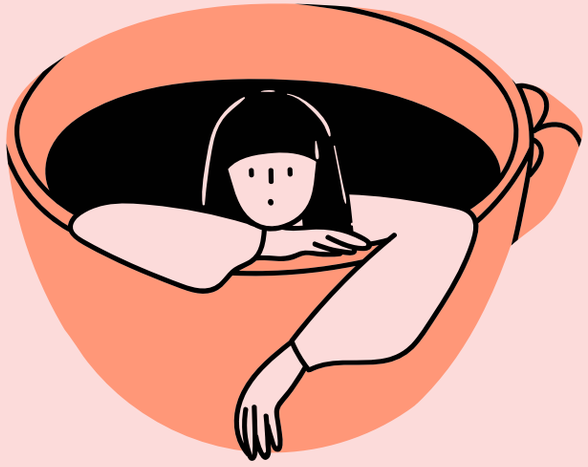
The Foundation for Young People's Mental Health

Depression
It's really not all in the mind

Depression – It's really not all in the mind **aims to help explain why and how depression develops in children and young people up to around 25 years old. It also highlights areas that individuals, their families and carers, and the organisations they work with, may explore to help prevent and reduce the severity of depression.**

The information shared in this booklet is the result of five years of research and innovation by The William Templeton Foundation for Young People's Mental Health (YPMH). In a completely new approach to understanding depression, YPMH used engineering methods (including root-cause analysis and process-flow diagrams) to identify links between the social, biological and psychological factors associated with depression. These were then explored in detail with experts to test and refine the understanding. Once the model had been validated with experts, it was used in 25 workshops with representatives from health and social care, schools, employers, research and innovation to identify evidence-based innovations for the prevention, early detection, diagnosis, and personalised management and treatment of depression.



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Why depression matters

Depression is a common mental disorder that involves low mood and can include loss of pleasure or interest over a long period of time. It affects a person's ability to study and work, and their quality of life. Around 300 million people globally suffer from depression.

2.1%

The condition currently occurs in about 2.1% of 5–19 year olds and has risen sharply in the last decade.

3x

Depression in adolescence is associated with a nearly three-times higher risk of depression in adulthood.

75%

Existing treatments for depression in under-18s are effective in only 60% of cases. Even after successful treatment, between 50% and 75% of patients experience a relapse.

The economic cost of mental ill-health is projected to be $16 trillion globally by 2030. This cost is primarily due to early onset of mental illness and lost productivity, with an estimated 12 billion working days lost due to mental illness every year. In 2019, mental health problems cost the UK economy at least £117.9 billion annually, or about 5% of GDP.

Depression accounts for the largest share of the world's burden of disease measured by years lost to disability. Its prevalence is increasing.

The opportunity offered by research and innovation

An increasing body of research confirms that depression is not 'all in the mind' and researchers have now produced findings showing that a wide range of social, psychological and biological factors can contribute to people developing depression.

Since 2019, YPMH has worked with researchers, healthcare professionals, individuals and organisations working with young people, such as schools and employers, to:

- Join up the biological, psychological and social factors that are associated with depression in young people, to better understand the links between social and psychological vulnerabilities and biological mechanisms.
- Identify and evaluate evidence-based innovations for the prevention, early detection, diagnosis of conditions and their causes, and personalised management and treatment of depression.
- Show how different groups, such as individuals, families and carers; educational institutions and employers; policy-makers; and key parts of the health and social care system can apply these new approaches to help prevent and address depression.

This research has been published as *Changing Hearts, Changing Minds* (September 2021) and *Changing Minds, Changing Lives* (April 2023), both of which may be found at www.ypmh.org/publications and downloaded free of charge.

Depression – It's really not all in the mind summarises key aspects of the two previous publications in an easy to understand way which we hope will inform and inspire individuals, families and organisations to explore how they can protect mental wellbeing for themselves, the young people they care for and their communities.

As our understanding of the factors that can contribute to depression improves, this knowledge can be used to help to prevent, manage and treat the condition more effectively.

What is depression?

Depression is often described as sadness or a low mood that can last a long time or keep returning, impacting everyday life. It can affect children, young people and adults.

Other typical symptoms of depression may include tiredness, disturbed sleep, changes in appetite, feeling worthless or guilty, being unable to concentrate or being indecisive, thoughts of death or suicide.

Doctors describe depression as mild, moderate or severe depending on the symptoms, how long it lasts and how much it affects a person's daily life.

What causes depression?

Scientific research has identified a wide range of social, psychological and biological factors that can contribute to people developing depression.

Based on this research, YPMH has created a map (shown in Figure 1 and on pages 8–9) of the factors contributing to depression that shows the links between and within:

- Our body's biological systems, in particular, our genes and how they are turned on or off, our gut bacteria (microbiome), and our hormonal, immune and nervous systems.
- Any underlying health conditions that we might have.
- Our opportunities, choices and actions regarding food, exercise, sleep and substance use.
- Our economic, cultural, community, social, emotional and physical environments.
- Psychological factors, such as our perceptions of stress and the effectiveness of our coping strategies.

