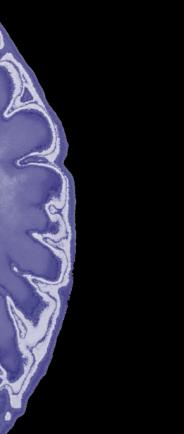


Systems maps

MENTAL CAPITAL AND WELLBEING PROJECT

(Alana)





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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Systems maps

1 Introduction

This report provides a catalogue of important systems diagrams that have been produced within the Foresight Project on Mental Capital¹ and Wellbeing². Some of these diagrams also appear in particular Project reports³.

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.

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.

2 Catalogue of diagrams

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

Page	Systems diagram
3	Mental capital through life – conceptual o The trajectory of mental capital through life, detai influence mental capital and how they are connec
4	Learning through life – conceptual overvie A visualisation of the issues associated with learning
5	Disposition to learn – influence diagram A diagram of the many factors that interact to aff
6	Learning difficulties – conceptual overviev A visualisation of the many factors that affect lear
7	Functional literacy – influence diagram A diagram of the causal factors that drive the dev
8	Functional numeracy – influence diagram A diagram of the causal factors that affect the dev
9	Executive function – influence diagram A diagram showing the causal factors involved the
10	Mental health – conceptual overview A visualisation of the principal factors that affect r their inter-relationships
П	Stigma associated with mental ill-health – A diagram of the many factors affecting the stigma people with mental illness
12	Stigma associated with mental ill-health – An illustration of some of the people and settings discrimination
13	Wellbeing at work – conceptual overview A visualisation of the factors that affect wellbeing negative outcomes of healthy versus unhealthy we
14	Stress at work – influence diagram A diagram of the many factors that interact to aff

overview

ailing some of the many factors that ected across the lifecourse

iew

ning through life

ffect disposition to learn

rning difficulties

evelopment of functional literacy

evelopment of functional numeracy

ne development of executive function

mental health and mental ill-health, and

– influence diagram

natisation of, and discrimination against,

– actors

s that can influence stigma and

at work and the associated positive and vorkplace environments

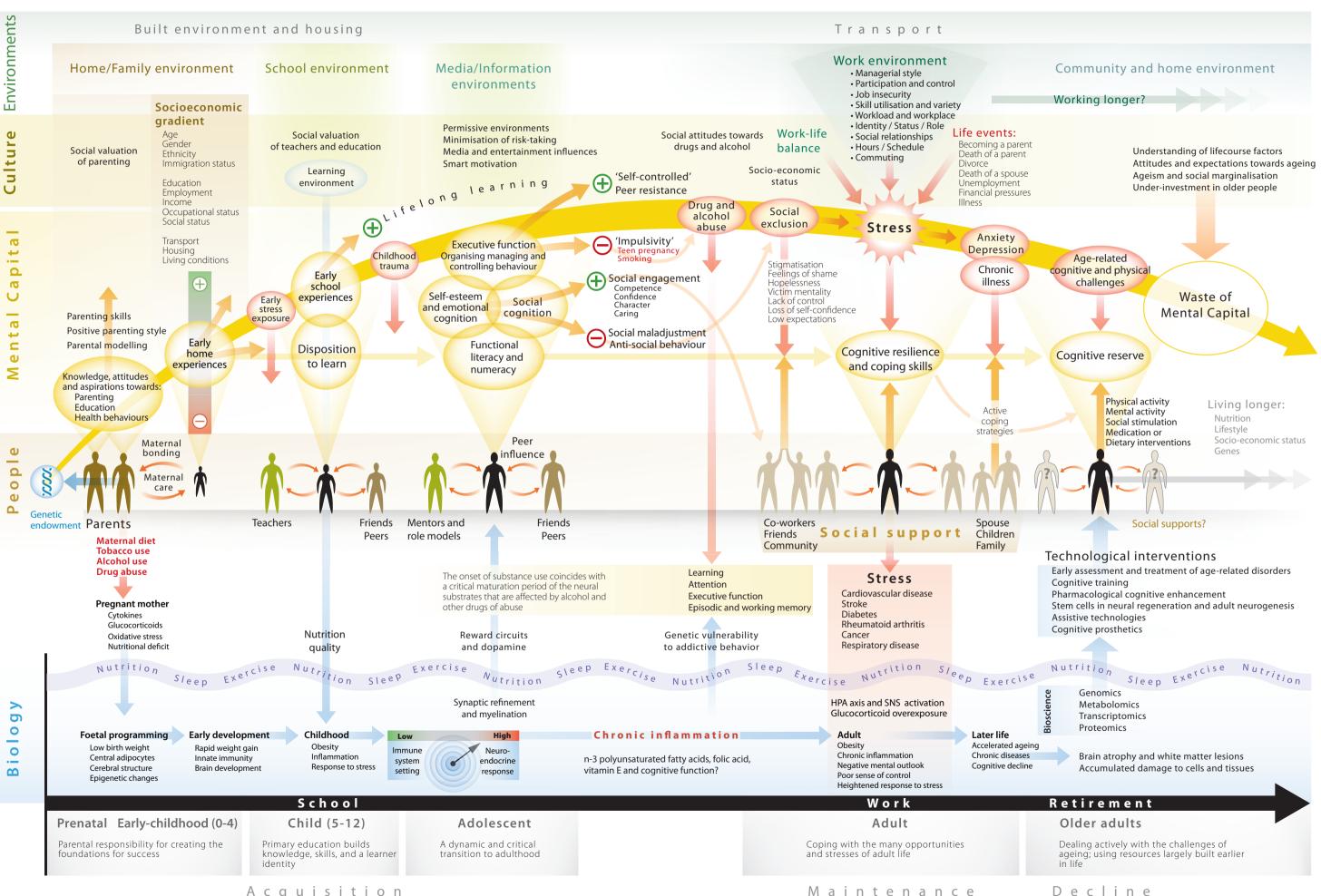
ffect stress at work

I "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.

^{2 &}quot;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.

