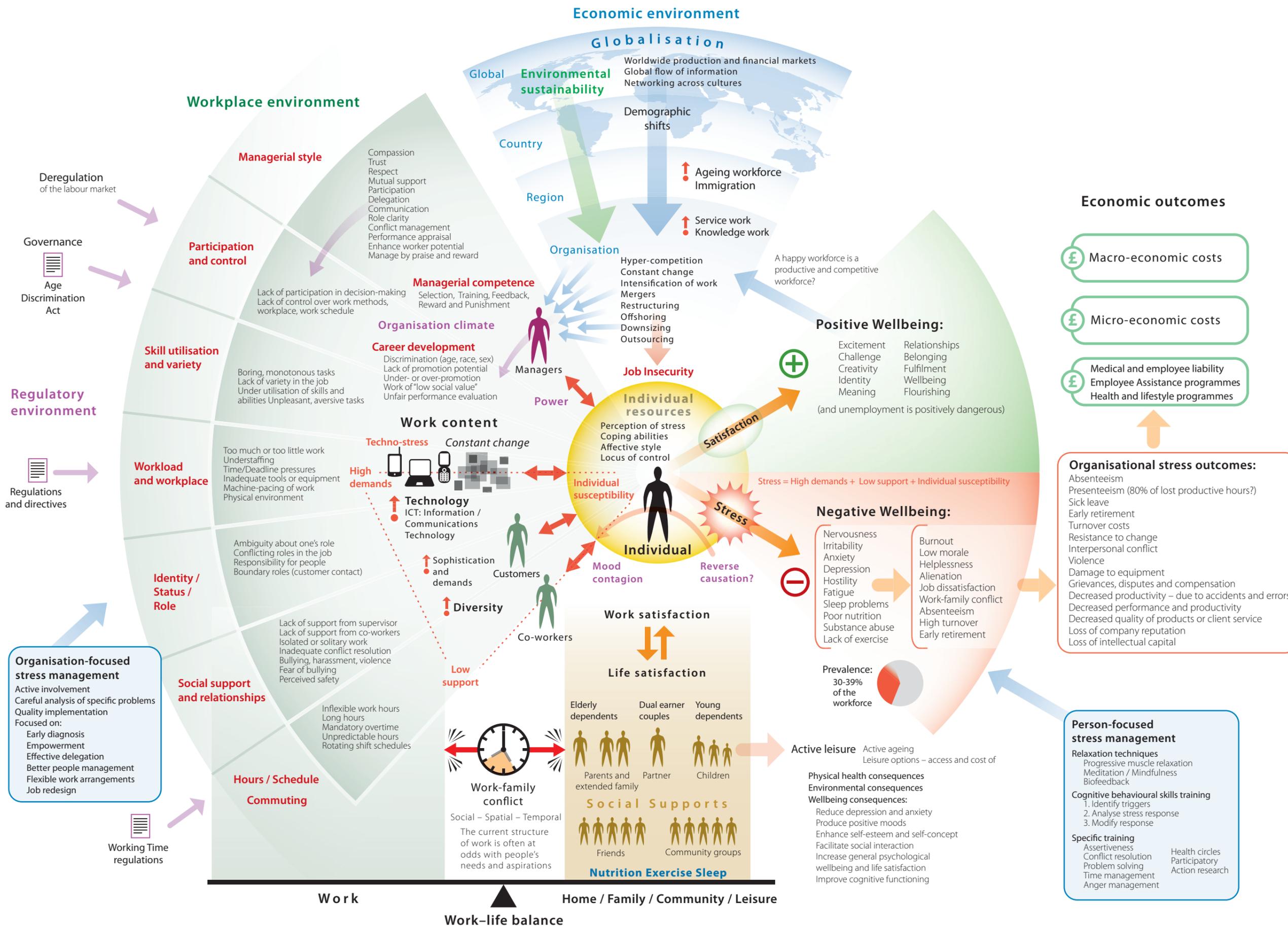
Stigma associated with mental ill-health – influence diagram