Research also suggests that adverse changes to the young person's biological systems during critical periods of development can affect mental health over the long term.

It is important to note that depression is a complex condition with multiple triggers and pathways. Experiencing a particular risk factor does not necessarily lead to depression. Experiences that for one person may lead to depression will not necessarily do so for another.

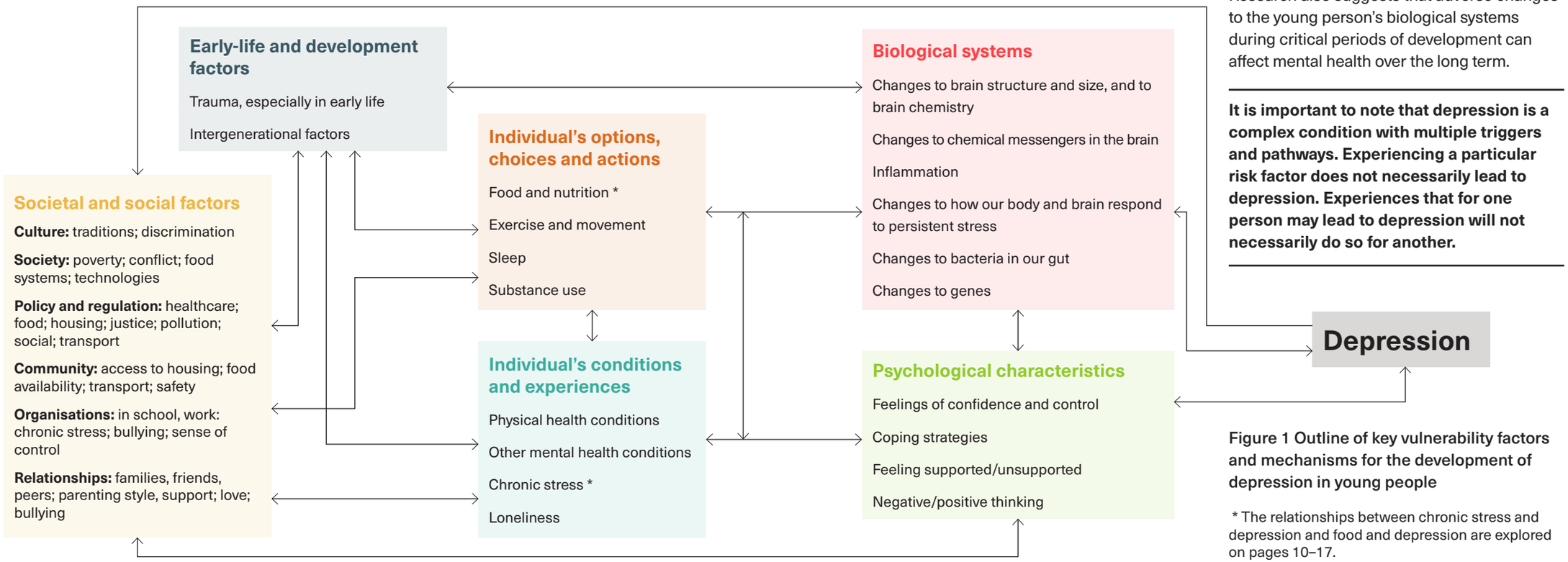


Figure 1 Outline of key vulnerability factors and mechanisms for the development of depression in young people

* The relationships between chronic stress and depression and food and depression are explored on pages 10–17.

Biological changes associated with depression

Research has shown that depression is associated with a range of changes affecting many of the biological systems in the body and the brain. Figure 2 outlines some of the key biological changes that occur in response to societal, social and individual factors. If you would like to find out more, please download *Changing Minds, Changing Lives* from www.ypmh.org/publications

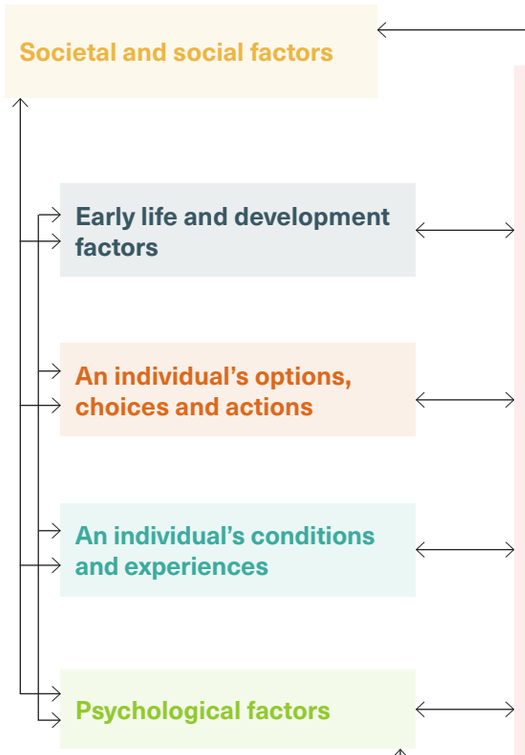


Figure 2 Vulnerability factors and mechanisms for the development of depression in young people highlighting key biological changes

Biological systems

Changes to brain structure and size

Studies show that people with depression typically have less grey matter in areas of the brain associated with emotional regulation, particularly the hippocampus.