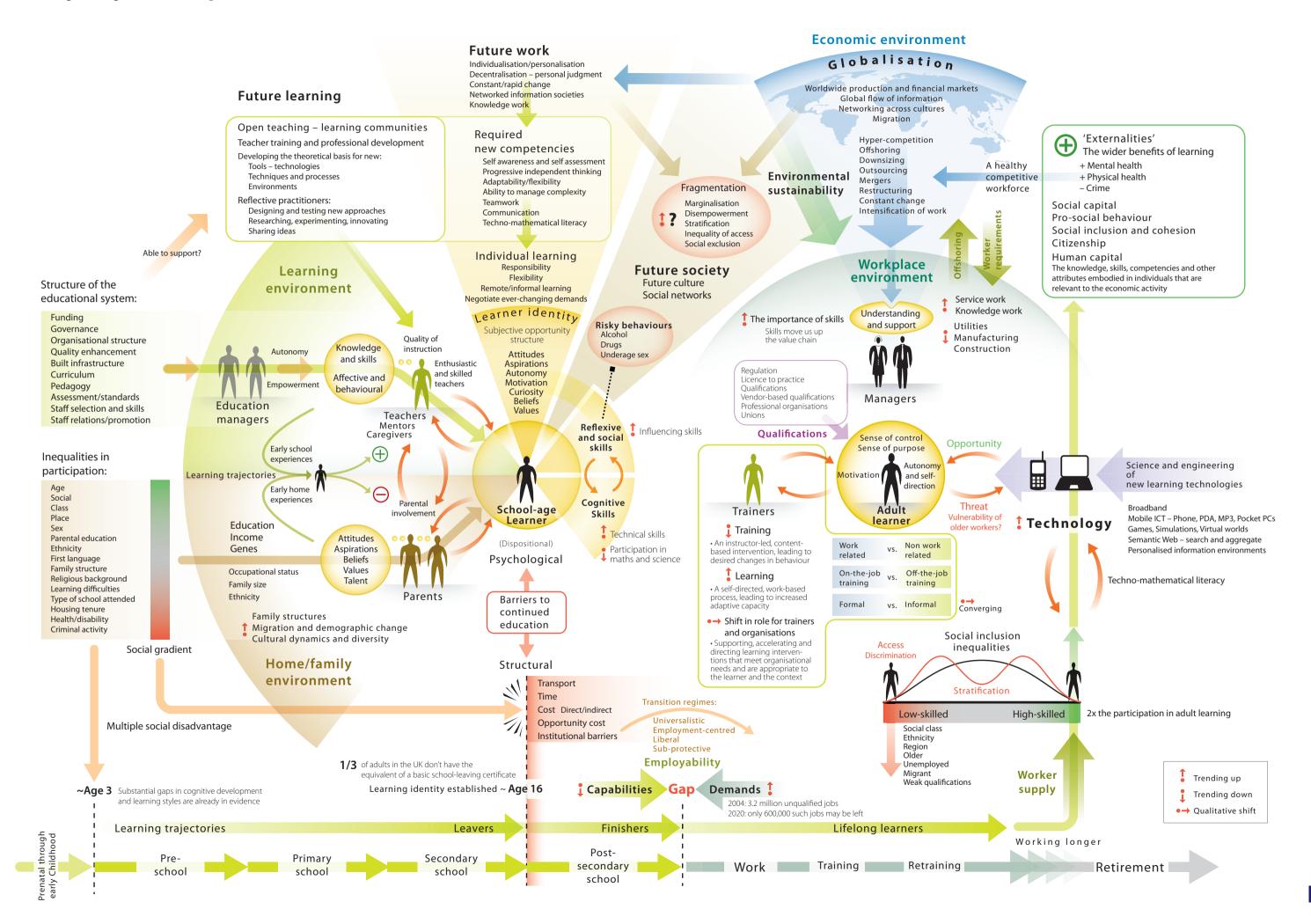
³ See Appendix A for a list of the Project reports.

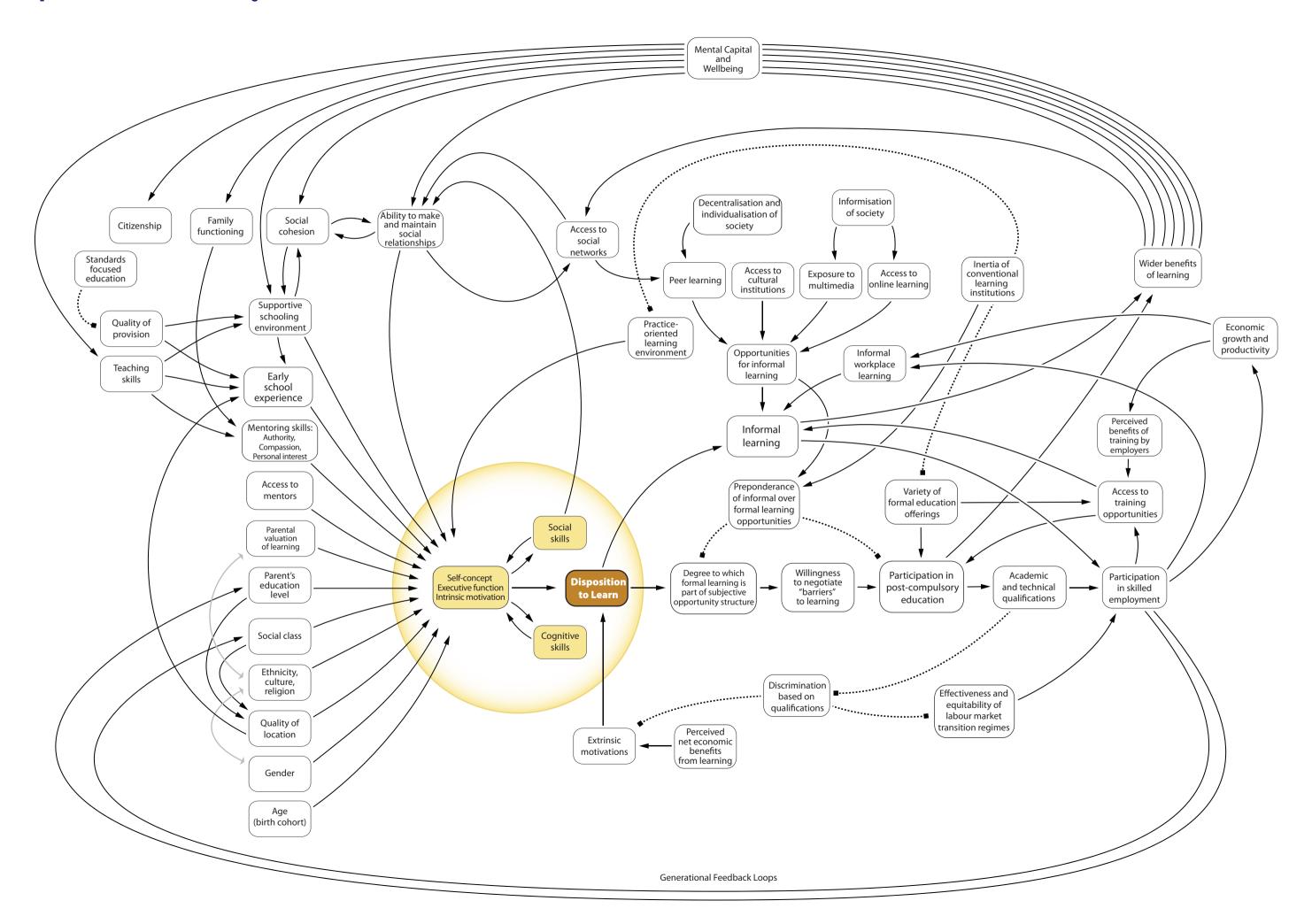
Mental capital through life – conceptual overview