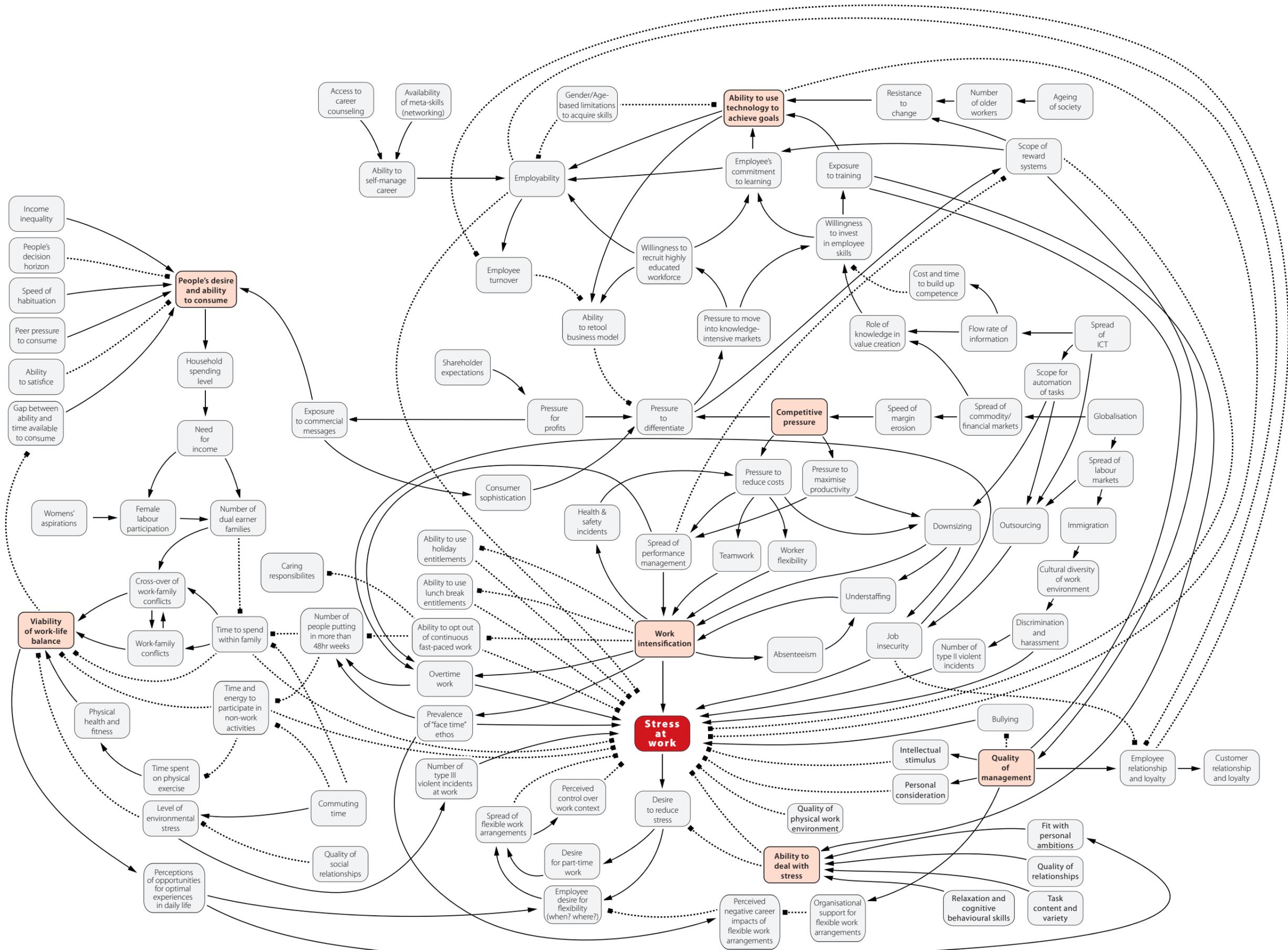
Stigma associated with mental ill-health – actors



Wellbeing at work – conceptual overview

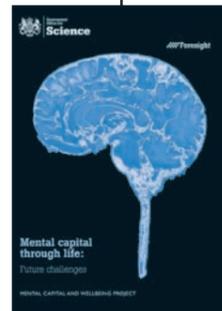
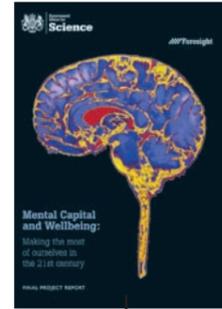


Stress at work – influence diagram



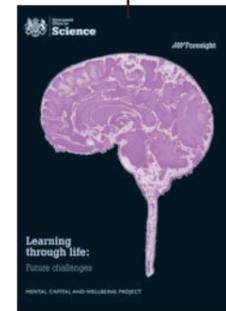
# Appendix A: Structure of the Project reports and supporting papers

**Mental Capital and Wellbeing:  
Making the most  
of ourselves in the  
21st century**  
Final Project Report



**Mental capital through life:  
Future challenges**

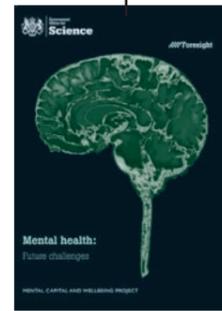
- SR-E1:** Neuroscience of education
- SR-E2:** Human reward
- SR-E3:** Neuroeconomics
- SR-E4:** Cognitive reserve
- SR-E5:** The adolescent brain
- SR-E6:** Behavioural economics
- SR-E7:** Resilience
- SR-E8:** Adolescent drug users
- SR-E9:** Pharmacological cognitive enhancement
- SR-E10:** Stem cells in neural regeneration and neurogenesis
- SR-E11:** Early detection of mild cognitive impairment and Alzheimer's disease: An example using the CANTAB PAL
- SR-E12:** Anxiety disorders
- SR-E13:** Neurocognition and social cognition in adult drug users
- SR-E14:** Normal cognitive ageing
- SR-E15:** Social cognition in teenagers – inclusion
- SR-E16:** HPA axis, stress, and sleep and mood disturbance