This is thought to be due to biological processes which reduce the birth of new nerve cells (neurons); cause brain cells to grow more slowly and be less adaptable; reduce levels of brain-protecting (neuroprotective) chemicals and increase levels of brain-damaging (neurotoxic) chemicals; reduce levels of brain-growth chemicals; and lower blood flow to the brain.

Changes to chemical messengers in the brain

People with depression show lower levels of chemical messengers (neurotransmitters), such as serotonin and dopamine, which affect mood, anxiety, thinking, reward response, learning and memory.

Inflammation

Inflammation is a healthy response of the immune system to infection or injury but sometimes inflammation can persist for a long time (i.e. it is 'chronic'.) This can have a range of negative consequences that contribute to depression.

Chronic inflammation can lead to cellular changes in the brain caused by an altered balance of neurotoxic and neuroprotective chemicals, and reduced levels of chemicals which encourage brain growth.

It can also lead to reduced levels of neurotransmitters, particularly serotonin and melatonin.

Inflammation can also lead to 'sickness behaviour' which, although a normal response to illness or injury helping to conserve energy and combat infection, can cause physical and mental feelings similar to depression.

Changes to how our body and brain respond to persistent stress

Chronic stress can change how our body reduces levels of the stress hormone, cortisol.

Persistent high levels of cortisol have negative effects on the body's immune system, inflammation and ability to make neurotransmitters such as serotonin.

Chronically raised levels of cortisol can reduce the birth of new neurons; reduce neurons' ability to grow and adapt (neuroplasticity) and send electrochemical messages; and lead to the loss of neurons, which all lead to a reduced volume of the hippocampus.

Changes to bacteria in our gut

The gut microbiome produces neurotransmitters and other chemicals important for mental wellbeing – its bacteria need to be suitably fed.

Research has shown that people with depression have a less varied and a lower number of 'good' gut bacteria compared to non-depressed individuals.

Less varied microbes, and lower numbers of certain bacteria, can result in dysfunctions that lead to changes in the gut wall. These disruptions in the protective mechanisms of the gut wall can lead to bacterial components and food proteins entering the bloodstream, causing the immune system to respond, and potentially leading to chronic low grade inflammation associated with depression.

Changes to genes

Inherited variations in our genes can cause the body's biological systems to work in subtly different ways. Genetic variants associated with depression include those involved in stress response, inflammation and the production of neurotransmitters and brain-growth chemicals. These variants can make an individual more or less susceptible to depression.

Changes in the activation of genes (epigenetics) can control whether genes are turned 'on' and 'off' in response to environmental experiences. Environmental experiences associated with depression include abuse, bullying and other experiences that cause chronic stress, and have been shown to alter the activation status of key genes thought to be involved in depression.

Adversity early in life is a risk factor for the development of depression later in life. Early-life stress leads to specific epigenetic changes that affect, for example, the stress-response system, the immune system, the birth of new neurons and neuroplasticity.

Depression

Exploring the effects of everyday things

Things we commonly do, do not do, or that we experience can help protect us from – or make us vulnerable to – depression. In this section we discuss chronic stress and food. We explore factors that influence our options, choices and experiences, and the biological changes that can result. We identify what can go wrong and what we can do to help ourselves and others. Other everyday vulnerability factors include physical activity, sleep, substance use and social relationships – both in-person and online. Each can be understood better using the model shown here.

Example 1

How is chronic stress linked to depression?

Persistent (chronic) stress can cause dysfunction of our stress response system. This dysfunction is present in upwards of 40–60% of patients with depression, depending on the examined population and the severity of the condition.

The diagram below shows the societal, social and individual factors that cause changes to our biological systems that are associated with depression.