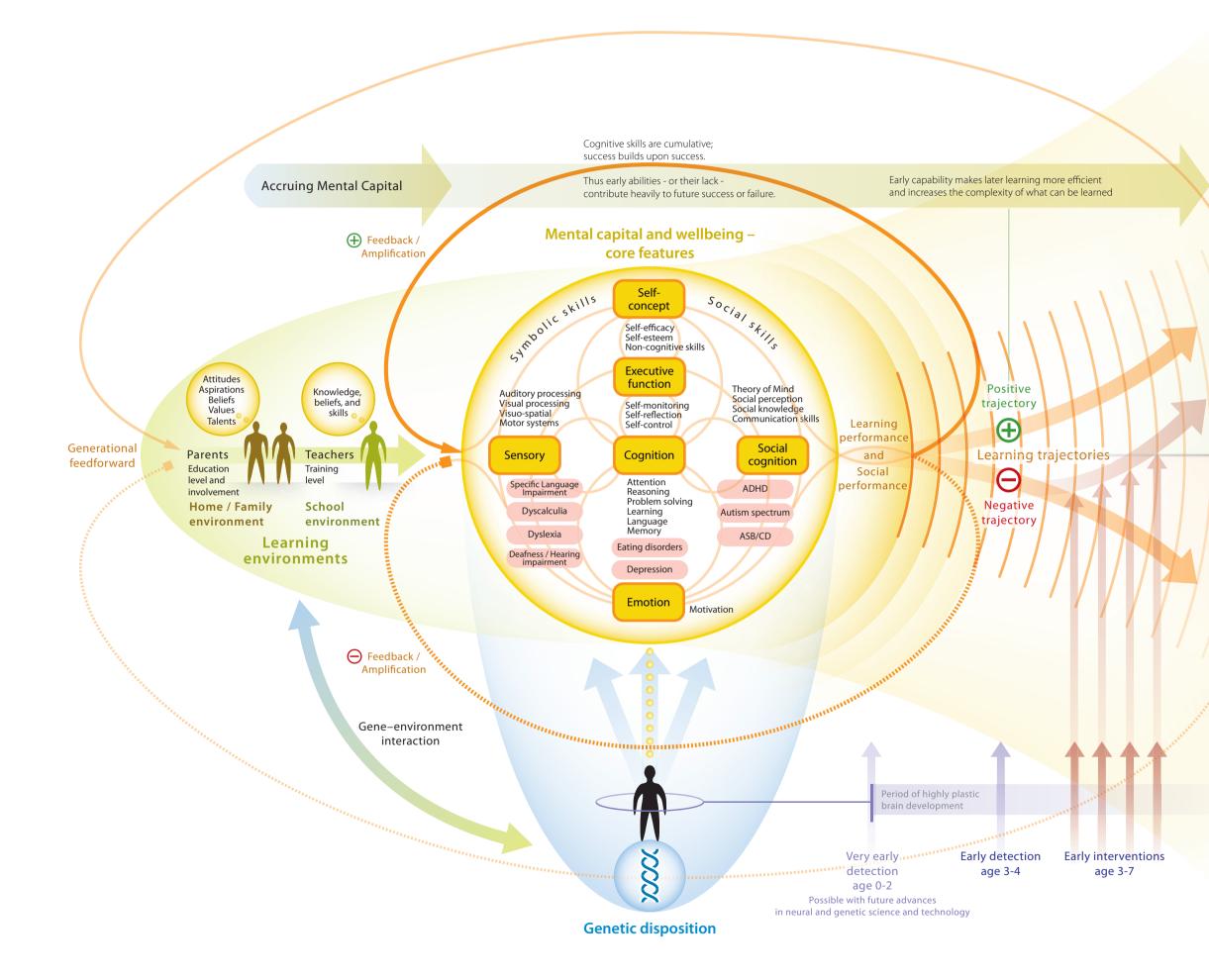


Acquisition

Maintenance







 \bigoplus

Mental

Capital

Mental capital and associated outcomes:

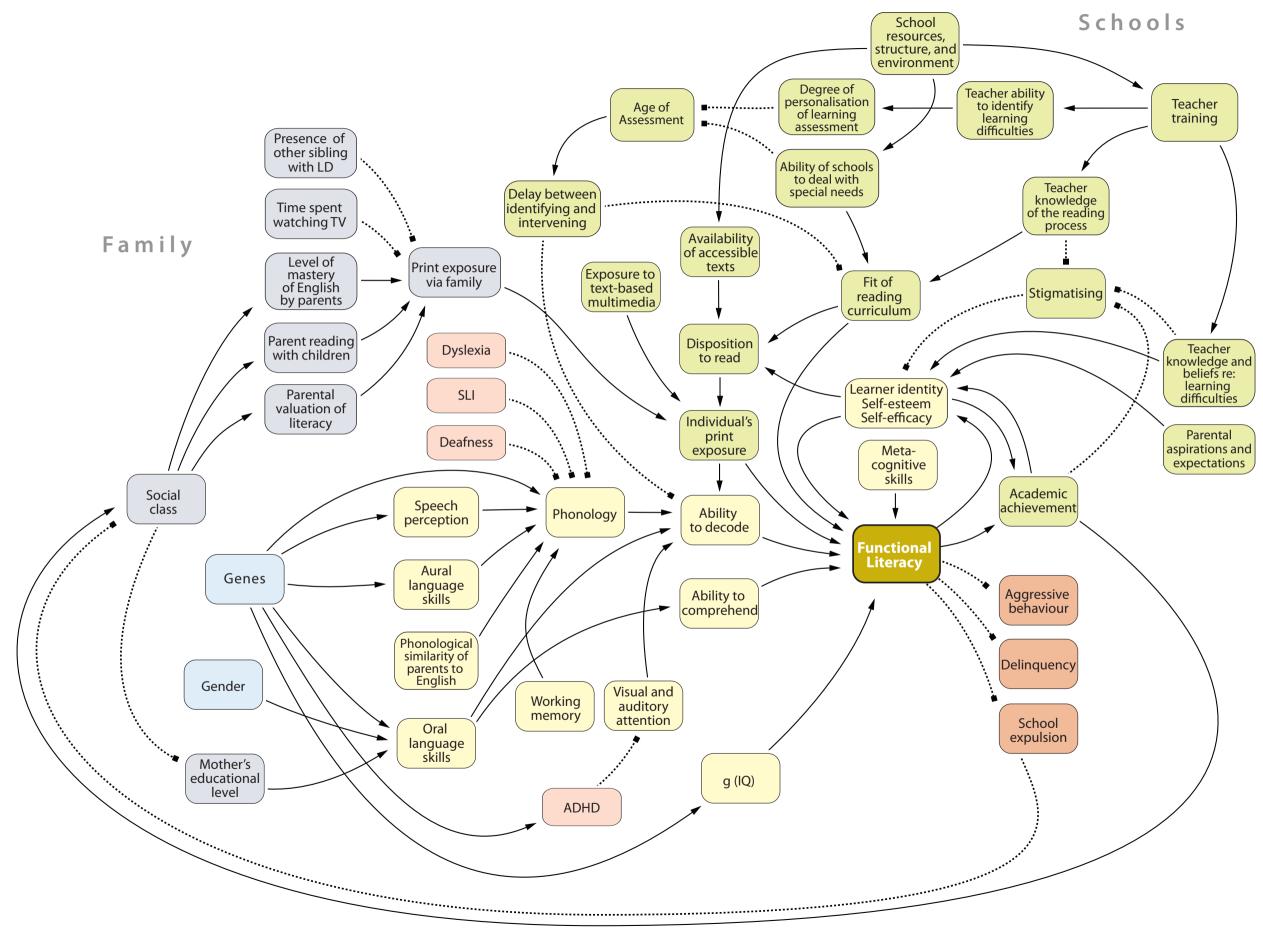
Basic intellectual functioning Cognitive flexibility and resilience Cognitive reserve Optimism Active coping style Self-esteem and self-efficacy Social engagement Social inclusion Employability

