

The
Scholars
Programme



Mental Health: Beyond the Nature vs. Nurture Debate

Key Stage 5 Programme

Pupil Name

Coursebook
Designed by

Emma Wilson



Timetable and Assignment Submission

Timetable – Tutorials

Tutorial	Date	Time	Location
1 (Programme Launch)			
2			
3			
4			
5			
6 (Draft assignment feedback)			
7 (Final assignment feedback)			

Timetable – Homework Assignments

Homework Assignment	Description	Due Date
Tutorial 1	Baseline assessment	
Tutorial 2		
Tutorial 3		
Tutorial 4		
Tutorial 5	Draft assignment	
Tutorial 6	Final assignment	

Assignment Submission – Lateness and Plagiarism

Lateness	
Submission after midnight on _____	10 marks deducted
Plagiarism	
Some plagiarism	10 marks deducted
Moderate plagiarism	20 marks deducted
Extreme plagiarism	Automatic fail

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KS5 Programme – Pupil Feedback Report

Grade	Marks	What this means
1 st	70+	Performing to an excellent standard at undergraduate level
2:1	60-69	Performing to a good standard at undergraduate level
2:2	50-59	Performing to an excellent standard at A-level
3 rd	40-49	Performing to a good standard at A-level
Working towards a pass	0-39	Performing below a good standard at A-level
Did not submit	DNS	No assignment received by The Brilliant Club

Lateness	
Any lateness	10 marks deducted
Plagiarism	
Some plagiarism	10 marks deducted
Moderate plagiarism	20 marks deducted
Extreme plagiarism	Automatic fail

Name of PhD Tutor			
Title of Assignment			
Name of Pupil			
Name of School			
ORIGINAL MARK / 100		FINAL MARK / 100	
DEDUCTED MARKS		FINAL GRADE	

If marks have been deducted (e.g. late submission, plagiarism) the PhD tutor should give an explanation in this section:

Knowledge and Understanding	Research and Evidence
Developing an Argument	Critical Evaluation
Structure and Presentation	Language and Style
Overall Comments (participation, effort, resilience)	

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Course Rationale

We all have mental health, just like we all have physical health. The study of mental health and mental illness is multidisciplinary, which means it can be studied in lots of ways, including subjects such as psychiatry, neuroscience, psychology, genetics, health services and social science. Understanding how mental illness develops requires a holistic approach, looking at both individual and environmental factors: in the academic world this is sometimes known as the 'nature versus nurture' debate.

This course will explore the concepts of mental health and mental illness among young people and adolescents, a crucial time for development, with 50% of long-term mental health conditions starting by the age of 14. Students will explore some of the biological, social and psychological reasons that someone may be at risk of developing a mental illness, learning about the biopsychosocial model of mental health and applying it to two common mental health conditions in young people: anxiety and depression. 21st century phenomena such as the rise of social media will provide examples of modern-day issues that may explain the rise in young people seeking support for their mental health. Students will also learn about some of the evidence-based psychological treatments currently available as well as current research studies that aim to help tackle difficulties linked to these conditions.

Research is a critical part of studying mental health, like other sciences. This course aims to develop a student's research skills (i.e., searching the literature, reading and critically analysing research papers, referencing) and to provide a greater understanding of the different determinants (causes) of mental health and mental illness. The final assignment provides students with a chance to strengthen their essay writing skills, including how to correctly reference research papers to support arguments they put forward in their essay.

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Group Discussions

How do you make the most of a group discussion?

The purpose of discussions is to allow everyone in the group to express their ideas and learn from each other. Often this will involve coming to a group decision about the issue under discussion, though they may of course 'agree to disagree' on certain points.

What we don't want in our tutorials:



Artwork by MiaHague.co.uk

Rules:

1. Pronounce clearly what you are saying
2. Use eye contact and facial expression to help to get your idea across or to support what someone else is saying
3. Speak in a way that is right for a discussion (more formal than a chat between friends)
4. Build on other people's ideas, and summarise your own views and the views of others when necessary
5. Give reasons to support your views and critically examine the views expressed by others
6. Organise the discussion and take turns with others
7. Listen carefully and respond to the views of others

Mark Scheme Table

Skills	1 st (70-100)	2:1 (60-69)	2:2 (50-59)	3 rd (40-49)
Knowledge and understanding	<ul style="list-style-type: none"> All content included and materials used are relevant to the general topic and to the specific question/title Thorough understanding of all the relevant topics. Technical terms are well-defined and used accurately throughout Clear justification and evaluation of how the material and content included is related to the specific issues that are the focus of the assignment 	<ul style="list-style-type: none"> All content included and materials used are relevant to the general topic and to the specific question/title Good understanding of all the relevant topics. Technical terms are defined and used accurately throughout Clear justification of how the material and content included is related to the specific issues that are the focus of the assignment 	<ul style="list-style-type: none"> Most of the materials used and content included are relevant to the general topic and to the specific question/title Good understanding of most the relevant topics Technical terms are mostly defined and used accurately Adequate justification of how the material used and content included are related to the specific issues that are the focus of the essay 	<ul style="list-style-type: none"> Some of the materials used and content included are relevant to the general topic and to the specific question/title Good understanding on some of the relevant topics but occasional confusion on others Technical terms are sometimes used and defined accurately Some justification of how the material used and content included are related to the specific issues that are the focus of the essay
Research and evidence	<ul style="list-style-type: none"> Includes rich sources of research findings, data, quotations or other sourced material as evidence for the claims/ideas Compelling use of evidence to support claims/assertions/ideas, consistently clearly and convincingly Evidence of extensive further reading beyond materials provided which were used in an appropriate context 	<ul style="list-style-type: none"> Includes well selected sources of research findings, data, quotations or other sourced material as evidence for the claims/ideas Uses evidence to support claims/assertions/ideas, consistently clearly and convincingly Evidence of further reading beyond materials provided which were used in an appropriate context 	<ul style="list-style-type: none"> Includes adequate sources of research findings, data, quotations or other sourced material as evidence for the claims/ideas Uses evidence to support claims/assertions/ideas, mostly clearly and convincingly Evidence of further reading beyond materials provided 	<ul style="list-style-type: none"> Includes some sources of research findings, data, quotations or other sourced material as evidence for the claims/ ideas Uses evidence to support claims/assertions/ideas, at times clearly and convincingly Limited evidence of further reading beyond materials provided
Developing an argument	<ul style="list-style-type: none"> An original/ convincing point of view or position in relation to the title or question is consistently clear. The position is developed effectively and consistently throughout the essay Argument is exceptionally well-developed, well-justified and sustained throughout. Makes original and effective links between subjects that have not previously been associated Uses concepts from the tutorials in an unfamiliar context and does so accurately and confidently. Content is analysed convincingly and effectively to support the argument 	<ul style="list-style-type: none"> A point of view or position in relation to the title or question is consistently clear. The position is developed effectively and consistently throughout the essay Argument is exceptionally well-developed and well-justified Makes links effectively between subjects that have not previously been associated Uses concepts from the tutorials in an unfamiliar context and does so accurately and confidently. Content is analysed effectively to support the argument 	<ul style="list-style-type: none"> A point of view or position in relation to the title or question is adequately clear. The position is well-developed in most of the essay Argument is clear and well-developed, and position is justified Some evidence of linking subjects that have not previously been associated Uses some concepts from the tutorials in an unfamiliar context, but not always accurately Analyses content to support the argument 	<ul style="list-style-type: none"> A point of view or position in relation to the title or question is somewhat clear. The position is well-developed in parts of the essay Argument is clear but not well-developed Limited evidence of linking subjects that have not previously been associated Limited use of concepts from the tutorials in other contexts Uses some analysis of content to support the argument

Critical evaluation	<ul style="list-style-type: none"> ○ Consistent assessment of value or significance of what is described ○ Evaluative points are consistently and convincingly explicit/ systematic/ reasoned/ justified ○ Effectively critiques the reliability of sources provided and independently researched 	<ul style="list-style-type: none"> ○ Moves beyond description to an assessment of the value or significance of what is described ○ Evaluative points are consistently explicit/ systematic/ reasoned/ justified ○ Effectively critiques the reliability of sources provided 	<ul style="list-style-type: none"> ○ Mostly description but some assessment of the value or significance of what is described ○ Evaluative points are mostly explicit/ systematic/ reasoned/ justified ○ Some evidence of critiques on the reliability of sources provided 	<ul style="list-style-type: none"> ○ Describes with minimal assessment of the value or significance of what is described ○ Evaluative points are at times explicit/ systematic/ reasoned/ justified ○ Limited evidence of critiques on the reliability of sources provided
Structure and presentation	<ul style="list-style-type: none"> ○ Ideas are excellently structured in paragraphs and arranged in a logical structure that is appropriate for the assignment ○ The introduction clearly and effectively outlines how the essay/ report will deal with the issues ○ The conclusion summarises all the main points clearly and concisely ○ All sources are referenced correctly in an agreed format 	<ul style="list-style-type: none"> ○ Ideas are presented in paragraphs and arranged in a logical structure that is appropriate for the assignment ○ The introduction clearly outlines how the essay/ report will deal with the issues ○ The conclusion summarises all the main points clearly and concisely ○ All sources are referenced correctly in an agreed format 	<ul style="list-style-type: none"> ○ Ideas are presented in paragraphs and arranged in a structure that is mostly appropriate for the assignment ○ The introduction adequately describes how the essay/ report will deal with the issues ○ The conclusion summarises most of the main points clearly ○ Most sources are referenced correctly in an agreed format 	<ul style="list-style-type: none"> ○ Ideas are presented in paragraphs and arranged in a structure ○ The introduction mentions how the essay/ report will deal with the issues ○ The conclusion summarises some of the main points clearly ○ Some sources are referenced correctly in the agreed format with occasional errors
Language and style	<ul style="list-style-type: none"> ○ Writing is sophisticated and fluent with no spelling, grammar or punctuation errors ○ Writing style is focused and clear, and the tone is appropriate and easy to follow ○ Accurate and consistent use of technical language and vocabulary 	<ul style="list-style-type: none"> ○ No spelling, grammar or punctuation errors ○ Writing style consistently clear, tone appropriate and easy to follow ○ Accurate and consistent use of technical language and vocabulary 	<ul style="list-style-type: none"> ○ Minimal spelling, grammar or punctuation errors ○ Writing style mostly clear, tone appropriate and easy to follow ○ Some attempts of using technical language and vocabulary, but not always accurate 	<ul style="list-style-type: none"> ○ Some spelling, grammar or punctuation errors ○ Writing style moderately clear, tone appropriate and easy to follow ○ Use of simple language and vocabulary effectively but struggles to use technical language
Overall Mark (average of the 6 marks from the criteria above)				

Glossary of Keywords

Word	Definition	In a sentence
Mental health	Just like we all have physical health, we all have mental health. It is a broad term that exists on a continuum and is different from a mental illness.	
Mental illness	Also called mental health conditions, mental illnesses are medically diagnosed health condition such as anxiety disorders, depression, eating disorders, bipolar disorder.	
Biopsychosocial model of mental health	A model of health first developed by Dr George Engel. It looks at how our biology, psychology and wider society interacts and can help explain why a person may develop a mental health condition.	
Biological factors	This includes our brain chemistry, the role of genetics and the impact of any other physical health conditions.	
Psychological factors	These look at individual-level factors (examples include the way we process information, the way we manage positive and negative emotions, how we interact with other people) that may influence how we feel.	
Social and environmental factors	There are many social factors, from gender, and ethnicity, to lifestyle (diet, exercise), unemployment. Environmental factors refer to our surroundings (e.g., pollution, housing, neighbourhood, green space). Social factors can sometimes be a broad term to include the environment and economy when talking about risk or protective factors for mental health.	
Anxiety disorder	A set of conditions (such as generalised anxiety disorder, obsessive compulsive disorder, social anxiety, phobias) characterised by excessive and persistent worry or fear. It can affect sleep, concentration, and many other tasks.	
Depression	A mental health condition characterised by persistent low mood and feelings such as hopelessness or losing interest in the things you used to enjoy. It can also cause physical symptoms (e.g., fatigue, poor appetite or overeating, poor sleep).	
Genetics	A branch of biology looking at how qualities and characteristics are passed between generations through genes.	
DNA	Carries genetic information and instructions on how any organism will develop and function. Short sections of DNA are called genes. DNA is in the nucleus of every cell.	

Heritability	The study of how much a trait (e.g., height) is attributed to genetic factors (nature) rather than the environment (nurture).	
Ecological systems theory	Developed by psychologist Urie Bronfenbrenner to explain how child development may be influenced by the multiple environments, also known as ecological systems, in which they live.	
CONSORT checklist and diagram	The Consolidated Standards of Reporting Trials (CONSORT) statement is an evidence-based 25-item checklist that researchers should use when reporting on their Randomised Control Trial (RCTs). The CONSORT flow diagram is a visual way to show how information about the trial was conducted, as well as clear information about recruitment, follow-up and analysis.	
Generalised Anxiety Disorder (GAD)	One of the most common anxiety disorders, defined by regular, uncontrollable worries about many different things in everyday life.	
Control group	Participants in control groups of an experiment don't receive treatment from the researchers (e.g., a particular medication or psychological treatment) but may receive a placebo drug or treatment-as-usual. Results from the control group provide a benchmark to compare with the experimental group.	
Baseline measurements	Collected in research studies at an early time point to look for any changes over time. For example, in an RCT to see whether a particular psychological treatment can lead to improvements in levels of anxiety.	
Cognition	The mental processes involved in knowing, learning and understanding things. It is linked to how we <i>think</i> .	
Repetitive negative thinking	A cognitive process that involves repetitive and uncontrollable worry and rumination about future and past experiences.	
Pathological worry	Pathological worry in people with anxiety disorders is "excessive, uncontrollable and distressing" worry concerns about possible future threats.	
Rumination	A thinking style linked to past events or negative personal attributes linked with depression. For example: "Why am I such a failure?" as the normal response to getting a bad exam grade or "they don't like me" as an explanation for a friend not texting back.	