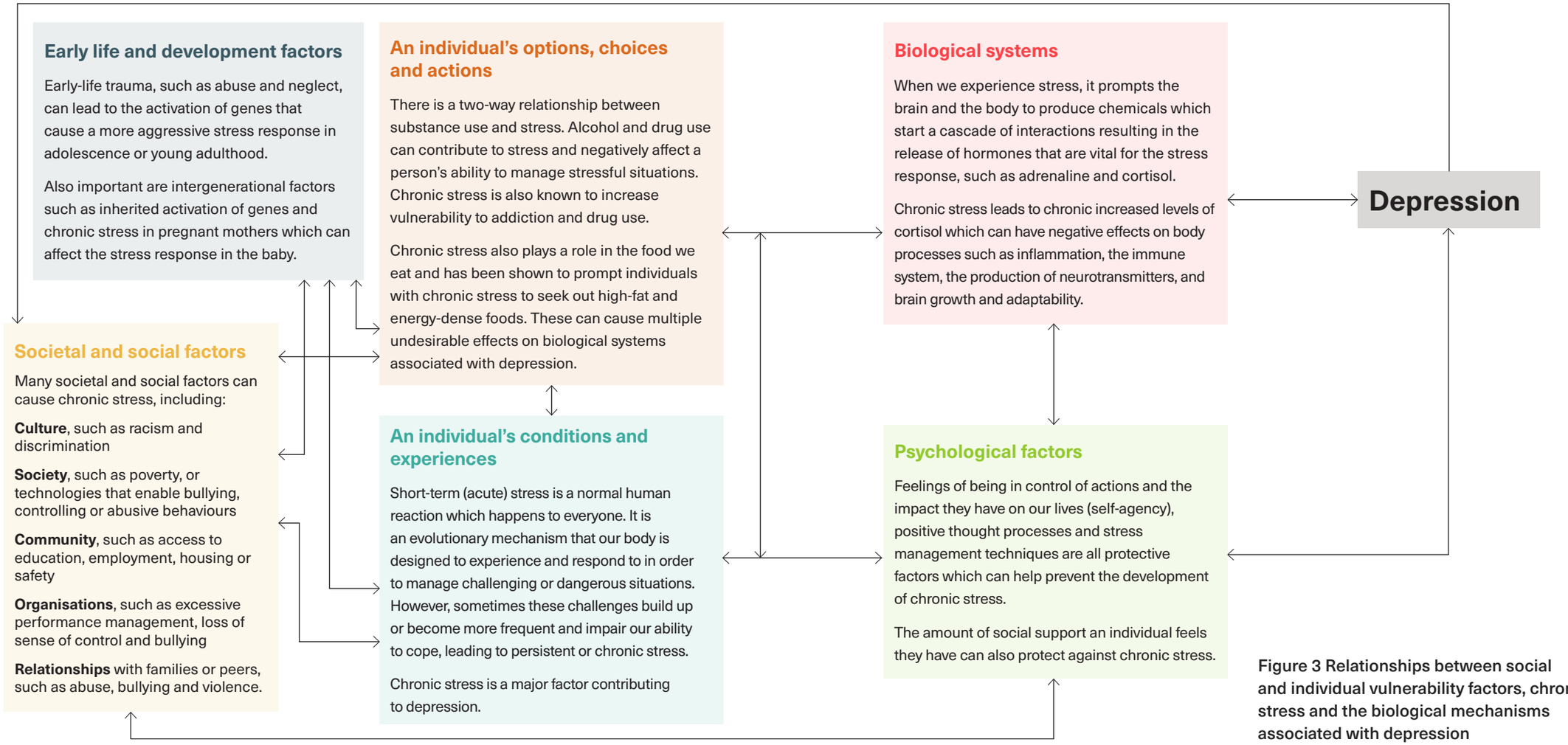


Figure 3 Relationships between social and individual vulnerability factors, chronic stress and the biological mechanisms associated with depression

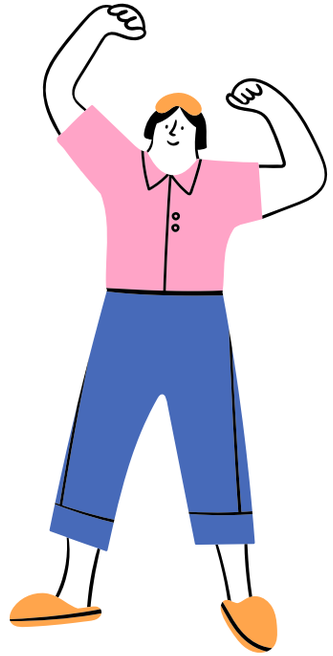
Chronic stress

What goes wrong and what can we do?