Lifecourse

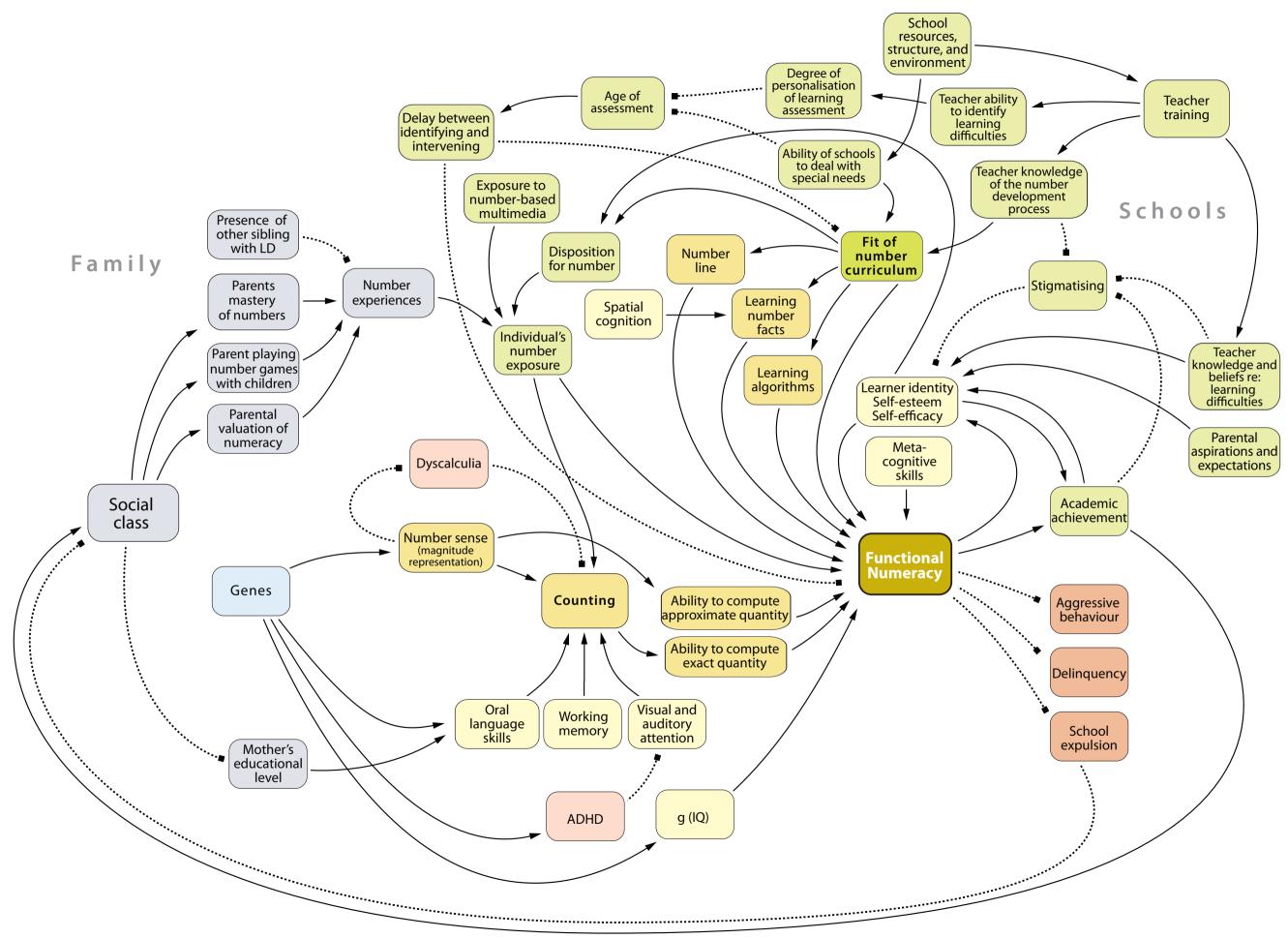
Delinquency School failure Depression Mental ill-health Criminality Substance abuse Teen pregnancy