Tutorial 1 – What is mental health?



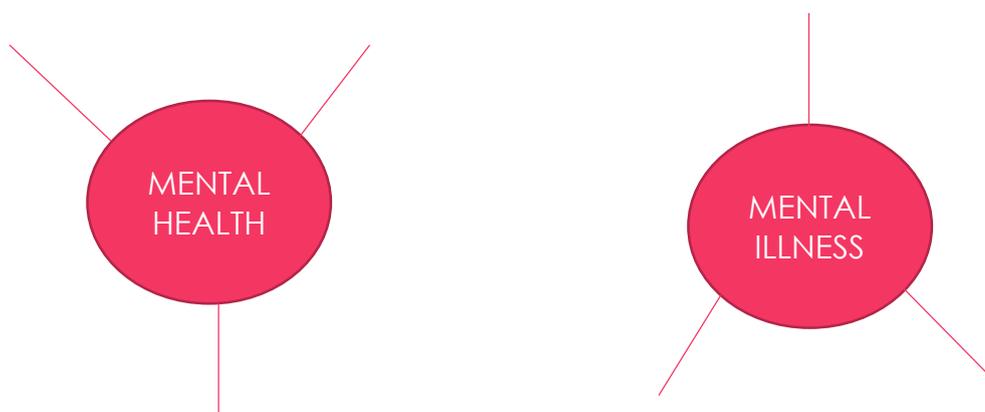
What is the Purpose of Tutorial 1?

- Understand the difference between mental health and mental illness, and how both can be explained by the mental health continuum
- Be able to identify 5 risk factors for common mental health conditions such as anxiety or depression
- Understand the structure of an academic research paper, identifying the main points and the 5 headings/sections that make up a research article
- Understand what is meant by the 'biopsychosocial model of mental health'.

1. What do we mean by 'mental health' and 'mental illness'?

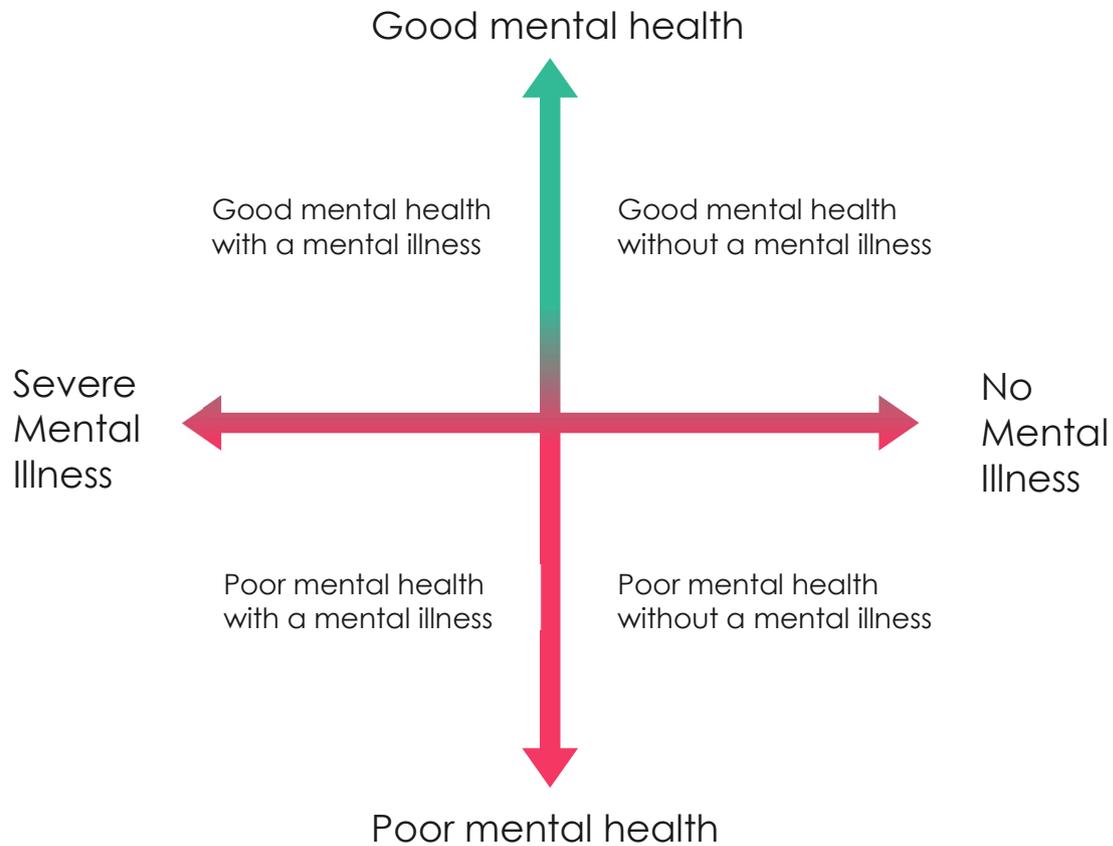
Activity

Write as many words/phrases as you can think of around MENTAL HEALTH and MENTAL ILLNESS. You can draw more lines on the spider diagrams as you think of more words.



The Mental Health Continuum

Nowadays, we talk about the mental health continuum: the idea that we can have good and bad mental health and this can fluctuate throughout our lifetime. The continuum also shows that you can have a diagnosis of a mental health condition but also have good mental health, if it is managed well. Whether or not someone has a diagnosed mental health condition (also called a mental illness), the aim is to work towards the “good mental health” quadrants in the top left and top right of the graph.

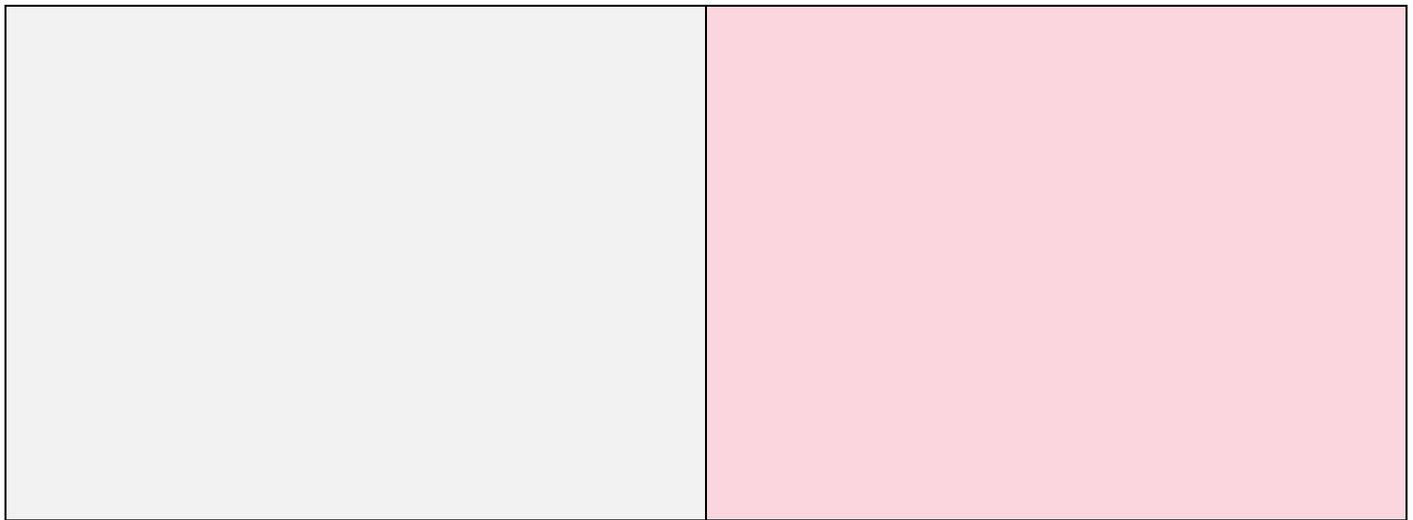


2. What are some of the risk and protective factors?

Activity

Write down some ideas of situations or other reasons that may be seen as risk factors for poor mental health, and some which may be seen as protective factors for promoting and maintaining good mental health.

Risk factors for poor mental health	Protective factors for good mental health
e.g., bullying	e.g., family support



3. Different types of research papers and how to read them

Activity

Please fill in the gaps using the words from the table below. There are images next to each sentence to help you, and a space between the gap indicates there is more than one word (e.g., systematic review). You can use each word once.

Systematic Review	Short reports or letters	Review Articles
Case Studies	Academic Journal	Original Research
Research	Open Access	Online Database

- An _____ is like a magazine, and holds lots of journal articles by different researchers, on different research topics. Examples of journals include The Journal of Clinical Psychology, Nature, The British Medical Journal, The Lancet.



- There are many types of journal articles:

- _____ : the most common, also called an *Original Article*, *Research Article*, *Research*, or just *Article*.

Article

Feasibility and effectiveness of a worry-reduction training using the smartphone: a pilot randomised controlled trial >

Anke Versluis, Bart Verkuil, Philip Spinhoven & Jos F. Brosschot

Pages: 227-239
Published online: 08 Jan 2018

[Abstract](#) | [Full Text](#) | [References](#) | [PDF \(1816 KB\)](#)

724 Views

1 CrossRef citations

1 Altmetric

- _____ : provide a comprehensive summary of research on a specific topic and useful overviews when starting your research project. A popular and useful example is a *Systematic Review*. These papers have strict guidelines on structure that must be followed.

INTERNATIONAL JOURNAL OF ADOLESCENCE AND YOUTH
2020, VOL. 25, NO. 1, 79-93
<https://doi.org/10.1080/02673843.2019.1590851>

Routledge
Taylor & Francis Group

OPEN ACCESS

A systematic review: the influence of social media on depression, anxiety and psychological distress in adolescents

Betul Keles , Niall McCrae and Annmarie Grealish

c. _____ or _____ (including Position Papers): articles which are not as long as Original Research and may be published in a shorter format as they are time-sensitive (e.g., articles on COVID-19 that might help other researchers).



d. _____ : an article written by the editors of the academic journal or by someone commissioned by the editors (i.e., someone the editors asked to write an article). It is often the first article in the journal.



4. Research articles can be found online by using an _____. Examples include Google Scholar, Science Direct, SpringerLink, BMJ Journals.



5. Many articles are not free to read without a subscription, but you are still able to see the abstract of the paper, which is a summary of the study. Some articles are free to read

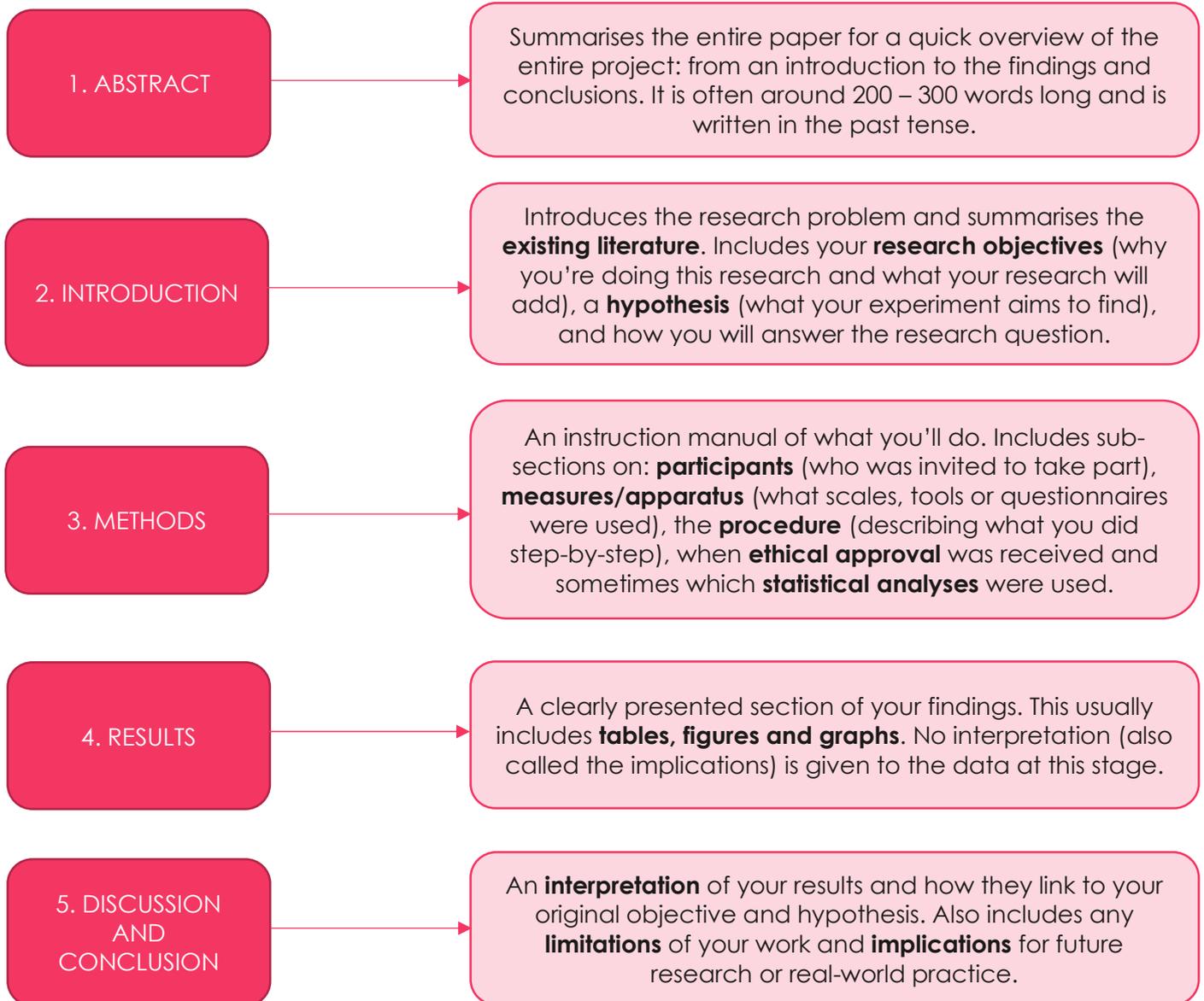
through a process called _____. The logo is on the right and is useful to look out for when you do your homework assignments and final assignment.