What goes wrong	Vulnerability factors	What can we do
Chronic stress can change our body's ability to reduce levels of the stress hormone, cortisol. Chronic raised levels of cortisol can reduce the birth of new neurons; reduce neurons' ability to grow and adapt (neuroplasticity) and send electrochemical messages; and lead to the loss of neurons, which all lead to reduction in the volume of the hippocampus.	Chronic stress is caused by a wide range of factors, such as: – Relationships involving abuse, bullying or controlling behaviours; difficulties relating to family, friends, colleagues or peers. – Poverty or financial difficulties. – A deeply dissatisfying or high-pressure job; sustained high levels of academic or work pressure; micromanagement of performance; a lack of emotional intelligence exhibited by supervisors. – Community factors, including housing, noise, safety and transport difficulties; lack of access to education or employment opportunities. – Cultural context, including traditions; oppression; racism; discrimination; stereotyping.	Where possible, a change of an individual's environment can help reduce exposure to the factors that cause chronic stress. This could include changing school, employer, housing, or in-person or online friendship groups; or getting out of a highly stressful relationship. Physical activity, particularly exercise, has been shown to reduce night-time levels of cortisol and increases the production of a brain chemical which is important in regulating the way the body manages stress. Some foods that are beneficial for gut bacteria, and some prebiotic supplements, have been shown to reduce morning cortisol levels.
Sustained high levels of cortisol have negative effects on our body's immune system, inflammation (which can have adverse effects on the brain) and the ability to make chemical messengers, such as serotonin.		
Ongoing raised cortisol, particularly in adolescents, can be a precursor to the development of depression.		
The ability to cope with stress varies from one individual to another.	Inherited genes or activation of genes due to environmental factors can affect the way an individual deals with stress. Different people perceive and deal with stress differently. For example, individuals have different levels of self-agency and coping strategies.	Studies suggest that meditation based techniques, exercise and some foods can help modify or reduce the effects of undesirable gene activation. Individuals can develop skills to manage stressful situations and can learn to develop their self-agency. In some cases, it may be helpful to obtain the support of an appropriate counsellor or psychologist.
Substance use	There is a two-way relationship between substance use and stress. Alcohol and drug use can contribute to stress and negatively affect our ability to manage stressful situations. Chronic stress is also known to increase vulnerability to addiction and drug use.	Addressing the causes of stress alongside a programme to stop substance use increases chances of the behaviour change being successful.

The information outlined to the left gives examples of where an individual can make changes to help reduce chronic stress.

However, it is important to note that many of the causes of stress are due to societal and social factors and will require change at more than just the individual level. For more information on how to bring about organisational and policy change, see pages 20–21.



Example 2

How is food linked to depression?

Our knowledge of the role of food in brain health is still quite new and is growing rapidly, but it is now scientifically established that what we eat affects our brain and how we feel. Thus, what we eat can influence our risk of depression. The diagram below shows how food can change the biological systems that are associated with depression. It also shows the societal, social and individual factors that can affect the options we have and the choices we make regarding the food we eat.

Early life and development factors

In children, breastfeeding has been associated with improved cognitive performance and a greater ability to understand and respond to the emotions of others, as well as the ability to express one's own emotions in a socially appropriate manner. In mothers, breastfeeding has been shown to significantly reduce stress, increase the mother's tendency to experience positive emotions, and improve maternal sensitivity and care.

Some research has shown that difficult experiences in early life makes people less likely to eat a healthy diet in later life. However, the mechanism behind this is not yet understood.

An individual's societal and social environments

Many societal and environmental factors can affect an individual's diet, including:

Society, such as the types of foods that are produced by manufacturers and promoted across society. For example, in the UK children get 65% of their calorie intake from ultra-processed foods (UPFs).

Community, such as the local availability of affordable, nutritious foods. In poorer communities, 'food deserts' may limit their availability.

Policy and regulation, for instance, herbicides and pesticides that pass through the supply chain into food that is consumed have been shown to have a significant impact on the gut bacteria.

Organisations, such as schools, universities, employers and custodial institutions serve food to young people. Most are unaware of the characteristics of foods needed to sustain mental wellbeing.

An individual's options, choices and actions

Most people are unaware of the characteristics of foods needed to sustain mental wellbeing.

Access to mentally healthful foods in terms of location, price and convenience may be constrained.

The capability of an individual to plan, buy, prepare and store nutritious food may be limited.

An individual's conditions and experiences

Chronic stress generally prompts individuals to crave and eat high-fat and energy-dense foods.

Underlying physical health conditions, such as allergies, may reduce the ability of an individual to eat a mentally healthful diet. They may also increase the likely impact of a poor diet on the individual's biological processes, such as those of the immune system.

Biological systems

A broad range of micronutrients is understood to be necessary to support processes which play a role in preventing depression, such as expression of key genes, protection of the gut wall, and the production of neurotransmitters, neuroprotective factors and chemicals which support brain growth.

The ratio of omega-6/omega-3 fatty acids, and sufficient omega-3 fatty acids, in the diet are understood to be important in preventing and reducing inflammation, which otherwise can lead to depression.

Consumption of a diverse range of plant fibre has been shown to support a well-functioning gut microbiome, which in turn, enables the production of short chain fatty acids, neurotransmitters and other chemicals that support mental wellbeing.

Psychological factors

Decreased mental wellbeing reduces healthy lifestyle practices, such as healthy eating, creating a vicious cycle which is difficult to break.

Many UPFs are potentially addictive, leading to craving that can result in overeating of calorie-dense foods, obesity, inflammation and, potentially, depression.