> Mental Capital

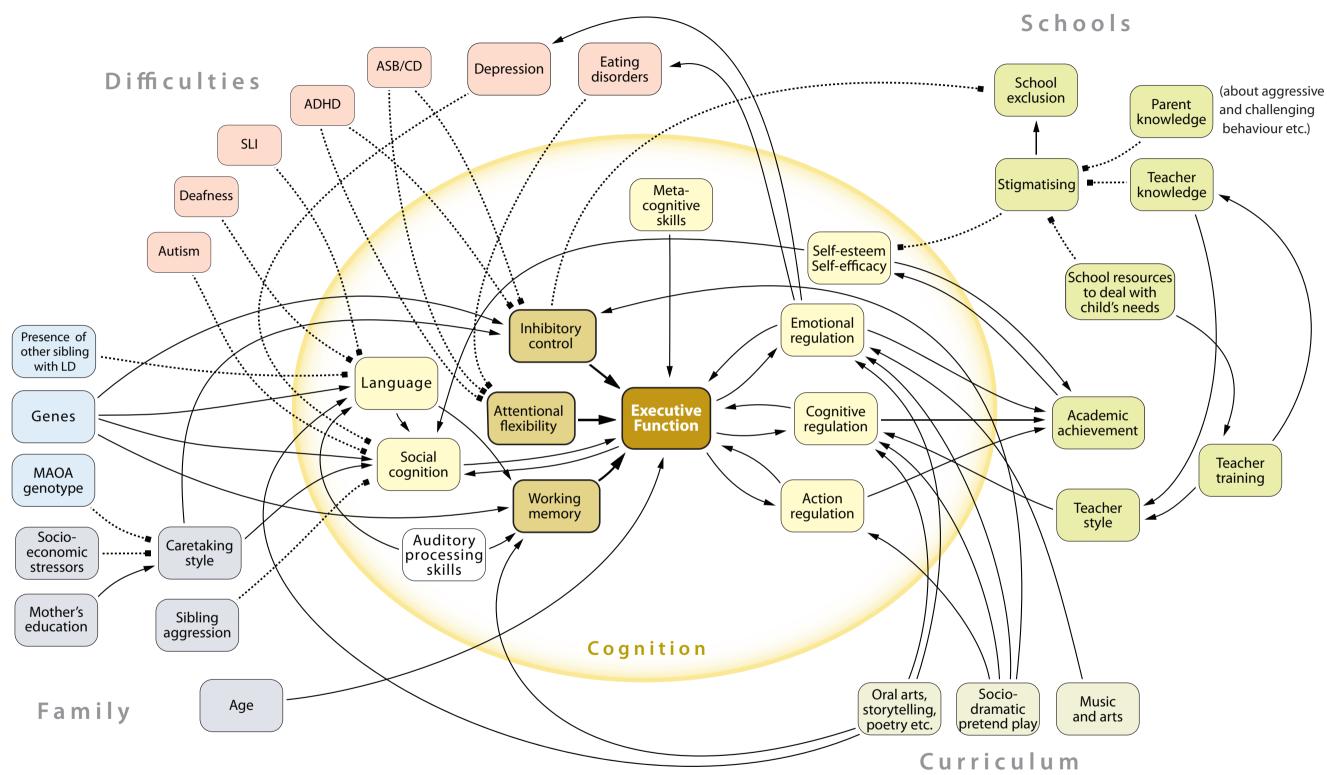


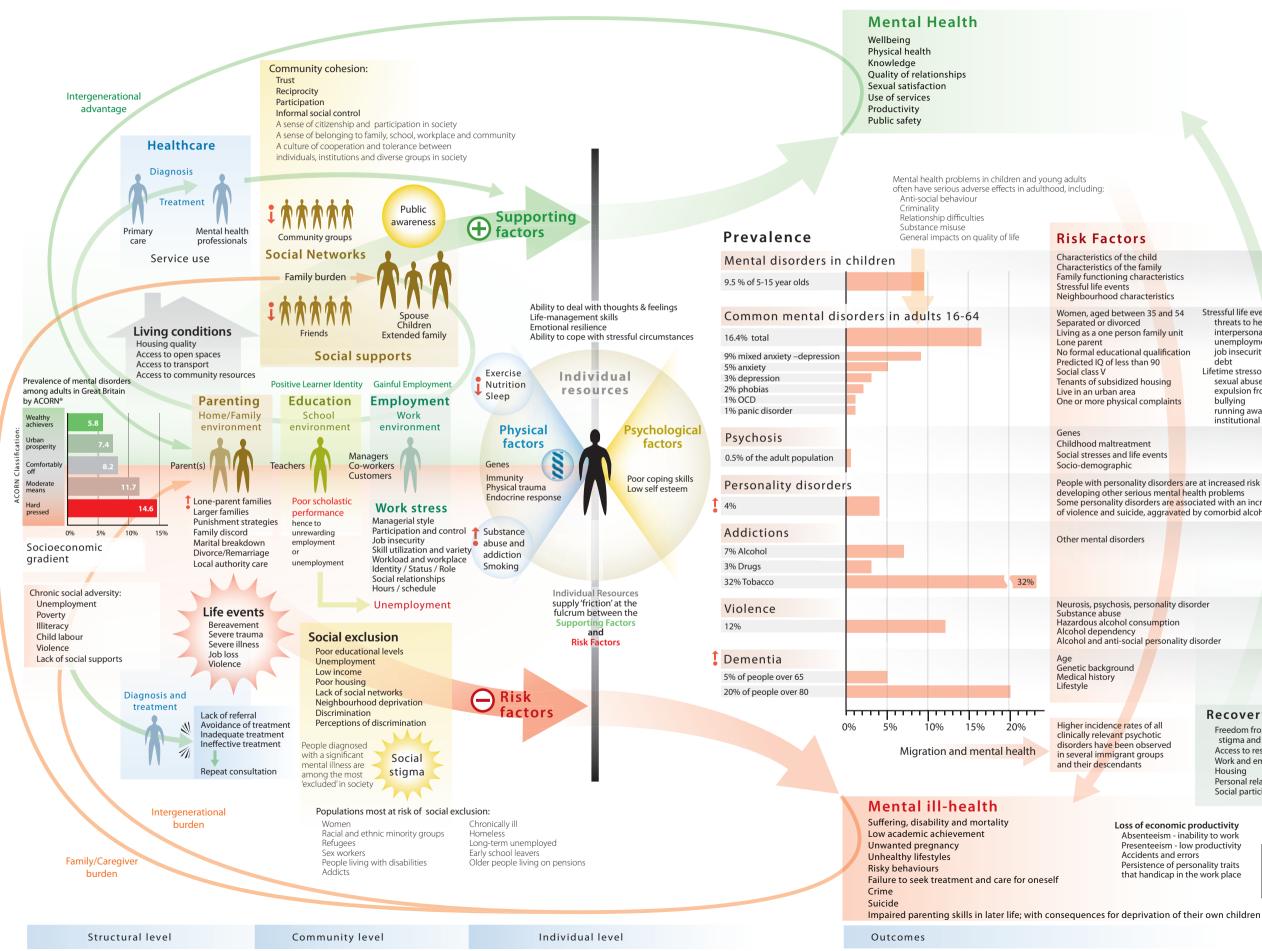


Generational feedback loops



Generational feedback loops





Characteristics of the family Family functioning characteristics

Women, aged between 3<mark>5 and</mark> 54

Living as a one person family unit Lone parent No formal educational gualification

Predicted IQ of less than 90

Live in an urban area One or more physical complaints

threats to health interpersonal proble unemployment job insecurity debt Lifetime stressors: sexual abuse expulsion from school bullvina running away from home institutional care in childhood

Stressful life events.