Systematic Review	Short reports or letters	Review Articles
Case Studies	Academic Journal	Original Research
Research	Open Access	Online Database

How to read an academic paper

An Original Research article is normally presented in the following order: abstract, introduction, methods, results, conclusion.



An example of an Abstract

This is an example of a research abstract which you would see on the website of the journal it is in (e.g., BJPsych Open). The article talks about a survey which collected data on how girls use the internet and smartphone apps, and their thoughts on using their phone for accessing mental health support.



*Key point:
Abstracts are really helpful for getting an overview of a study, and are always free to view. They'll be useful for your assignments!*

There are always some **keywords** associated with an abstract, and the abstract provides a summary of the entire research study (from background information and aims, to the methods, results and conclusions). Abstracts don't always have these headings, but they will follow this logical order.

BJPsych
open

BJPsych Open (2018)
4, 302–306. doi: 10.1192/bjo.2018.43

An online survey of young adolescent girls' use of the internet and smartphone apps for mental health support

Rebecca Grist, Bethany Cliffe, Megan Denne, Abigail Croker and Paul Stallard

Background

Adolescents are digital natives, with the majority now owning their own smartphones and having internet access. Although the internet and smartphone applications (apps) can provide mental health support, little is known about how young adolescents use digital technology for mental health purposes. There are many digital health resources available for young people, but the assumption that they will be open to use them has been largely untested.

Aims

We aimed to explore how adolescents with and without raised symptoms of anxiety, depression and problematic eating use the internet on smartphones/tablets and mental health apps.

Method

The Bristol Online Survey tool was used to deliver an online survey to 775 girls aged 11–16 years, attending a state-funded secondary school in the south-west of England. The survey was completed in class during the winter term of 2017.

Results

A total of 98.7 and 97.4% used the internet and apps, respectively, although only 6% had used any mental health apps. Of those with raised mental health symptoms, 15–17% used or

were using a mental health app, with 48.5% reporting that they would not use a mental health app.

Conclusions

Young female adolescents are avid users of the internet and apps but are not using digital technology for mental health purposes. Addressing concerns about digital technology are necessary to maximise the effect it can have on child and adolescent mental health.

Declaration of interest

None.

Keywords

Information technologies; stigma and discrimination; primary care.

Copyright and usage

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Source: Grist et al., 2018.

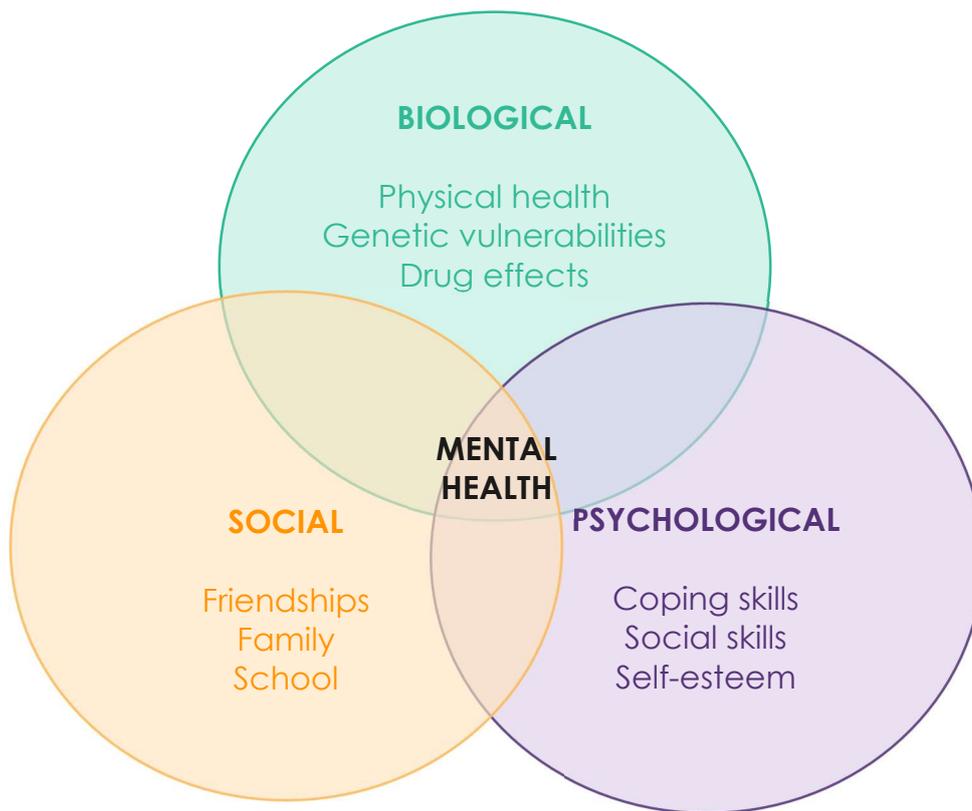
4. Introducing the biopsychosocial model of mental health

Biopsychosocial stands for **bio(logical)**, **psych(logical)** and **social** (this includes environmental).

It was first introduced by George Engel in 1977 to replace the narrower biomedical approach to health and suffering, which previously ignored the impact of psychological and social factors.

The biopsychosocial model of mental health looks at how all these different areas work together and may help to explain why some people are at risk of a mental health problem.

When thinking about why we feel well or unwell mentally, a biopsychosocial approach to mental health is helpful in considering all the different factors that might contribute to a mental health condition like anxiety or depression. We will explore each of the different elements of the model over the next three tutorials.



Baseline assignment

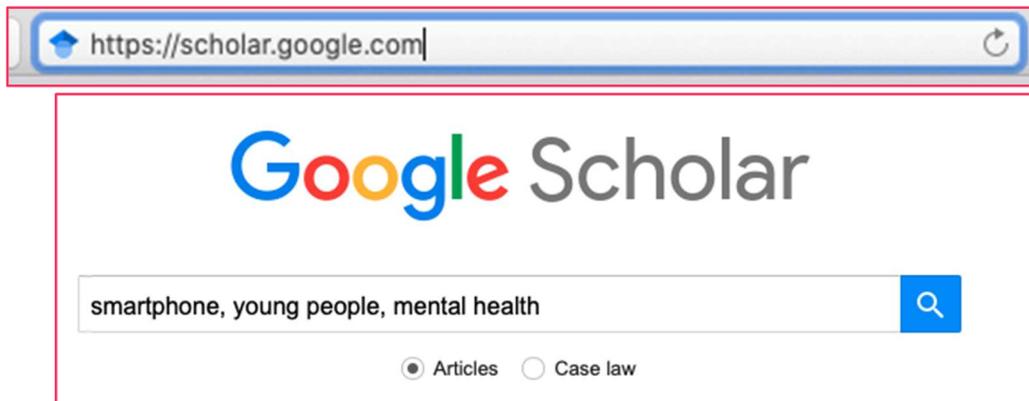
Baseline assignment question: To what extent is having a smartphone bad for the mental health of young people?

I have included some extracts from different journal articles to help you think about this question. Don't worry if you don't understand everything – it's just there to help you get started!

Answer this mini-essay question in 400 – 500 words, considering the following:

- What might be some negative impacts of having a smartphone? Think about how it might affect sleep, how social media and playing games might sometimes be bad.
- What might be some positive impacts? For example, keeping connected with friends, apps that help with looking after your mental health, online counselling and apps that you can use with a therapist or doctor as part of a person's treatment.

- Using the article extracts I've provided, *and your own independent research*, **use/find some studies to support your arguments** and write down who said it.
- Try to find two sides of the argument and link your ideas together.
- Reflect on why it is important to think about our use of technology in the 21st century and in considering the future.
- In structuring your mini essay, try to follow a logical sequence, considering an introduction, your main points, and a conclusion.
- If you have access to the internet, Google Scholar is a helpful website to use when looking for research studies to support your arguments.



Extract from article one

Extract from the Introduction

Background

Over the past decade there has been an increase in use of smartphones among children and young people (CYP) [1, 2] which has occurred at the same time as a rise in common mental disorders in the same age group, including reported depressive symptoms, poor sleep and suicide ideation [3–5] with grave implications for life-long mental health [6, 7] and the healthcare economy [8].

Smartphones became widely available in 2011, since then usage has increased. Smartphone ownership in children aged 11 and older is ubiquitous, and the prevalence of mental health problems peaks during the teenager years [2]. There is a public health uncertainty regarding a possible association between smartphone use and mental health in CYP, and in the UK, policy making has been hindered by a paucity of evidence. Explicitly the debate in the literature has concerned the relationship between amount of screen time, or amount of smartphone use, in CYP and clinically defined, mental health outcomes, with some studies reporting no association and others exhibiting a clear association [9, 10]. One challenge is the date when the studies were carried out, often before the advent of widespread smartphone use, meaning the term screen-time may include televisions or personal computers, although it has a more common interpretation as a smartphone today [11]. Other limitations include that longer use is assumed as harmful, and this may not necessarily be accurate.

One possibility of the conflicted findings may be that it is not smartphone use per se that is associated with poor mental health, but particular patterns of smartphone-related behaviour. Both the mainstream media and researchers have raised the possibility that people can become addicted to smartphone use, though in the academic realm, this is controversial [12]. Nonetheless, recent years have seen an explosion in research considering the prevalence of problematic smartphone use (PSU), which has been operationalised in such a way that it maps onto concepts of behavioural addiction: tolerance, withdrawal (dysphoria when the battery dies), preoccupation, neglect of other activities, subjective loss of control and continued use despite evidence of harm [13–18]. Other behavioural addictions, such as problem gambling, show robust associations with common mental disorders such as depression [19], where sporadic gambling does not. If a distinctive problematic pattern of smartphone use can be demonstrated to be prevalent, and if this pattern of use is associated with harm, there is value in identifying children and young people with this pattern of use and potentially addressing it clinically. Given the large increase in research studies using tools to estimate the prevalence of PSU (and examine mental health associations), it is now appropriate to evaluate the evidence.

Source: Sohn, S., Rees, P., Wildridge, B., Kalk, N. J., & Carter, B. (2019). Prevalence of problematic smartphone usage and associated mental health outcomes amongst children and young people: a systematic review, meta-analysis and GRADE of the evidence. *BMC psychiatry*, 19(1), 1-10.

Extract from article two

Extract from the Introduction

Mental health problems among children and adolescents are common, with at least one in five suffering from a mental health disorder.¹ These disorders often persist, with a New Zealand based study finding that 50% of young adults develop mental health problems before age 15 years and 74% before age 18 years.² Child mental health problems cause significant distress and impairment and increase the probability of adverse psychosocial outcomes and subsequent mental health problems in young adulthood.^{3,4}

Effective interventions for young people with anxiety disorders, depression and eating disorders are available.⁵⁻⁷ However, less than one-quarter of children with mental health problems in the UK and the USA ever receive specialist treatment.^{8,9} To have a positive effect on child mental health, alternative ways of providing mental health support are required.

Digital technology

The omnipresence of technology in everyday life has led the National Health Service (NHS) to explore how digital technology can be used to help individuals to manage their health.¹⁰ Providing or augmenting evidence-based interventions with digital technology offers an innovative solution and may be particularly salient to young people. In the UK in 2016, 98% of children and adolescents had access to the internet, 83% of 12- to 15-year-olds had their own smartphone and 55% had their own tablet.¹¹ The convergence of healthcare with technological devices comprises 'digital health', with one particular area, smartphone applications (apps), seeing rapid growth.^{12,13} The functions of these apps vary: some provide a platform through which individuals can receive therapy and access peer support, whereas others provide information or contain tools such as mood monitoring or sleep diaries.