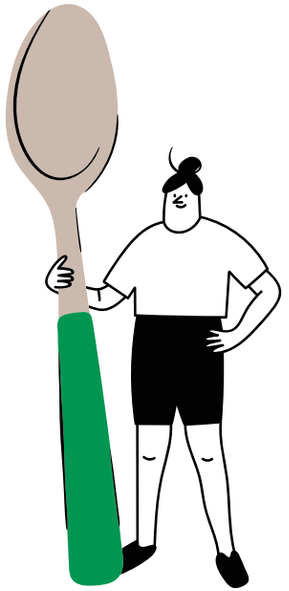
Depression

Figure 4 Relationships between social and individual vulnerability factors, food and nutrition, and the biological mechanisms associated with depression

Food and nutrition.
What goes wrong and what can we do?

What goes wrong	Vulnerability factors	What can we do
Diversity of gut bacteria is needed for mental wellbeing Bacteria making up the gut microbiome produce chemical messengers (neurotransmitters), such as serotonin and dopamine, and other chemicals that are needed for mental wellbeing. When the variety and number of good bacteria in the gut are reduced, the chemicals needed for mental wellbeing can be reduced, contributing to the development of depression.	Plant fibre is a vital food for good gut bacteria. A wide range of plant fibre in the diet is key to ensuring that the varied bacteria receive the nutrients they need so that they can produce a sufficient range and amount of the chemicals that support mental wellbeing and other biological processes. Modern Western diets typically lack the variety and amount of plant fibre required to sustain the good gut bacteria needed.	Consuming a diet of 30 or more different plants a week is understood to be needed to help the gut microbiome to produce neurotransmitters and other chemicals needed to support mental wellbeing. Fermented foods, such as kefir and kimchi, can be a source of good bacteria for the gut. UPFs usually contain insufficient plant fibre, while containing food components such as emulsifiers that can have a negative effect on the gut microbiome. UPFs should be replaced with fresh or minimally processed foods, which can include simply frozen but otherwise unprocessed vegetables, pulses and fruit.
Food-related chronic inflammation Chronic inflammation can result from: – Consumption of certain foods, particularly an imbalance of omega-6 to omega-3 fatty acids, a high intake of pro-inflammatory foods and insufficient anti-inflammatory foods.	Humans need to consume omega-6 and omega-3 fatty acids in a ratio of approximately 1:1. In modern Western diets, we typically consume them in a ratio of 20:1. This imbalance causes changes in cell membranes, which can cause persistent inflammation. Foods that are high in omega-6 include common seed-based oils, fried and highly processed foods. High intake of pro-inflammatory foods, such as sugar-sweetened beverages and refined carbohydrates, can also cause persistent inflammation.	Reduce intake of fried and highly processed foods and seed oils containing high levels of omega-6 fatty acids. Eat at least one portion of oily fish per week (or a plant-based omega-3 source if vegan). Reduce intake of pro-inflammatory foods, such as sugar-sweetened beverages and refined carbohydrates.
– Food intolerances (food allergies that don't cause anaphylactic shock).	Where an individual has an intolerance to particular foods, studies indicate that the food proteins may 'leak' through the gut wall and cause a persistent immune response, which can lead to chronic inflammation.	The relationship between food intolerance and depression is not well understood. Potential approaches appear to include: – Testing to identify food proteins to which an individual has developed antigens. – Avoiding foods to which the individual is intolerant. Studies suggest that the amino acid L-glutamine can improve the integrity of the gut wall, potentially helping reduce the transfer of food proteins into the body.
Micronutrients needed to support proper functioning of the body and the brain Key systems in our body and in our brain require vitamins, minerals and phyto-(plant) nutrients to work properly. For example, micronutrients can affect: how genes function, the stress response system, the immune system and brain function.	UPFs generally have insufficient micronutrients such as vitamins, minerals and phytonutrients to ensure mental wellbeing. Worryingly, children in countries that have adopted a modern Western diet typically consume the majority of their calories as UPFs. For example, in the UK, children have been shown on average to get 65% of their calories from UPFs.	Eat a wide range of fresh and minimally processed (e.g. frozen vegetables) foods. Reduce intake of UPFs.

The information outlined to the left provides examples of where an individual can make changes to improve their diet to support their mental health and wellbeing. However, it is important to note that many of the causes of a mentally unhealthful diet are due to community and societal factors and will require change at more than just the individual level. For more information on how to effect organisational change, see pages 20–21.



Helping individuals, parents and carers to make effective change

If you've read the examples in the previous pages and found a risk factor you'd like to improve for yourself, or a young person in your care, it may seem a daunting task. Change isn't always easy and often takes some planning.

To help you understand how to make effective changes that last, we outline here the COM-B model which is widely accepted as a framework for enabling effective behaviour change. It can be used by individuals, parents and carers, and also by organisations seeking to help children and young people, such as schools, colleges, employers and charities.

The COM-B model explains that to enable effective **B**ehaviour change, people need **M**otivation, **C**apability and **O**pportunity. The following example illustrates the COM-B model for food and nutrition to help people prevent depression and, for those with depression, to improve their condition by eating mentally healthful food.