Social stresses and life events

People with personality disorders are at increased risk of developing other serious mental health problems Some personality disorders are associated with an increased risk of violence and suicide, aggravated by comorbid alcohol abuse

Neurosis, psychosis, personality disorder Substance abuse Hazardous alcohol consumption Alcohol dependency Alcohol and anti-social personality disorder

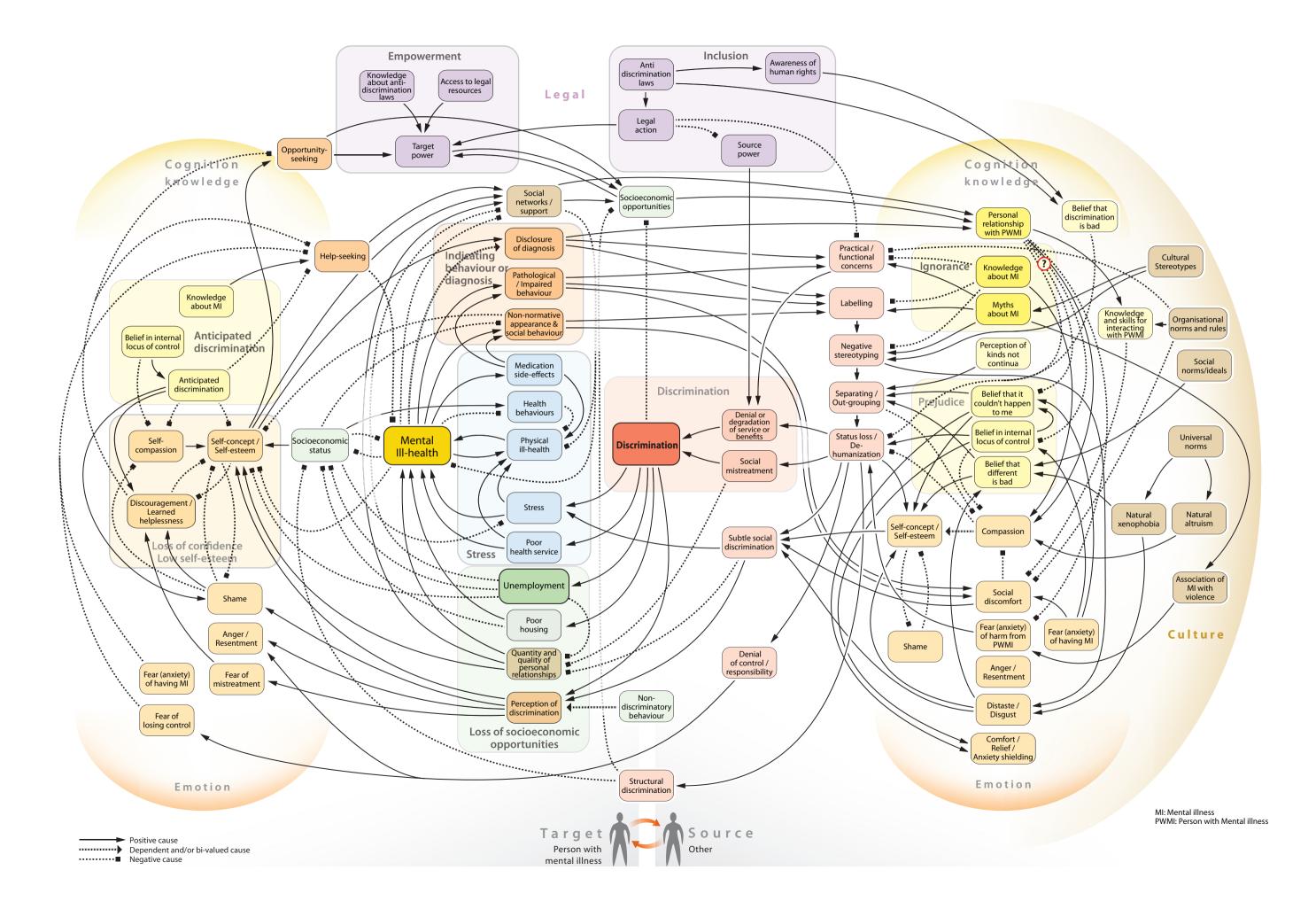
Higher incidence rates of all clinically relevant psychotic disorders have been observed in several immigrant groups