Extract from the Results section

Table 3 Potential advantages and disadvantages of mental health apps

	N (%)
Advantages	
Anonymous – I don't have to talk to someone face to face	502 (64.8)
Privacy – It is more private	503 (64.9)
Availability – It will always be there when I need it	439 (56.5)
Personal – It is personal to me	399 (51.5)
Accessible – I can get support and information whenever I need it	408 (52.6)
Instant – I don't have to wait to get information	322 (41.5)
Convenience – I don't have to write things like my mood down on paper	300 (38.7)
Other	24 (3.1)
Disadvantages	
Accuracy – I don't know whether the information is accurate or true	507 (65.4)
Unauthorised access – I am afraid someone will see the app on my phone	438 (56.5)
Cost – It might cost money	375 (48.4)
Trust – I don't trust apps	295 (38.1)
Ineffective – I don't believe they would help me	229 (29.5)
Impersonal – I would prefer to speak to someone face to face	179 (23.1)
Other	16 (2.1)

Extract from the Discussion section

Disadvantages and advantages of mental health apps

Just under half of the girls expressed a preference for a face-to-face intervention as opposed to a digital one. Consistent with previous research, concerns about accuracy of the app information, unauthorised access, cost and trust were most commonly identified.¹⁴ Worries about others seeing the app on their phone were raised by a significant number (56.5%) of young people, highlighting the stigma associated with mental health and the need to maintain privacy. The accuracy of the information provided through the app was also identified as a concern. Many apps are developed and designed by a wide range of companies with a financial interest and with little professional input. There is, therefore, no guarantee that the information will be factually correct, based on effective psychological principles and best-practice guidelines.¹³

On the contrary, several advantages to using mental health apps were identified, including instant accessibility, availability and anonymity.¹⁴ The idea of help being readily available when needed and to have their own personal sources of help were positively noted. Privacy was also perceived as an advantage; girls noted that by using mental health apps they could keep their problems private from others and would not have to engage in face-to-face meetings.

In summary, participants in this study endorsed both advantages and disadvantages of digital technology, highlighting a range of perspectives and attitudes. It is important to acknowledge this variability and to avoid a 'one size fits all' approach. Although mental health apps can have clear benefits, young people's concerns need to be addressed before technological interventions are widely utilised by young adolescents.

Source: Grist, R., Cliffe, B., Denne, M., Croker, A., & Stallard, P. (2018). An online survey of young adolescent girls' use of the internet and smartphone apps for mental health support. *BJPsych open*, 4(4), 302-306.

Extract from article three

Extract from the Discussion

Our results show that adolescents who owned a smartphone sent a lot more text messages and spent more time on the Internet and on Facebook per day than their peers with conventional mobile phones, while they did not watch more TV or play video games. At night when lying in the bed, adolescents who owned a smartphone were a lot more likely to communicate by calling or text messaging or to be online (e.g., on Facebook or chat), and somewhat more likely to watch TV or videos (which may also be done on the smartphone screen), while they were not more likely to play video games. Furthermore, adolescents who owned a smartphone were more likely to go to bed later, although their sleep duration was not shorter on average, and they did not report more sleep difficulties or symptoms of depression than their peers who owned a conventional mobile phone. These findings are in line with our first hypothesis that adolescents with smartphones report more electronic media use when lying in the bed and are consistent with the interpretation that the availability of new electronic devices may strongly change adolescents' habits.

However and interestingly, the effect did not generalize to more sleep disturbance or symptoms of depression. This points to the interpretation that it is more important when, how much, and how often adolescents use their electronic devices than whether they use a smartphone or a conventional mobile phone.

Consistent with our second hypothesis, we found that electronic media use in the bed before sleep was related to higher levels of depressive symptoms. This is in line with several studies showing that electronic media use in general (e.g., Primack et al. 2009) and at night are related to depressive symptoms in adolescents (Lemola et al. 2011;

Source: Lemola, S., Perkinson-Gloor, N., Brand, S., Dewald-Kaufmann, J. F., & Grob, A. (2015). Adolescents' electronic media use at night, sleep disturbance, and depressive symptoms in the smartphone age. *Journal of youth and adolescence*, 44(2), 405-418.

Extract from article four

Extract from the Discussion

Implications

The findings of this study have important implications. First, these findings highlight the importance of student-student relationship in preventing adolescent smartphone addiction. Middle-school students spend the majority of their time in the school, and they spend a lot of time with their classmates. Improving student-student relationship can help reduce adolescent smartphone addiction, given the adverse impacts smartphone addiction has on adolescents' development, such as physical health, emotions, sleep quality, and academic performance (Kim et al., 2015; Lemola et al., 2015; Lepp et al., 2014; Samaha & Hawi, 2016; Seo et al., 2016; Thomee et al., 2011). It is necessary and vital for the school educators to make efforts to improve student-student relationship. For example, a previous study finds that good teacher-student relationship can increase student-student relationship (Xie, Zhao, Xie, & Lei, 2016); teachers should maintain good relationships with their students, which in turn can reduce adolescent smartphone addiction. Second, our findings can help practitioners understand how student-student relationship is linked to adolescent smartphone addiction by establishing the mediation model; it can provide insights for potential interventions. For example, interventions targeting at increasing adolescent self-esteem can reduce adolescent smartphone addiction. Third, although the need to belong is a fundamental and powerful human motivation (Baumeister & Leary, 1995), people's demands for the need to belong are different (Pillow et al., 2015). It is helpful to realize that people with higher levels of the need to belong are more likely to get addicted to smartphone. We should prioritize preventions and interventions at people with high level of the need to belong. Prevention and intervention efforts aiming to enhance self-esteem in students with a high level of need to belong could possibly contribute to the prevention or reduction of the physical and psychological harms linked to smartphone addiction.

Source: Wang, P., Zhao, M., Wang, X., Xie, X., Wang, Y., & Lei, L. (2017). Peer relationship and adolescent smartphone addiction: The mediating role of self-esteem and the moderating role of the need to belong. *Journal of behavioral addictions*, 6(4), 708-717.

Information, Advice and Guidance Homework – Tutorial 1



Applying to University

You have received a booklet with a set of Information, Advice and Guidance (IAG) resources on applying to university over the VLE.

If you have not received this booklet, please let your PhD Tutor know as soon as possible.

Please spend 15 minutes this week on three topics from the resources listed below.

Write down one thing that you already knew, and one thing that you did not know before.

IAG Topics	Something you already knew	Something you did not know before
How to apply to university		
UCAS points explained		

Tutorial 2 – How does biology affect our mental health?



What is the Purpose of Tutorial 2?

- To understand what happens in the brain during adolescence
- To understand what happens in the brain for people with anxiety disorders and depression
- To learn about twin studies and fMRI studies and why they are important when studying genetics and biological causes of mental health conditions

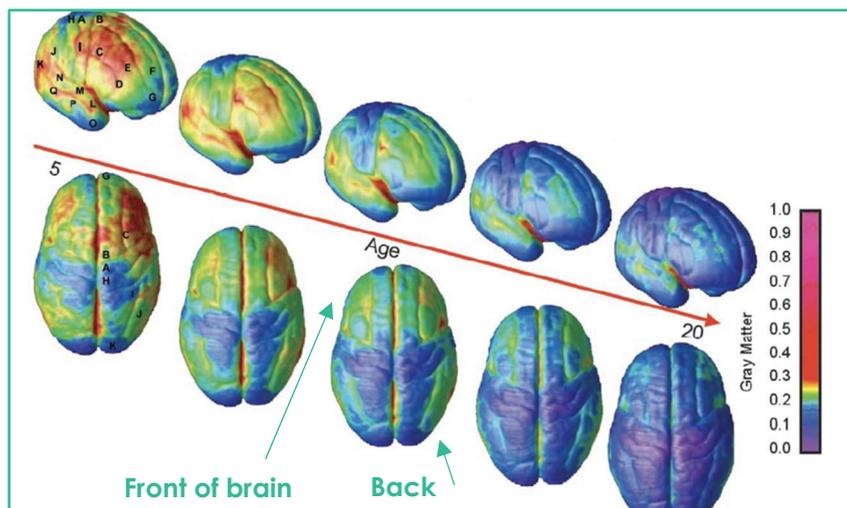
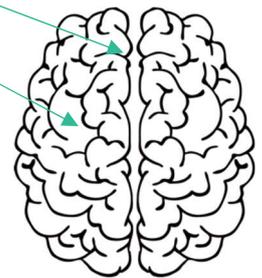
1. Understanding the teenage brain

Activity

The brain is responsible for how we sense, move, think (and feel). It goes through lots of changes during adolescence. One of those changes is a change in the amount of grey matter (cell bodies) which you can see from this image (a time-lapse MRI) of brain development from childhood to young adulthood. Blue represents the most mature/developed brain and the red the least mature/developed. It's normal for teenagers to lose grey matter as they get older.

Grey matter

White matter



Looking at Figure 1 (left):

1. At what age is there the lowest/least volume of grey matter?

Answer: _____

2. Looking at the image labelled "front" and "back", which part of the brain seems to develop last?

Front / back

Figure 1. Brain development and the changing amount of grey matter across adolescence (lowest grey matter volume, blue 0.0 to highest grey matter volume, red 1.0).

Source: <https://www.brainfacts.org/archives/2011/teen-brain-vulnerability-exposed>

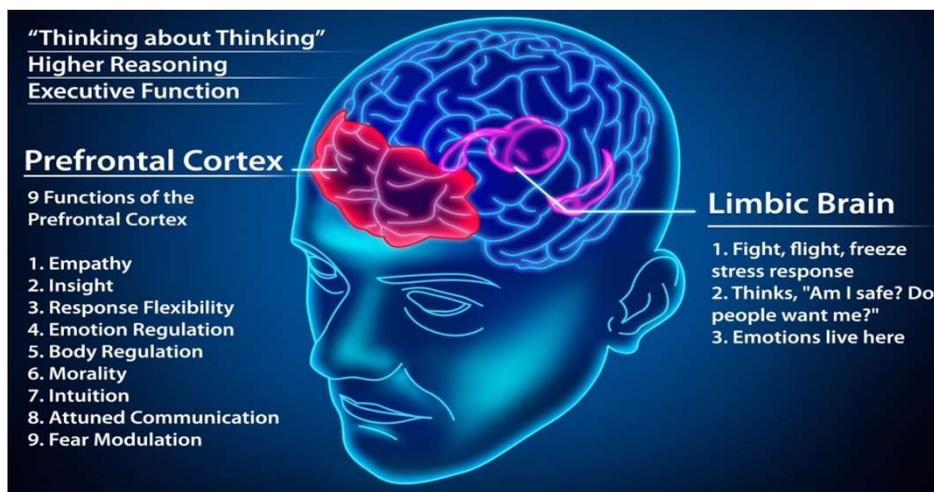
Activity

Read through the paragraph of text below. In pairs, discuss the question in the box to the right of the image in Figure 2 and be prepared to feedback your ideas to the group.

The process of losing grey matter is called **synaptic pruning**. It's an important process influenced by the environment – synapses being used are strengthened, and those which aren't used are removed.

One of the last areas of the brain to develop and undergo synaptic pruning is the **prefrontal cortex**, the part of the brain involved in planning and reasoning, and stops us from taking excessive risks. The big changes that take place during adolescence make the functions of the prefrontal cortex (see Figure 2) more difficult.

Another important area of the developing adolescent brain is the **limbic system**, an area of the brain involved in **emotional processing** (how we feel: whether we feel happy, sad, scared or safe). It is also going through lots of changes and this region is hypersensitive to risk-taking behaviour during adolescence. The **amygdala** is in the limbic 'brain' and is more active during adolescence. It is linked to **impulsive behaviour** and less active in adults who rely more on the prefrontal cortex when processing emotions.



Question: What might be the risks linked to having a hypersensitive/overactive limbic brain and a prefrontal cortex which hasn't finished developing during adolescence? Re-read the paragraph above and look at the diagram if you need help to answer this.

Answer:

Figure 2. The prefrontal cortex and what takes place in this region. [This Photo](#) by Unknown Author is licensed under [CC BY-SA-NC](#)

2. What happens in the brain with an anxiety disorder?

Activity

Watch the video and fill in the gaps with "a, b or c", based on the options in the column on the right: <https://youtu.be/iALfvFpctE>



Link to final assignment!



Anxiety is partially triggered by the _____ and _____.	<ul style="list-style-type: none"> a) Amygdala, hypothalamus b) Hippocampus, pancreas c) Pineal gland, amygdala
These areas control the circulation of the hormones _____ and _____ in your body.	<ul style="list-style-type: none"> a) Testosterone and oestrogen b) Insulin and melatonin c) Cortisol and adrenaline
These hormones are linked to your _____.	<ul style="list-style-type: none"> a) Star sign b) Genes c) Left or right handedness
Anxiety may also be caused by different levels of neurotransmitters (the body's chemical messengers) such as _____, _____ and _____.	<ul style="list-style-type: none"> a) Serotonin, melatonin, testosterone b) GABA, serotonin, dopamine c) Thyroxine, vitamin D, oxytocin
The neurotransmitter serotonin moves between nerve cells (also called _____) through a gap called the synapse.	<ul style="list-style-type: none"> a) Neurotransmitters b) Nodules c) Neurons
Medicines called _____ can help people with anxiety disorders such as OCD, generalised anxiety disorder, panic disorder and phobias by increasing levels of serotonin in the brain; it does this by stopping serotonin from returning to its original neuron.	<ul style="list-style-type: none"> a) Selective serotonin reuptake inhibitors (SSRIs) b) Calcium channel blockers c) Stimulants
Finally, anxiety disorders are also linked to an overactive _____ and periaqueductal grey area (the area responsible for your autonomic nervous system, the 'fight or flight' response).	<ul style="list-style-type: none"> a) Cerebellum b) Amygdala c) Oxytocin

3. What happens in the brain with depression?



Link to final assignment!