Motivation
The need or reason to do something

Example: Laura has found out that what she eats can lead to changes in her body that affect her mood. She has therefore decided to change her diet to eat mentally healthful foods to help her avoid depression.

Capability
The ability to do something

Example: To eat mentally healthful foods, Laura needs to be able to:

- PLAN mentally healthful meals that she – and anyone she is cooking for – finds appealing and that she can prepare with the time she has available.
- BUY OR ACCESS the ingredients needed, within her budget.
- PREPARE mentally healthful meals. This requires Laura to know some basic cooking skills and have access to cooking equipment.
- CONSUME mentally healthful food, in meals that are tasty and satisfying.

Opportunity
A situation or occasion that makes it possible to do something

Example: To eat mentally healthful foods, Laura needs to:

- Be able to obtain mentally healthful foods at a location and price accessible to her.
- Be able to organise her day so she has time to cook.
- Have access to mentally healthful food at her college or work.
- Have the support of family and friends to eat more mentally healthful food, and not encourage her to eat foods that are not mentally healthful.

Organisations working with young people can use the COM-B model to identify the motivations, capabilities and opportunities a young person needs to make effective change. This understanding helps organisations to define the outcomes that their programmes need to deliver for young people, and what is needed to make them a reality.

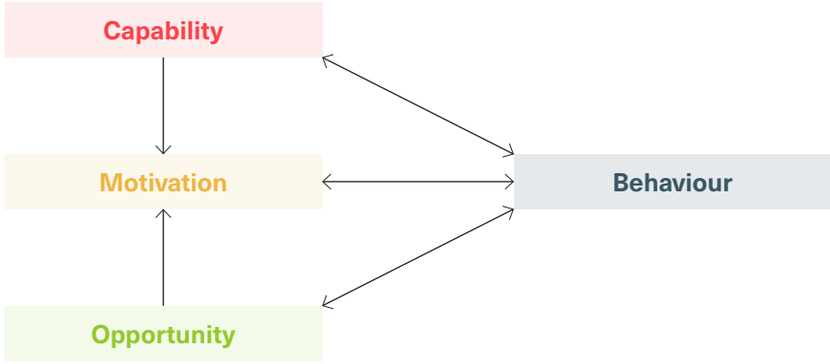


Figure 5 The COM-B system

Enabling change in organisations and in government policy

If this booklet has inspired you to make a change in the organisations you or your young person engages with, or campaign to make a change at policy level, the COM-B framework described on pages 18–19 is very useful for understanding the motivations, capabilities and opportunities a young person needs to make effective change, enabled by your organisation. However, this is only part of the process needed to make change in organisations. Approaches for making change happen in organisations and in government policy are outlined below.

Bringing about change in organisations

Making change in organisations is usually more complex than personal change because the change typically involves more people, it needs to align with the needs and priorities of the organisation, and requires careful planning and management to ensure that the change is effective and that it lasts.

A very useful 8-step process for driving change in organisations has been designed by change management expert John Kotter. This is shown in Figure 6 (taken from *The 8-Step Process to Accelerate Change*, Kotter Inc.).

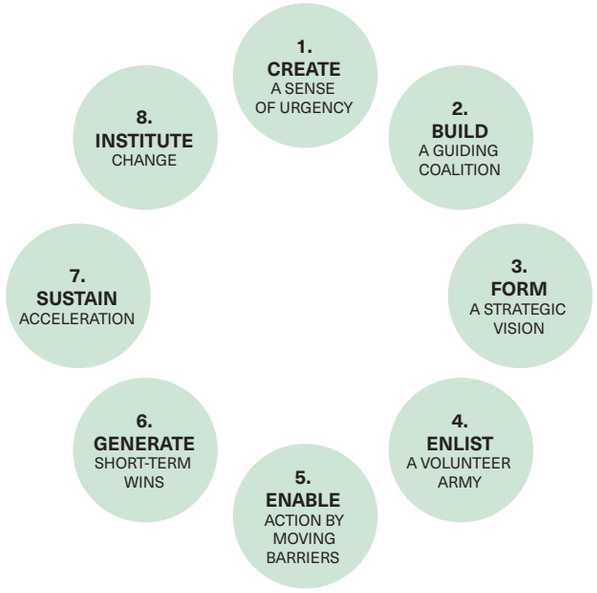
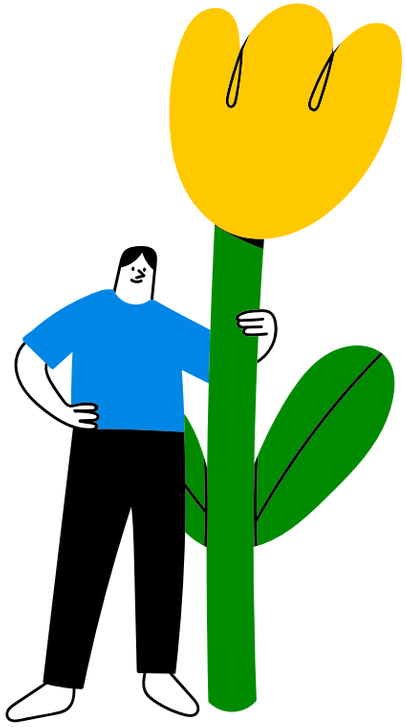


Figure 6 Kotter's change management model

Information about Kotter's change management model and how to apply it is widely available. Information about other change management methods is also available.