**Learning through life:  
Future challenges**

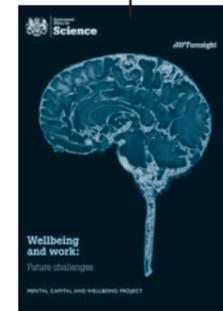
- SR-E17:** Nutrition, cognitive wellbeing and socioeconomic status
- SR-E18:** Nutrition and cognitive health
- SR-E20:** Effect of chronic stress on cognitive function through life
- SR-E21:** Depression and its toll on mental capital
- SR-E22:** Fitness and cognitive training
- SR-E24:** Effects of exercise on cognitive function and mental capital
- SR-E25:** Technology solutions to prevent waste of mental capital
- SR-E27:** Housing as a determinant of mental capital
- SR-E29:** Cognitive neural prosthetics
- SR-E31:** Cellular and molecular logic of neural circuit assembly

- SR-A2:** Learning at work
- SR-A3:** Skills
- SR-A4:** Participation in learning
- SR-A5:** Evidence-informed principles from the Teaching and Learning Research Programme
- SR-A7:** Estimating the effects of learning
- SR-A9:** Self-regulation and executive function
- SR-A10:** Lifelong learning across the world
- SR-A11:** Non-cognitive skills
- SR-A12:** Future technology for learning



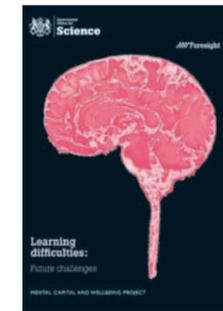
**Mental health:  
Future challenges**

- SR-B1:** Genetics and social factors
- SR-B2:** Mental health of older people
- SR-B3:** Positive mental health
- SR-B4:** Mental disorders in the young
- SR-B5:** Prisoners
- SR-B6:** The homeless
- SR-B7:** Children in local authority care
- SR-B8:** The costs of mental disorders
- SR-B9:** Serious and enduring mental illness
- SR-B10:** Personality disorders
- SR-B11:** Violence
- SR-B12:** Ageing
- SR-B13:** Migrants
- SR-B14:** Substance abuse
- SR-B15:** Depression



**Wellbeing and work:  
Future challenges**

- SR-C1:** Workplace stress
- SR-C2:** Mental wellbeing at work and productivity
- SR-C3:** Management style and mental wellbeing at work
- SR-C4:** Flexible working arrangements and wellbeing
- SR-C5:** New technology and wellbeing at work
- SR-C6:** Stress management and wellbeing
- SR-C7:** Working longer
- SR-C8:** Leisure: the next 25 years
- SR-C9:** Training in the workplace
- SR-C10:** Careers
- SR-C11:** Violence at work

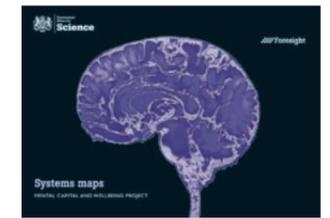


**Learning difficulties:  
Future challenges**

- SR-D1:** Specific language impairment
- SR-D2:** Dyslexia
- SR-D3:** Adult learning disabilities
- SR-D4:** Dyscalculia
- SR-D5:** Deafness
- SR-D7:** Genetics and diagnosis of learning difficulty
- SR-D8:** Conduct disorder and anti-social behaviour
- SR-D9:** Social cognition and school exclusion
- SR-D10:** Autism and autism spectrum disorders
- SR-D11:** Attention Deficit Hyperactivity Disorder
- SR-D12:** New technologies and interventions
- SR-D13:** Trajectories of development and learning difficulties
- SR-D14:** Early neural markers of learning difficulty
- SR-D15:** Childhood depression
- SR-D16:** Eating disorders

**Cross-Project papers**

- SR-X2:** Science of wellbeing
- SR-X3:** Neurobiology of wellbeing
- SR-X5:** Neural circuit assembly
- DR-1:** ICT as a driver of change
- DR-2:** Physical environment and wellbeing
- ER-1:** Ethics



**S1: Systems maps**

Note 1: Some reference numbers were assigned to topics; however, the reports/papers were not subsequently commissioned.

Note 2: The Project commissioned some additional “discussion papers” as referred to in the text of the final report. These will be made available through [www.foresight.gov.uk](http://www.foresight.gov.uk) in due course.

All the reports and papers produced by the Foresight Mental Capital and Wellbeing Project may be downloaded from the Foresight website ([www.foresight.gov.uk](http://www.foresight.gov.uk)).  
Requests for hard copies may be made through this website.