Activity

Brain imaging suggests that depression changes the brain in three key areas: the amygdala, hippocampus and thalamus.

Watch the video and then draw a line between each of the concepts below and the definitions you think best describes them.



<https://www.youtube.com/watch?v=8WtAA8daRr8>

AMYGDALA

Regulates emotions, like anger, pleasure, fear. When it's overactive, it can cause problems with sleep, behaviour and hormonal balance.

HIPPOCAMPUS

SEROTONIN (mood and sleep) and NOREPINEPHRINE (important for motivation)

THALAMUS

Treatment options

Changes to the amygdala, hippocampus and thalamus impact two hormones. These are...

Regulates memory and stress hormones such as cortisol. One study found this area to be 13% smaller in people with depression. Cortisol can stunt the growth of new neurons, impacting mood and memory.

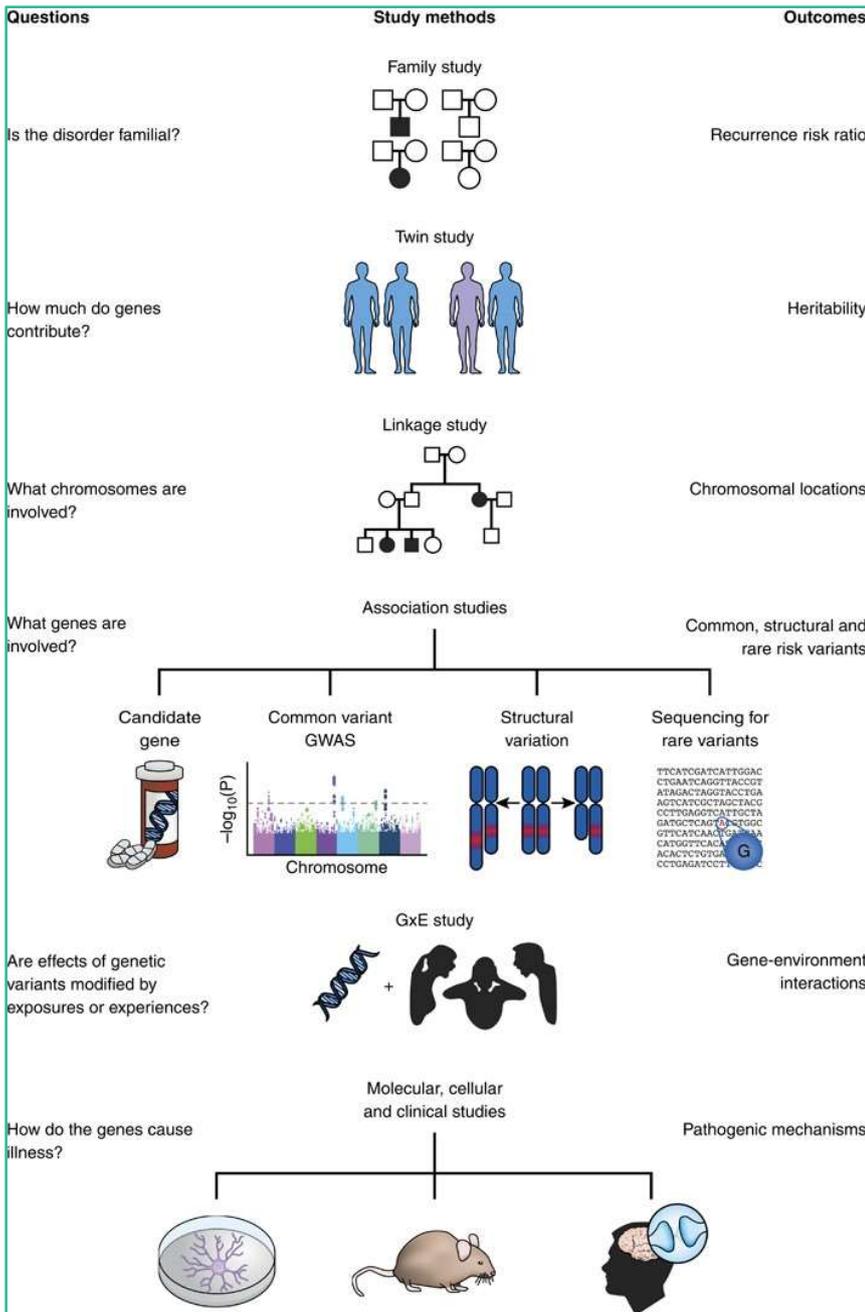
Understanding the genetics of depression can help scientists tailor...

This part of the brain links sensory information to good and bad feelings

4. How do we research into genetic and biological factors?

Genetics

There are many different study methods that researchers use in an area called psychiatric genetics.



Key point: you don't need to know all of this, but it's a useful flowchart if you're interested in this area of science and you might come across some of these words in your homework or assignment.

Twin studies and GxE (gene-environment) studies are the ones you might come across the most.

Heritability = the likelihood of a health condition/trait being influenced by your genes, inherited from your parents.



Figure 3. A flowchart showing the different types of methods used in the field of psychiatric genetics. Source: Smoller, 2015.

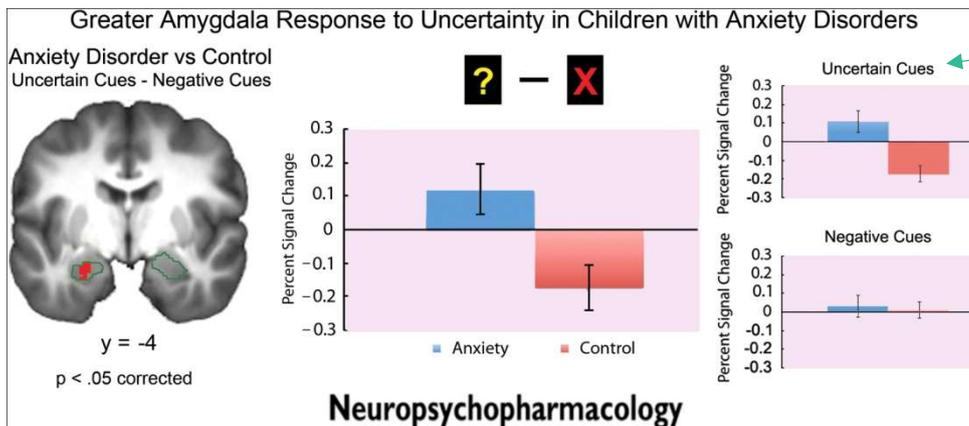
One study method you might hear or read about are called **twin studies**. These are helpful to see whether illness is better explained by “nature” (our biology: what we inherit from our parents) or “nurture” (our environment: where we live, our lifestyle) or a bit of both. As identical twins have 100% the same genes (so they are biologically very similar) and non-identical twins share 50% of the same genes (like any other sibling) this is useful for exploring questions of nature vs nurture.

Neuroscience and fMRI

Whereas an MRI looks at the structure of the brain, Functional Magnetic Resonance Imaging (fMRI) is a way to track in real time the what is happening in the brain. For example, a person might be given a task to do, and an fMRI can track what is going on in the brain as they do that task (see Figure 4).

Activity

Looking at the graphs below, what do you think they tell us about how the amygdala (the area of the brain which processes fear) reacts to a situation that causes uncertainty in children **with** and **without** an anxiety disorder?



A "cue" means the signal or event by the researcher that caused uncertainty or negativity. It could be an image shown to participants or something that's said to someone (e.g., a vague instruction or a sad face).

Figure 4. An fMRI scan comparing the difference in brain activation in the amygdala in children with and without anxiety disorders during a task which introduced them to an uncertain situation (cue).

Source: Williams et al., 2015

Answer:

Homework

1. Watch the short animated video called "Epigenetics: Nature vs Nurture" and read the short article, which is a speech from a psychology conference. If you don't have access to the internet, the transcript from the video and article can be found at further down. Otherwise, these are the links:

"Epigenetics: Nature vs Nurture": <https://youtu.be/k50yMwEOWGU>

"DNA isn't the whole story": <https://www.apa.org/monitor/2009/10/epigenetics>

Once you've watched the video and read the article, answer the following questions:

- A. Imagine you're speaking to your classmates. In a couple of sentences, how would you explain what is meant by "epigenetics"? Hint: rewatch the video from 1 min 40 seconds (or read the transcript below) if you're not sure. (1 – 2 sentences)

Answer:

- B. What might be a limitation of Michael Meaney's research using rat studies to explain human behaviour? (1 – 2 sentences)

Answer:

C. Think back to our tutorial. Name a type of research study design (also called a study method) that we might use to investigate the interaction of social/environmental factors and biological factors in humans. (One word/phrase. There are different correct answers)

Answer:

2. Below are some conclusions from research studies that look at the role and interaction of genes vs. the environment in young people. In the context of the biopsychosocial model of mental health, I have highlighted the most important findings in **bold**. Although some of the language will be unfamiliar, focus on understanding the **bold text** and write down what you think these findings suggest. (One sentence)

"In this longitudinal study of twin pairs followed between the ages of 9 and 17 years, we demonstrated the relative contributions of genetic and environmental factors to the indices of cortisol production and metabolism throughout adolescence. **The most important finding from our study is that the environment plays a key role in the production of cortisol, evidenced by the predominant and increasing contribution with age of unshared environmental factors.** In addition, we found distinct patterns of genetic and environmental contribution to the different cortisol-metabolizing pathways... **with heritability that either increased with age or peaked at age 12y.**"
(van Keulen et al., 2020)

"The observed patterns provide interesting hypotheses surrounding the heritability of depression at different developmental stages. We found substantially lower estimates for depressive symptoms at age 11 (0.07) compared to those previously estimated in adults (0.21). We also found a peak in heritability at age 13. **These findings suggest environmental factors are likely to be more important in the aetiology of depressive symptoms in early adolescence than in adulthood.**"
(Sallis et al., 2017)

Heritability = How likely we inherit something from our parents rather than being a result of the environment; Unshared environmental factors = The twins had different life experiences that could influence findings; Aetiology = The cause(s) of [depression], why it develops.

Answer:

Transcript from video "Epigenetics: Nature vs. Nurture" by the University of Oslo

Meet lucky Lyle and trouble Tim. Now you might think they look a lot alike and that's because they're identical twins.

Imagine them being raised in completely different environments and as adults they turn out very differently.

Lucky Lyle is a model citizen - he goes to work, pays his taxes, treats others well and gets an education. Trouble Tim is on a different path - he robs banks, doesn't pay taxes and gets his first prison sentence at the same time as Lyle gets his diploma.

Their genes are identical so it must be their separate environments that have made them so different, right?

Well there's more to it than that, much more. We need to rewind a bit in time you see. One of the great questions of humanity is what makes us "us"?

Early explanations had a hint of the supernatural about them and as the centuries whizzed by, science emerged and fought a tough battle to gain credibility. Eventually social science emerged with a popular theory that our environment is what makes us "us". Let's call this nurture.

Undaunted, the biological sciences presented another theory: genes. An unchangeable blueprint from birth that decides everything. Let's call this one's nature.

So are we a product of our genes or of our environment? The battle raged on.

Observations in a newer field of study suggests that both are partly right. This field is called epigenetics. Epigenetics means "above genetics" and has to do with how nature and nurture interact.

At the heart of this discussion is one simple question asked by researcher Michael Meaney: what makes a good rat mama? Well, for a rat mother, nothing says love and care like some nice vigorous licking. The higher the number of licks, the more love and the better the mama. With this in mind, the researchers compared two groups of rat mothers: one that licks their babies a lot and another that didn't.

They found that when babies grew up, they carried their mama's behaviour with them and passed it on to the next generation, and the next one and so on. But could it simply be that this particular group of rats was genetically predisposed to produce caring mothers? Well, to test this, the researchers took newborn babies from low licking mothers and gave them to high licking mothers and vice versa.

It turns out that if the mother is a high licker, the rat baby becomes a high licker too, regardless of whether it's genetically related to her or not. So genes really don't have anything to do with it then? In true scientific fashion the researchers dove right into the brains of these rats to see what if anything was different in the brains of the babies of high licking versus low licking mothers.

When they looked at genes that possibly play a role in motherly care, they found crucial differences. Newborn rat babies have clusters of molecules called methyl groups. Attached to these genes these methyl groups silenced the gene, effectively switching it off. The researchers discovered that while the methyl groups in rats from low licking mothers were still attached, in the rats from high licking mothers these methyl groups had disappeared. This was also true for the rats that had been adopted by high licking rat mothers.

The care these rats received from their mothers actually physically altered their genetic expression. Now that's all fine and good for rats but what about people? Well the same is true for lucky Lyle and troubled Tim and for you and me. The genes you're born with are the genes you've got, but lifestyle and environmental influences such as nutrition, exercise, smoking, stress and love greatly affect your biology and these changes can actually be observed at the DNA level.