Changing government policy and regulation

Bringing about changes to government policy and to regulation is also complex, usually requiring a lot of effort and resources, but it is possible.



Here are some general steps to help bring about changes in policy:

1.
Show that there is a problem – this needs to be backed up by evidence.

↓

2.
Show that there are solutions.

↓

3.
Show that the current situation is not working.

↓

4.
Build a coalition of people who share your concerns and are willing to work with you to bring about change. This can include citizens, advocacy groups and experts.

↓

5.
Develop a plan and approach for how you will bring about change. Identify the decision-makers and decision-influencers, the support and actions you need from them, and how you will win their support.

↓

6.
Monitor the progress of your efforts and adjust your plan as needed. This can include tracking changes to laws, monitoring media coverage, or conducting public opinion polls.

↓

7.
Celebrate successes along the way. It can be a long journey and you will need to keep your coalition motivated and engaged.

Sharing information

We hope *Depression – It's really not all in the mind* has helped explain the factors and mechanisms that can lead to depression in young people, and approaches that can be taken to reduce its risk and severity.

If you've found it useful, please pass this booklet on to others, share our website www.ypmh.org or follow us on LinkedIn, Facebook and X.

If you'd like to learn more about this important topic, our longer reports are available to download at www.ypmh.org/publications

As a charity, we rely on donations and grants to fund our work and are very grateful for all donations we receive. If you would like to support the work that YPMH does, you can do this securely on our Just Giving page at www.justgiving.com/ypmh

In the USA, tax-efficient donations may be made via CAF America. For details, please email contact@ypmh.org

Our projects are truly collaborative and we are always happy to hear from people who would like to join our network of fantastic collaborators, whether to partner on a project or simply exchange knowledge. If you're interested in collaborating and are part of an organisation that is looking to effect positive change for mental health and wellbeing, we'd love to hear from you. To get in touch please email contact@ypmh.org

In Crisis?

Where to find help

If you're feeling overwhelmed and are struggling to cope, in the UK you can:

Call the Samaritans on 116123

Call HOPELINK247 on 0800 0684141 or text on 07860 039967

Text SHOUT to Shout's textline on 85258

In an emergency:

Call 999 and ask for an ambulance or go to A&E

Tell an adult you trust and ask them to call 999

The design and production of this booklet has been generously supported by The Mindstep Foundation. The Mindstep Foundation funds research into the causes of suicide and support for those who have been bereaved by, or are at risk of, suicide.

www.mindstepfoundation.com

YPMH works to improve the lives of young people by facilitating innovative approaches to prevent and resolve mental health conditions. This means we don't provide individual mental health support services ourselves, but hope the following list of organisations is helpful.

Organisations that provide direct mental health support for young people:

Anna Freud Centre
www.annafreud.org

Campaign Against Living Miserably (CALM)
Phone: 0800 585858
www.thecalmzone.net for webchat

Local Minds
www.mind.org.uk/about-us/local-minds

Samaritans
Phone: 116123
Email: jo@samaritans.org
www.samaritans.org

Organisations that provide general mental health information and advice:

Charlie Waller Trust
www.charliewaller.org

Hub of Hope
https://hubofhope.co.uk

Young Minds
www.youngminds.org.uk

The Foundation for Young People's Mental Health

The William Templeton Foundation for Young People's Mental Health (YPMH) is a charitable foundation working to improve the lives of young people by facilitating innovative approaches to resolve mental health conditions.

YPMH was established in memory of Will Templeton, by his parents Anne and Peter and his brother John. The family's aspiration is to help accelerate the translation of research into impactful innovations that are widely used to improve the prevention, identification, diagnosis and treatment of conditions such as depression and anxiety.

Depression – It's really not all in the mind brings together current insights from social, psychological and biological research in a clear and accessible way. It will provide new understanding for people and organisations seeking to prevent and reduce depression in young people.

The more we learn about depression, the more we must open our minds to realising that it is a whole-person issue. Depression involves the world we experience through our multiple senses, our aspirations, our individual psychology, the food we eat and how it affects the millions of bacteria that help us to digest it, and the changes to our biology that arise from these many influences. While challenging, this richer understanding of minds, bodies and the world opens new avenues for thinking about and addressing depression, including ways to prevent and treat it.

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