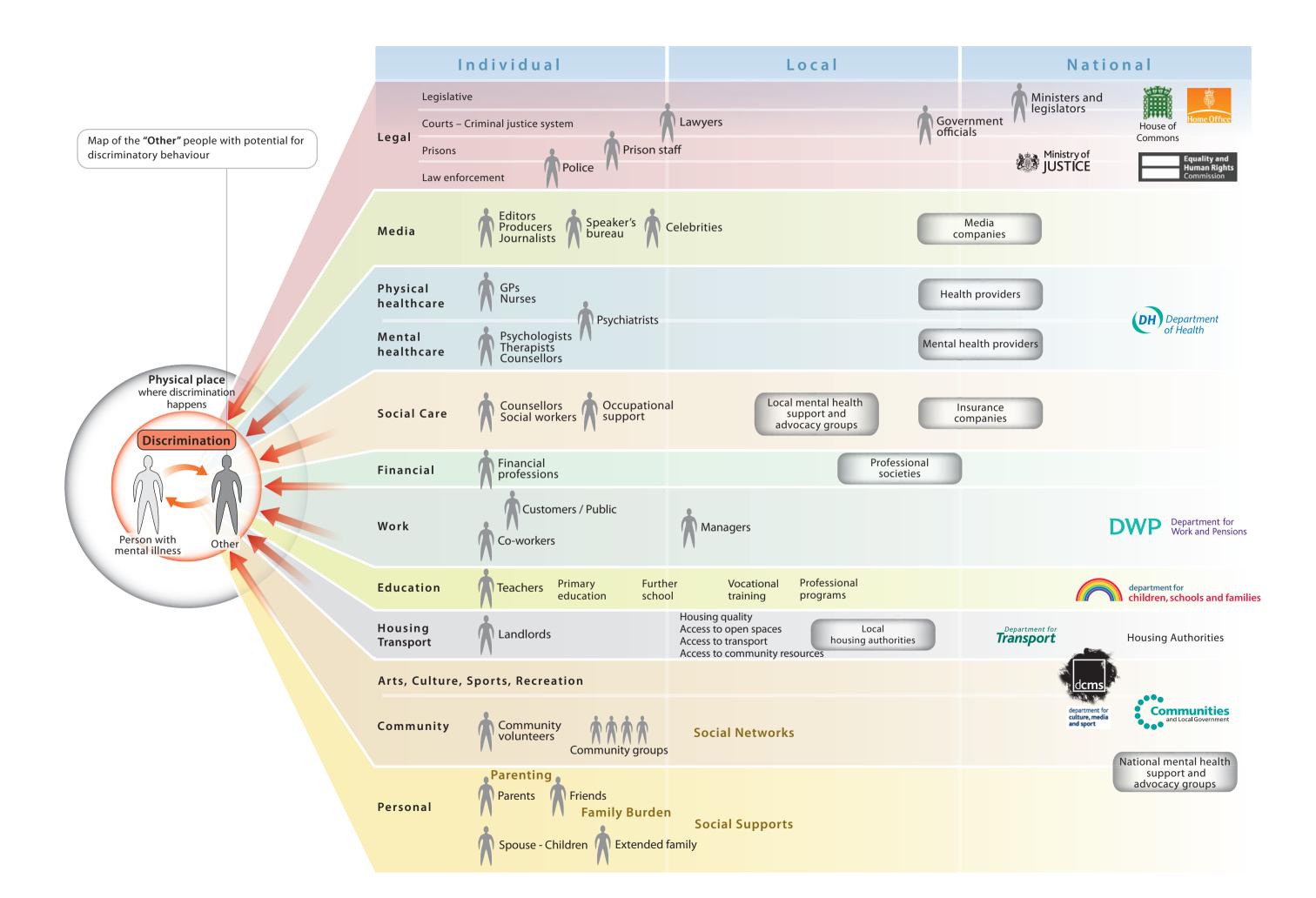
Recovery

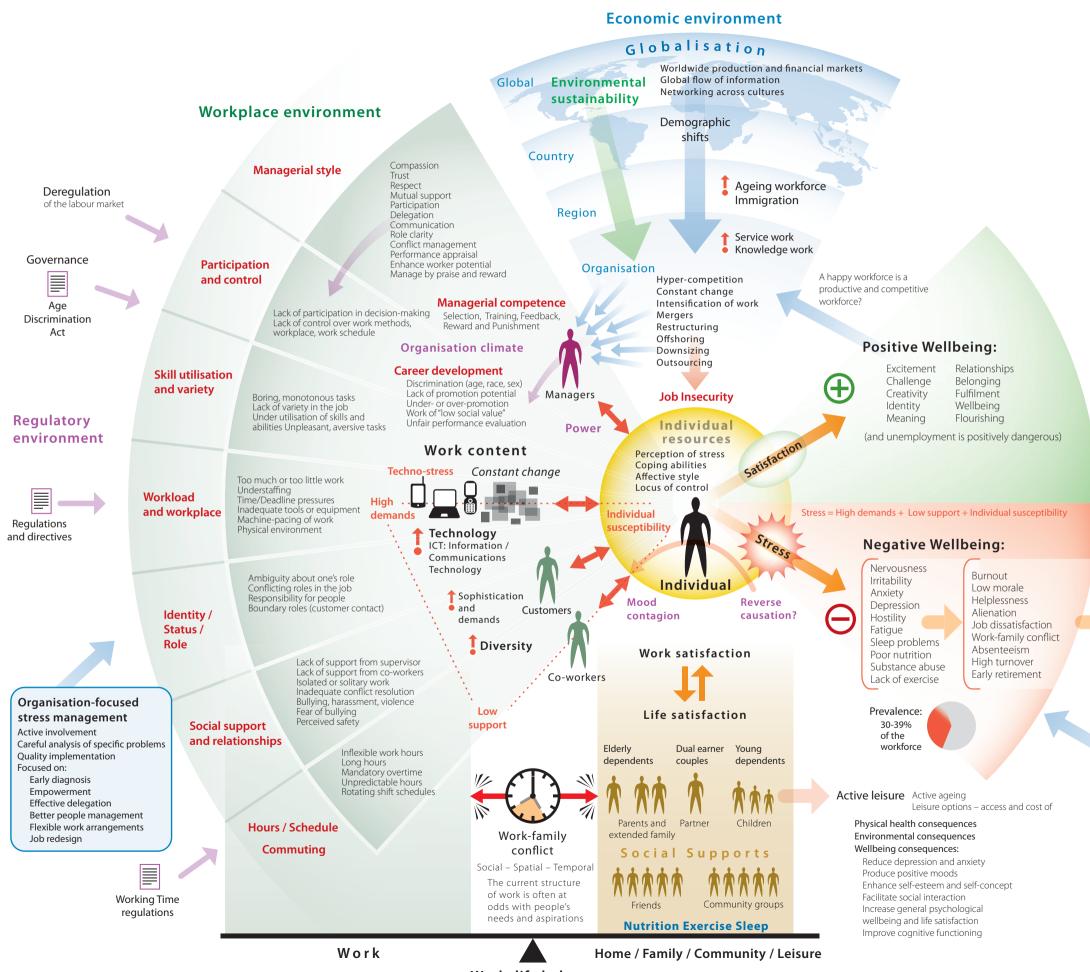
Freedom from abuse, stigma and discrimination Access to resources Work and employment Housing Personal relationships Social participation

Loss of economic productivity Absenteeism - inability to work Presenteeism - low productivity Accidents and errors Persistence of personality traits that handicap in the work place









Work-life balance

Economic outcomes



Person-focused stress management

Relaxation techniques Progressive muscle relaxation Meditation / Mindfulness Biofeedback