The bright side is that epigenetic changes happen throughout our lives and our choices can make real differences in how we develop as human beings

Source: <https://www.youtube.com/watch?v=k50yMwEOWGU>

Text from task one: "DNA isn't the whole story"

DNA isn't the whole story

This year's Neal E. Miller Lecture explores the hidden power of epigenetics.

By Michael Price
Monitor Staff
October 2009, Vol 40, No. 9
Print version: page 34
3 min read

Most people see DNA as the most significant factor in genetics, but when it comes to behavioral differences—even those as complex as mothers' affection—researchers say we shouldn't overlook other biochemical factors. Biologists have recently begun looking harder at epigenetics—the chemical modification to DNA that can change genes' activity—to explain things that basic DNA transcription can't. This year's Neal E. Miller lecturer, Michael Meaney, PhD, explained why it's important to psychology at APA's 2009 Annual Convention.

It's long been known that certain early experiences, such as abuse, family strife and emotional neglect can increase one's chances for depression, drug abuse, anxiety, heart disease and other conditions, but the mechanism behind this has been unclear, said Meaney, a brain researcher at McGill University.

"The question becomes, can we define the pathways by which the social environment might come to predict these particular health outcomes?" he said.

A popular theory has it that early experiences somehow alter people's neural and endocrine responses to stress, which more directly influences mental health and behavior. That could happen if a chemical alteration gets in the way of genes' expressing their normal responses to stress.

"DNA is just a molecule like any other molecule," he said. "It's subject to modification."

For example, methyl groups are biochemical marks that can modify DNA by binding to DNA and preventing other proteins known as a transcription factor from turning the gene on. That, effectively, silences the gene's expression.

But can that actually influence behavior over a lifetime? Meaney looked to rat models to find out. In his lab, he and his colleagues studied the licking and grooming behavior of mother rats toward their pups and divided them into consistently high-licking and low-licking groups. They found that pups reared by low-licking mothers carried the methyl mark on genes that normally inhibit stress responses. As adults, these animals showed a greater stress response than animals reared by high-licking mothers.

They also found those traits tended to carry on to the next generation: High-licking moms had daughters that went on to lick and groom their own litters more frequently than the daughters of low-lickers. But interestingly, when they took the offspring of a low-licking mother and raised it with a high-licking one, the rat adopts the high-licking behavior when it has babies of its own.

That suggests that the behavior isn't strictly genetic, but potentially influenced by epigenetics, too, Meaney said.

In rats, one source of significant stress is parental neglect. That stress in turn increases the amount of methyl groups in the body, making it more likely that they'll bind to susceptible spots in the genome. One such spot is on an area of the genome that promotes production of receptors for estrogen, which is associated with maternal care. Fewer estrogen receptors mean less oxytocin and lower maternal investment, which feeds back into increased stress for their offspring, triggering a feedback loop.

"What we've come to suppose is that at least within the rat, differences in methylation driven by maternal care are in fact responsible for changes in gene expression," Meaney said.

It's difficult to directly correlate these results to humans, he emphasized. But looking at autopsy reports of people who died either via suicide or highway accidents, and looking at their reported life histories, Meaney and his colleagues have found a correlation between a history of abuse and increased methylation.

"So we're starting to get some kind of a picture on how the quality of early family environment might be explaining, in part, variations in health outcomes," he said.

Source: <https://www.apa.org/monitor/2009/10/epigenetics>

Additional video

What is the effect of social media on the brain?

https://www.youtube.com/watch?v=HffWFd_6bJ0

Information, Advice and Guidance Homework – Tutorial 2



Choosing the Right University

You have received a booklet with a set of Information, Advice and Guidance (IAG) resources on applying to university over the VLE.

If you have not received this booklet, please let your PhD Tutor know as soon as possible.

Please spend 15 minutes this week on three topics from the resources listed below.

Write down one thing that you already knew, and one thing that you did not know before.

IAG Topics	Something you already knew	Something you did not know before
University league tables		
Choosing the right university for you: Research institutions		

Tutorial 3 – Socioenvironmental factors



What is the Purpose of Tutorial 3?

- Understand the social and environmental factors which may influence our mental health
- Understand what the Bronfenbrenner's Ecological Systems model is and how it can help understand the role society has on child development
- To see how social settings can be used to deliver universal mental health interventions to young people with or without symptoms of a mental health condition
- To understand the difference between correlation and causation

1. Bronfenbrenner's ecological systems theory

Formulated by American psychologist Urie Bronfenbrenner, the ecological systems theory suggests that human development is shaped by five socially organised and interconnected systems.

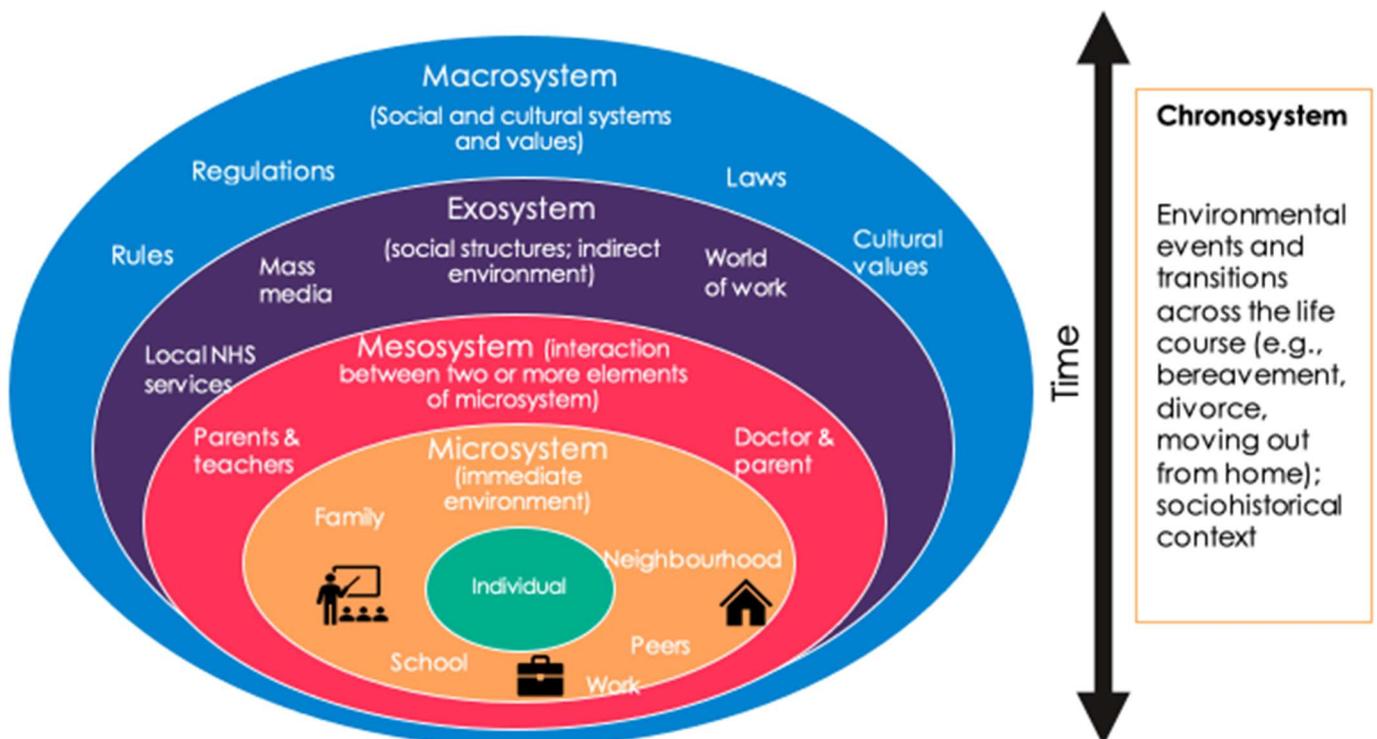


Figure 5. A model of Bronfenbrenner's ecological systems theory (Bronfenbrenner, 1979, 1979, 1984)

Once identifying individual and contextual factors, one of the most important and useful next steps is to look at the interactions between the levels (also called systems).

For example, researchers might find a link between hours spent by young people using social media to connect with others (mesosystem) and anxiety or depression (individual) when it is more than 5 hours per day, but this might not affect everyone in the same way: it might be worse for young people who have been excluded from school (microsystem) and less problematic for young people with close friendships (microsystem). A child's cultural upbringing (macrosystem) may also play a role, and if children have been through life changes such as parental illness or divorce (chronosystem) this may also affect the outcome.



Key point: different social and environmental factors interact with each other at every level to affect our mental health!

Activity

Discuss in pairs:

1. Can you think of any additional factors that might be added to each level?

2. Looking at the table below, fill the 5 blank spaces with the level that might describe the situation the researchers are looking at (note: sometimes you can have two levels working together).

Research study	Topic	Risk/protective factor	Level
e.g., Hong & Espelage	Bullying and peer victimisation in schools	1. Self-esteem 2. Inter-parent violence; Relations with peers; School connectedness 3. Teacher involvement 4. Exposure to media violence (e.g., video games or online videos) 5. Cultural norms and beliefs; Religious affiliation 6. Change in family structure (e.g., divorce)	a. 1 (Individual) b. 2 (Microsystem) c. 3 (Mesosystem) d. 4 (Exosystem) e. 5 (Macrosystem) f. 6 (Chronosystem)
Behnke et al., 2011	The relationship between Latino adolescents' perceptions of discrimination, neighbourhood risk and parenting on self-esteem and depressive symptoms	1. Depressive symptoms 2. Conflict with parents about their cultural values	a. ____ b. ____ AND ____
McDaniel et al., 2012	New mothers and media use: associations between blogging,		a. ____

	social networking and maternal well-being	1. Interactions in the family home 2. Relationships between mother and others in the community through blogging and using social networking websites	b. _____
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2. Using social settings (e.g., the classroom) to run a research study and deliver a mental health prevention program

Original Paper

Preventing Depression in Final Year Secondary Students: School-Based Randomized Controlled Trial

Yael Perry¹, PhD  ; Aliza Werner-Seidler¹, PhD  ; Alison Calear², PhD  ; Andrew Mackinnon¹, PhD  ;
 Catherine King¹, M Clin Psych  ; Jan Scott³, MD  ; Sally Merry⁴, PhD  ; Theresa Fleming⁴, PhD  ;
 Karolina Stasiak⁴, PhD  ; Helen Christensen¹, PhD  ; Philip J Batterham², PhD 

This study looked at whether an interactive fantasy game called SPARX, designed to deliver a type of therapy called cognitive behavioural therapy (CBT), could help prevent mental health problems in young people who may have exam stress (Perry et al., 2017).

Activity

Here's a clip of SPARX: <https://youtu.be/GlvtX5K1PSs>



SPARX was adapted to be delivered in a classroom for every student. This is called a **universal** prevention intervention because every school child could take part, whether or not they have a mental health problem. By contrast, a **targeted** intervention is for certain types of students (e.g., students already diagnosed with a mental health condition or students from certain at-risk groups).

CONSORT diagram

Here is a flowchart (called a CONSORT diagram) which shows the different stages of the experiment.

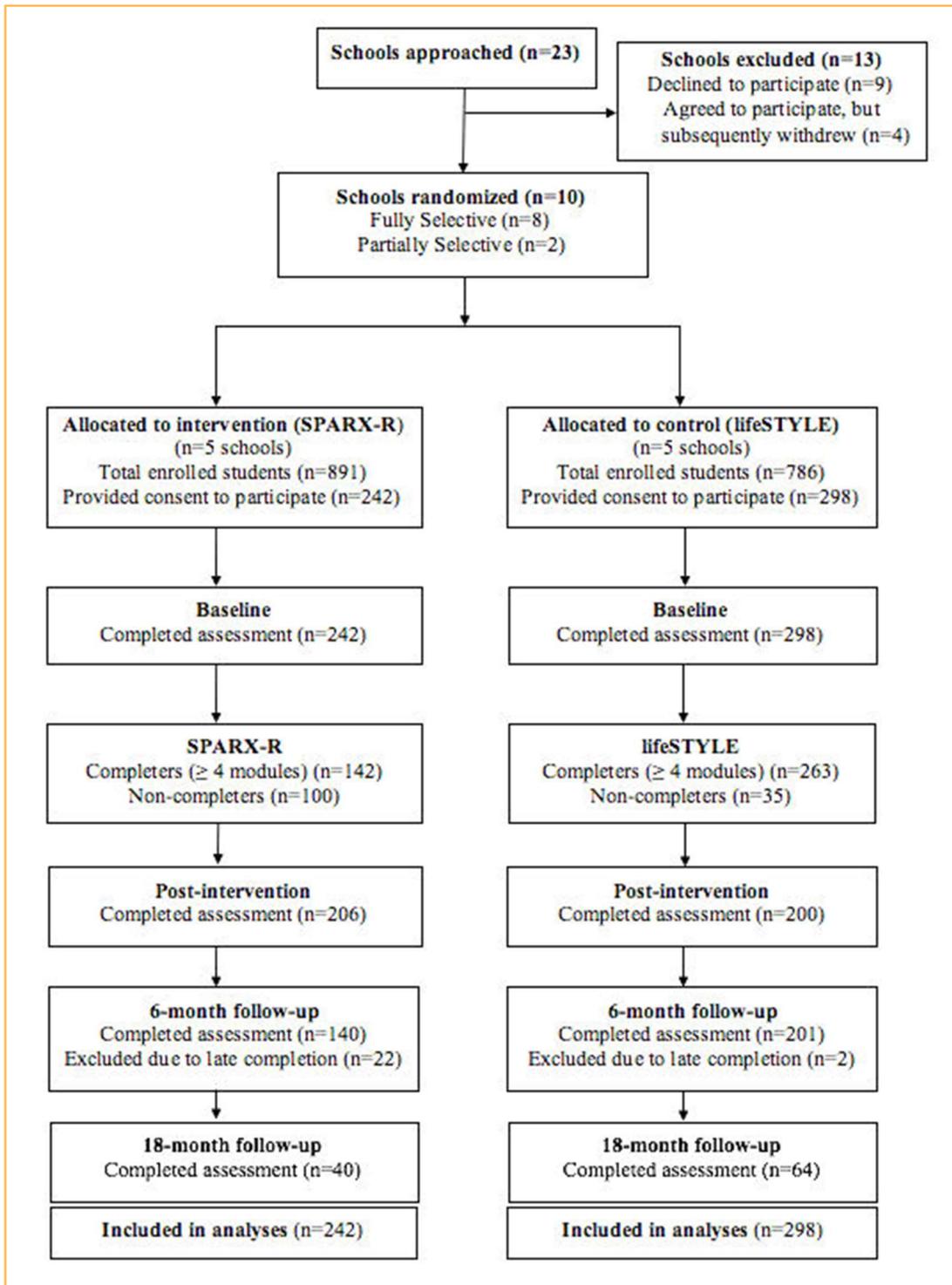


Figure 6. CONSORT diagram of the study trial.
Source: Perry et al., 2017

In pairs, think about the following questions:

1. Why do you think it's important to collect some data at 'baseline'?

Answer:

2. Why do you think it's useful to have a 'control' group?

Answer:

3. What do you think might be a benefit of a universal intervention like this delivered in a classroom (compared to targeted one-to-one therapy)?

Answer:

Analysing the results

Read through a summary of the results (taken from the study's abstract). Although it won't all make sense, what does it suggest?

Results: Compared to controls, participants in the SPARX-R condition (n=242) showed significantly reduced depression symptoms relative to the control (n=298) at post-intervention (Cohen $d=0.29$) and 6 months post-baseline ($d=0.21$) but not at 18 months post-baseline ($d=0.33$).

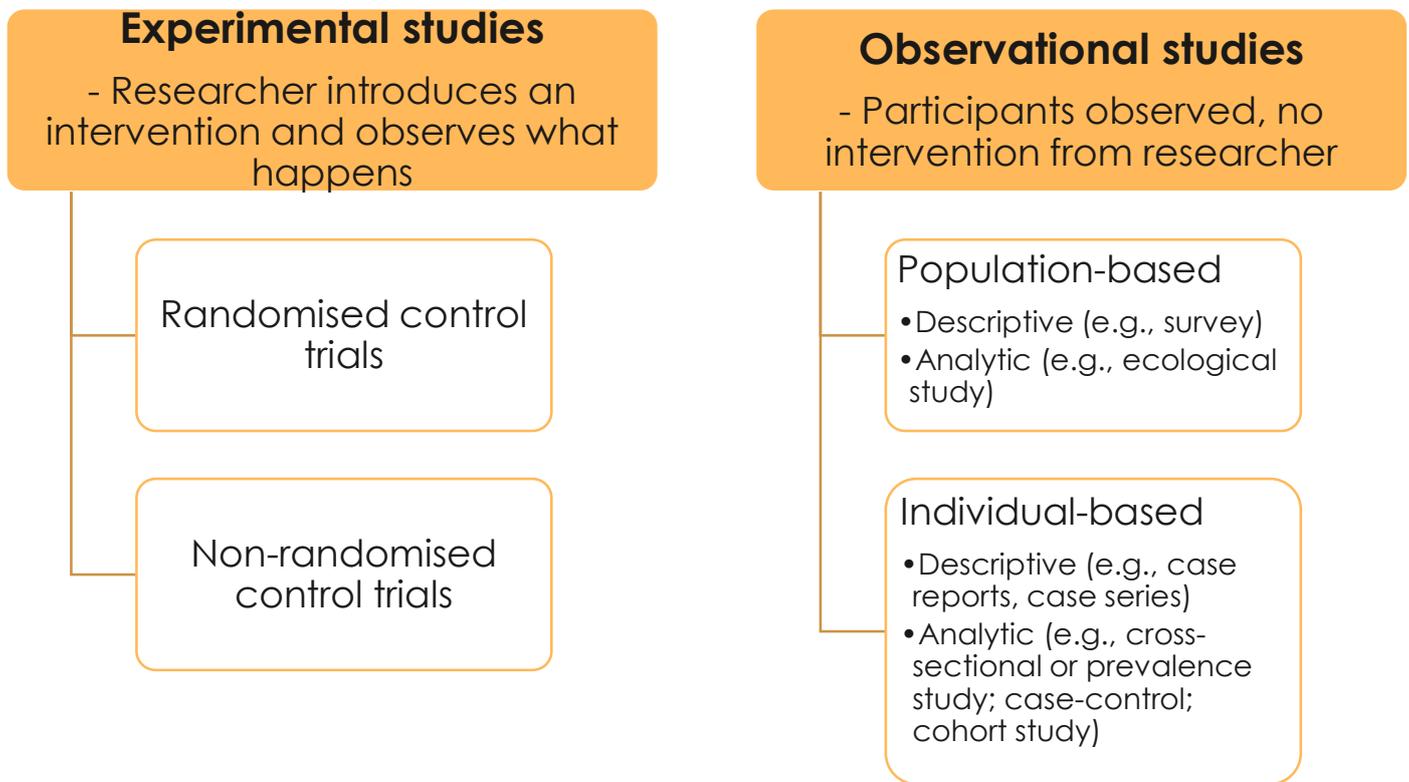
Conclusions: This is the first trial to demonstrate a preventive effect on depressive symptoms prior to a significant and universal stressor in adolescents. It demonstrates that an online intervention delivered in advance of a stressful experience can reduce the impact of such an event on the potential development or exacerbation of depression.

Source: Perry et al., 2017

Answer:

3. Types of research design (bonus work/for your reference)

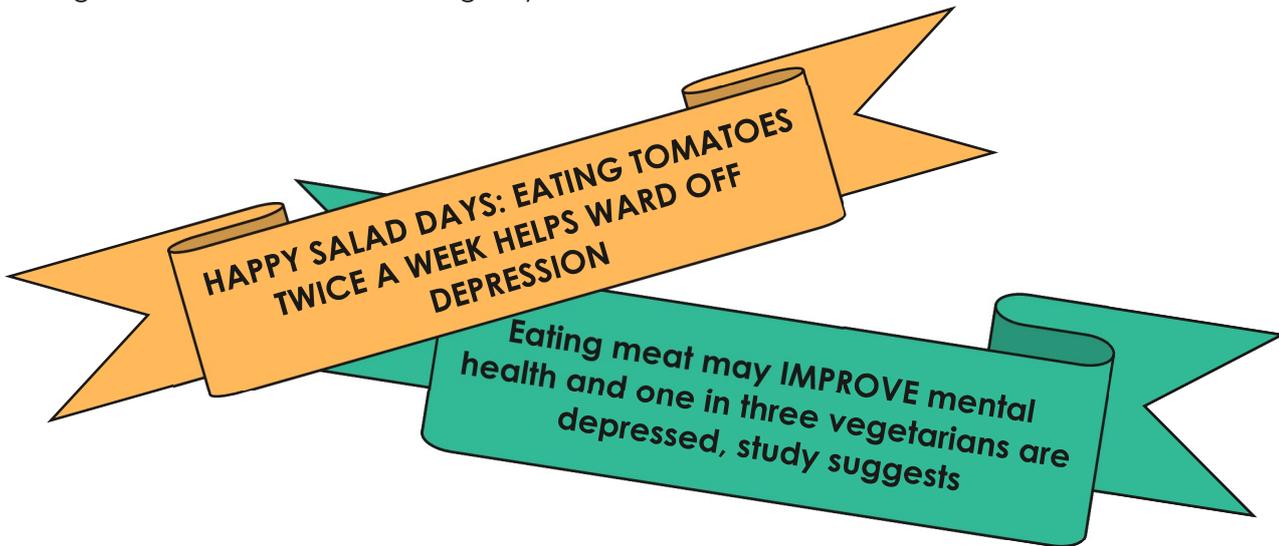
There are lots of different types of research design. You don't need to know them all, but here's a useful flowchart for your reference in case you come across these during your independent research.



	Experimental studies	Observational studies
Pros	<ul style="list-style-type: none"> • Can determine causality (a direct link between cause and effect) • The "gold standard" for studying therapeutic interventions (e.g., treatments including medication) 	<ul style="list-style-type: none"> • Can see participants in their "natural settings" (e.g., social environment) • Can look at relationships (called correlations) between lots of different factors • May require less time and resources • Fewer ethical issues
Cons	<ul style="list-style-type: none"> • Take more time and cost more money • May be ethical concerns 	<ul style="list-style-type: none"> • Difficult to determine causality (instead, we would say the outcome is <i>associated</i> or <i>correlated</i> with something we've tested, not that it is <i>caused</i> by that factor)

Useful to know! Distinguishing correlation from causation

Being a researcher means looking beyond the news headlines. Here are two real-world examples:



It is important to know the difference between **correlation and causation**.

Term	Definition	Example
Correlation	An association, relationship or connection to an outcome.	<p>A study finds that people with lower levels of depression eat tomatoes twice a week.</p> <p>Not eating tomatoes twice a week isn't the cause of their depression. It might be that they have a better diet because they have more time and money to cook healthy meals.</p>
Causation	There is a clear causal pathway to an outcome	Using study designs that track participants over time, researchers may find that factors such as household income, relationships in the family home and a history of mental illness have a causal link with depression.



Key point: as researchers, we don't say "this proves that" because there's always some element of uncertainty.

Instead, we might say "X is associated with Y" or "the findings suggest a causal pathway between X and Y"

Homework



1. Using the text below *and your own independent research if you have access to the internet*, answer the following questions:

- What is cognitive behavioural therapy (CBT)? Make notes of what it is, when it is recommended, and what it involves (3 – 4 sentences)
- What are randomised control trials (RCT)? Make notes of what they are, why they are used and why they are seen as the “gold standard” (the best option) for research study designs (3 – 4 sentences)
- Find one example of a research study that looks at CBT for anxiety/depression in young people and write down the name of the author(s), year and the title.

If you don't have access to the internet, there is some text below to help you answer the questions.

Answer: 1a. CBT is...

Answer: 1b. An RCT is...

Answer: 1c. An example research study (author[s], year, title):

The randomised control trial (RCT) is a trial in which subjects are randomly assigned to one of two groups: one (the experimental group) receiving the intervention that is being tested, and the other (the comparison group or control) receiving an alternative (conventional) treatment (fig 1). The two groups are then followed up to see if there are any differences between them in outcome. The results and subsequent analysis of the trial are used to assess the effectiveness of the intervention, which is the extent to which a treatment, procedure, or service does patients more good than harm. RCTs are the most stringent way of determining whether a cause-effect relation exists between the intervention and the outcome.¹

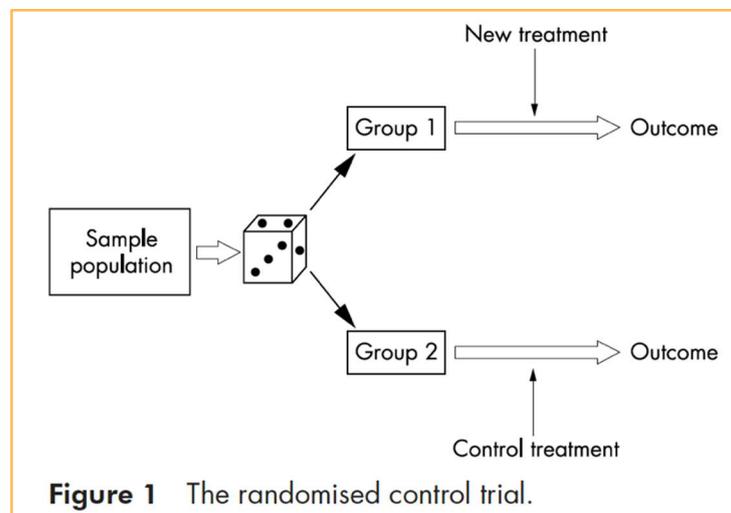


Figure 1 The randomised control trial.

Source: Kendall, 2003.

APPLYING THE INTERVENTION AND MEASURING OUTCOME: THE IMPORTANCE OF BLINDING

After randomisation there will be two (or more) groups, one of which will receive the test intervention and another (or more) which receives a standard intervention or placebo. Ideally, neither the study subjects, nor anybody performing subsequent measurements and data collection, should be aware of the study group assignment. Effective randomisation will elimi-

What is CBT?