Cognitive behavioural skills training

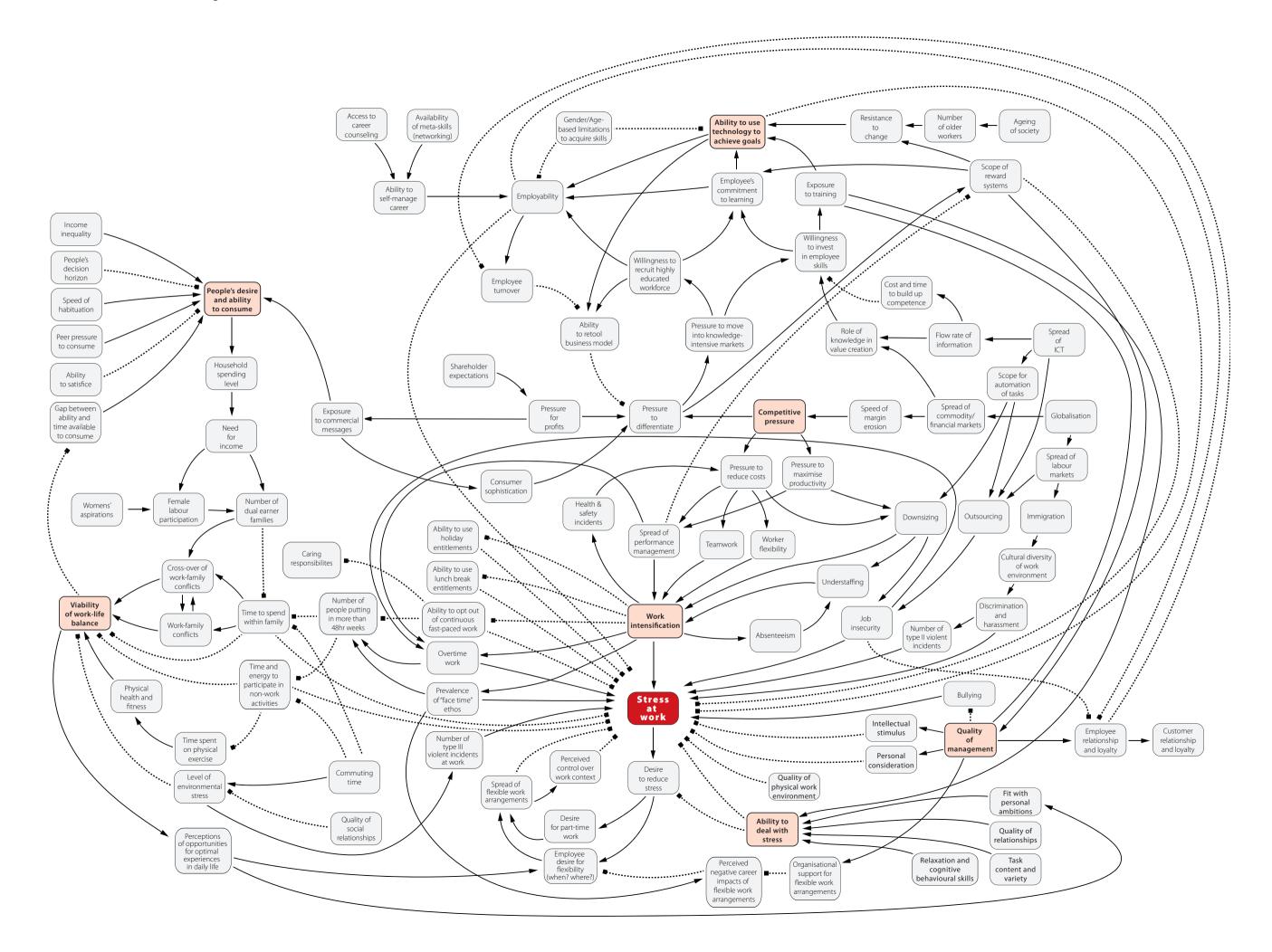
- 1. Identify triggers 2. Analyse stress response
- Analyse stress res
 Modify response

5. Moully respor

Specific training

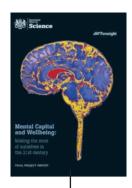
Assertiveness Conflict resolution Problem solving Time management Anger management

Health circles Participatory Action research



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 Human reward	SR-EI7:	Nutrition, cognitive wellbeing and socioeconomic status
SR-E3:	Neuroeconomics	SR-E18:	Nutrition and cognitive health
SR-E4: SR-E5: SR-E6:	Cognitive reserve The adolescent brain Behavioural economics	SR-E20:	Effect of chronic stress on cognitive function through life
SR-E7: SR-E8:	Resilience Adolescent drug users	SR-E21:	Depression and its toll on mental capital
SR-E9:	Pharmacological cognitive	SR-E22:	Fitness and cognitive training
SR-EI0:	enhancement Stem cells in neural regeneration and		Effects of exercise on cognitive function and mental capital
SR-EII:	neurogenesis Early detection of mild cognitive	SK-E25:	Technology solutions to prevent waste of mental capital
	impairment and Alzheimer's disease: An example using the	SR-E27:	Housing as a determinant of mental capital
SR-E12:	CANTAB PAL Anxiety disorders	SR-E29:	Cognitive neural prosthetics
SR-E13:	Neurocognition and social cognition in adult drug users	SR-E31:	Cellular and molecular logic of neural circuit assembly
SR-E14:	Normal cognitive ageing		
SR-EI5:	Social cognition in		



Learning through life: Future challenges

	Nutrition, cognitive	SR-A2:	Learning at work
	wellbeing and socioeconomic status	SR-A3:	Skills
:	Nutrition and cognitive health	SR-A4:	Participation in learning
:	Effect of chronic stress on cognitive function through life	SR-A5:	Evidence-informed principles from the Teaching and Learning Research Programme
:	Depression and its toll on mental capital	SR-A7:	Estimating the effects of learning
:	Fitness and cognitive training	SR-A9:	Self-regulation and executive function
:	Effects of exercise on cognitive function and mental capital	SR-AI0:	Lifelong learning across the world
:	Technology solutions to prevent waste of mental capital		Non-cognitive skills Future technology for learning
•	Housing as a		



Mental health: Future challenges **SR-BI:** 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-BI0:	Personality disorders
SR-BII:	Violence
SR-BI2:	Ageing
SR-B13:	Migrants
SR-B14:	Substance abuse
SR-B15:	Depression



Wellbeing and work: Future challenges

SR-CI:	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-CIO: Careers		
SR-CII: Violence at work		



Learning difficulties: Future challenges **SR-DI:** Specific language impairment

SR-D2:	Dyslexia	
SR-D3:	Adult learning disabilities	SR-X5:
SR-D4:	Dyscalculia	DR-I:
SR-D5:	Deafness	
SR-D7:	Genetics and diagnosis of learning difficulty	DR-2: ER-1:
SR-D8:	Conduct disorder	

SR-D8:	Conduct disorder and anti-social behaviour
SR-D9:	Social cognition and school exclusion
SR-DI0	: Autism and autism spectrum disorders
SR-DII	: 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-DI5: Childhood depression

SR-D16: Eating disorders

SR-EI6: HPA axis, stress, and sleep and mood

teenagers – inclusion

disturbance



Cross-Project papers

S1: Systems maps

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

- Note I: 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 in due course.

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

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