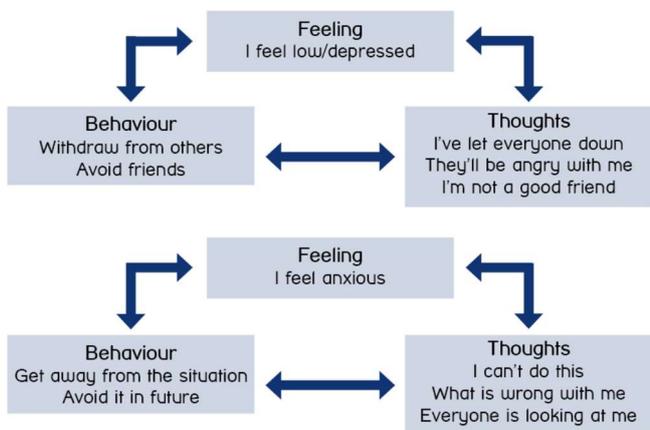
Cognitive Behavioural Therapy or CBT, is a family of talking therapies, all based on the idea that thoughts, feelings, what we do, and how our bodies feel, are all connected. If we change one of these we can alter all the others.

When we're low or upset, we often fall into patterns of thinking and responding which can worsen how we feel. CBT works to help us notice and change problematic thinking styles or behaviour patterns so we can feel better.

CBT is a collaborative therapy - it's not something that is done to someone, it's a way of working together with a CBT therapist on mutually agreed goals.

Source: Royal College of Psychiatrists, 2015.

If your negative interpretation of situations goes unchallenged, then these patterns in your thoughts, feelings and behaviour can become part of a continuous cycle:



How does CBT work?

In CBT you work with a therapist to identify and challenge any negative thinking patterns and behaviour which may be causing you difficulties. In turn this can change the way you feel about situations, and enable you to change your behaviour in future.

You and your therapist might focus on what is going on in your life right now, but you might also look at your past, and think about how your past experiences impact the way you see the world.

Source: Mind, 2017.

2. Read the abstract "*a cognitive model of pathological worry in children and adolescents: a systematic review*" by Songco et al., 2020 (you can find it below the questions). Then answer some questions about the paper (it is a systematic review). Don't worry if you don't understand all the words, just do your best!

2a. What is the article about? (1 sentence)

Answer:

2b. What type of research paper is it (think back to tutorial 1)? (2 words)

Answer:

2c. How many studies were included in the review?

Answer: _____ studies



Link to final assignment!

Key point: Some worry about future events is normal.

Pathological worry is a type of worry in people with anxiety disorders that is "excessive, uncontrollable and distressing".



2d. What are the key conclusions? Think back to tutorial 1 if you can't remember how to read an abstract (1 - 2 sentences)

Answer:

Open Access | Published: 28 January 2020

A Cognitive Model of Pathological Worry in Children and Adolescents: A Systematic Review

Annabel Songco , Jennifer L. Hudson & Elaine Fox

Clinical Child and Family Psychology Review 23, 229–249(2020) | [Cite this article](#)

1812 Accesses | 14 Altmetric | [Metrics](#)

Abstract

Worry is common in children and adolescents, yet some youth experience excessive worries that persist over time and cause significant distress. Whilst the literature on worry and generalised anxiety disorder (GAD) in adults is well established, relatively less is known about the cognitive mechanisms underlying child and adolescent worry. An influential cognitive model of adult pathological worry (Hirsch and Matthews in *Behav Res Therapy* 50:636–646, <https://doi.org/10.1016/j.brat.2012.06.007>, 2012) proposes that negative information-processing biases, reduced executive functions, and verbal worry are critical in the aetiology of GAD in adults. The current systematic review investigated whether this cognitive model of worry could be extended to understand child and adolescent worry. Following a systematic search of the literature and screening for eligibility, 30 studies were identified. Evidence indicates that negative information-processing biases and reduced executive functions play an important role in worry and GAD in children and adolescents. However, evidence that children and adolescents experience verbal worry is inconclusive. Building upon Hirsch and Matthews' cognitive model (*Behav Res Therapy* 50:636–646, <https://doi.org/10.1016/j.brat.2012.06.007>, 2012), we propose a model of child and adolescent worry to provide a guiding framework for future research. We conclude that cognitive models of worry should incorporate a developmental framework in order to provide greater insight into the mechanisms uniquely associated with worry in children and adolescents and help to identify the cognitive processes to target for early interventions and treatments.

Source: Songco et al., 2020.

3. What are the elements of pathological worry?

The Hirsch and Matthews' Cognitive Model of Pathological Worry (2012) has three elements:

1. INFORMATION
PROCESSING BIAS

2. REDUCED
EXECUTIVE
FUNCTIONS

3. VERBAL
WORRY

Using extracts from an article in the 3 boxes below **fill the gaps** using the text below.

1. Information-processing bias: this includes selective _____ towards _____, slower to _____ from _____, interpret _____ situations as _____.
2. Reduced executive functions: this includes _____ and _____.
3. Verbal worry: worries with _____ rather than _____.

THREAT	ATTENTION	THREAT	AMBIGUOUS	DISENGAGE
WORDS	IMAGES	THREATENING	ATTENTION	MEMORY

Hirsch and Matthews' cognitive model of pathological worry (2012) provides a strong evidence-based framework highlighting the critical role that information-processing biases, executive functions, and the verbal processing of worry all play in the development and maintenance of worry in adults. Particular combinations of these three building blocks result in a potent form of pathological worry, as seen in GAD, that is generalised, excessive, and uncontrollable. In addition to these three main component processes, the Hirsch and Matthews' model also proposes that pathological worry is maintained by means of other cognitive factors such as intolerance of uncertainty, emotion dysregulation, and maladaptive beliefs. The applicability of Hirsch and Matthews' cognitive model to understanding child and adolescent worry is yet to be examined and, we argue, could provide valuable insights into the cognitive mechanisms underlying worry in youth.

There is strong empirical evidence supporting key aspects of Hirsch and Matthews' cognitive model (2012) with regard to adult worry. First, negative cognitive biases have been shown to play an important role in the aetiology of adult worry and GAD (Mathews and MacLeod 2005) and are mechanisms that cause and maintain psychopathology (Beck et al. 1985, 1979; Williams et al. 1997). Adults with high levels of worry or GAD demonstrate selective attention towards threat (Hayes et al. 2010; MacLeod et al. 1986), are slower to disengage away from threat (Fox et al. 2001), and have a tendency to interpret ambiguous scenarios as threatening (Hirsch et al. 2009). Hirsch and Matthews propose that these negative cognitive biases are relatively involuntary 'bottom-up' processes responsible for negative thoughts that eventually intrude into awareness.

The second building block outlined in Hirsch and Matthews' cognitive model is deficits in the central executive function of working memory or attentional control. In contrast to cognitive biases, executive functions involve voluntary 'top-down' processes associated with prefrontal cortical structures. Experimental studies in adults have shown that worry and GAD are associated with reduced attentional control and working memory capacity (Eysenck et al. 2007; Fox et al. 2015; Hayes et al. 2008; Leigh and Hirsch 2011; Moran 2016). The assumption is that worry is responsible for drawing attentional control resources and working memory capacity away from other tasks, thus impairing the ability to redirect worrisome thoughts.

The predominantly verbal nature of worry represents the third component process of Hirsch and Matthews' cognitive model. The model proposes that pathological worry is characterised by verbal thoughts that are relatively non-specific and general. The authors suggest that this verbal-linguistic form of worry is more potent than imagery-based worry as it gives rise to abstract negative outcomes that are typically vague and difficult to resolve. Studies in adults have found that verbal worry functions as a form of cognitive avoidance of the negative outcomes evoked by mental imagery (Borkovec and Inz 1990) and increases subsequent negative intrusions compared to imagery-based worry (Butler et al. 1995; Leigh and Hirsch 2011; Stokes and Hirsch 2010).

Source: Songco et al., 2020.

OPTIONAL EXTRA (this can help with your final assignment!): Think about the research article you found which uses CBT to treat anxiety or depression in young people (question 1c).

Write down: What was the target population? What did the intervention involve? What were the results? What were the strengths of the study? What were the limitations of the study?

Information, Advice and Guidance Homework – Tutorial 3



University Applications and Offers

You have received a booklet with a set of Information, Advice and Guidance (IAG) resources on applying to university over the VLE.

If you have not received this booklet, please let your PhD Tutor know as soon as possible.

Please spend 15 minutes this week on three topics from the resources listed below.

Write down one thing that you already knew, and one thing that you did not know before.

IAG Topics	Something you already knew	Something you did not know before
Applying to Oxford or Cambridge		
University offers explained		
Admission tests		

Tutorial 4 – What is psychology?



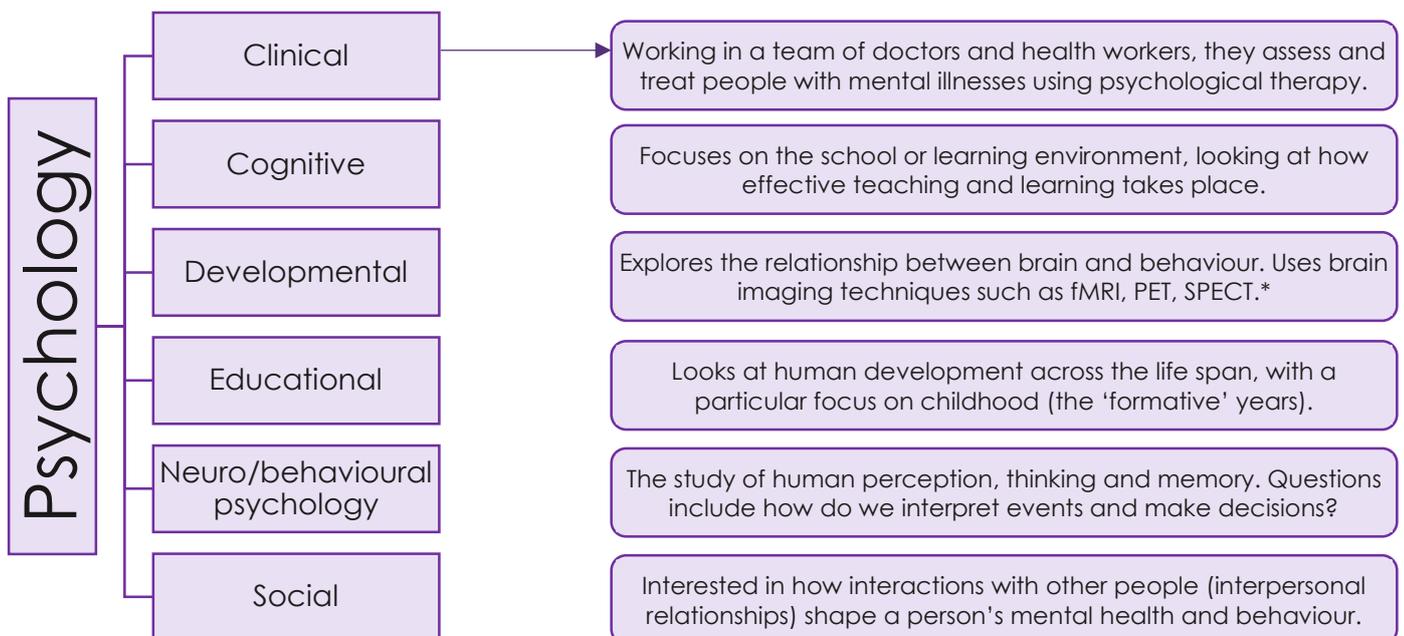
What is the Purpose of Tutorial 4?

- To have an overview of some different areas of psychology
- To better understand cognitive factors and the role of worry and rumination in youth anxiety and depression
- To understand how cognitive behavioural therapy (CBT) can support people with anxiety and depression
- To understand how experimental studies such as randomised control trials may help explore the psychological processes and mechanisms of mental health conditions

1. What are the different areas of psychology?

Activity

Here are some areas of psychology. Draw a line between the area and its definition. I've done the first area (Clinical Psychology) as an example.



Note. *fMRI = functional magnetic resonance imaging; PET = positron emission tomography; SPECT = single-photon emission computed tomography

2. A cognitive process: repetitive negative thinking (RNT)

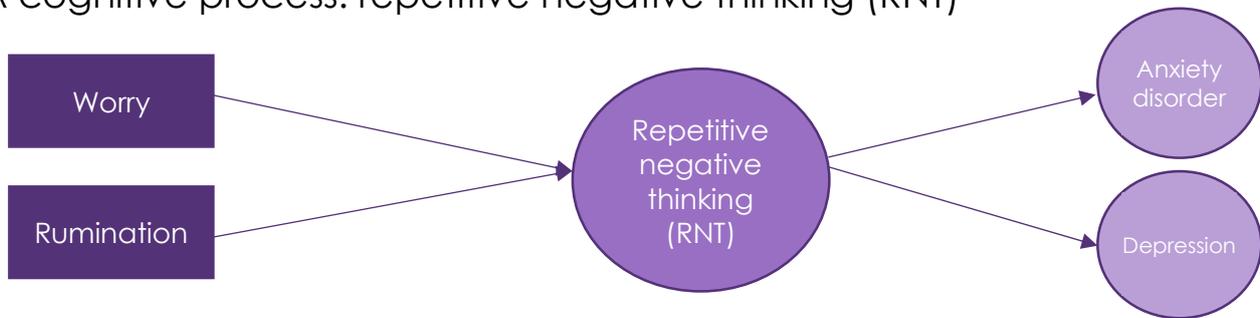
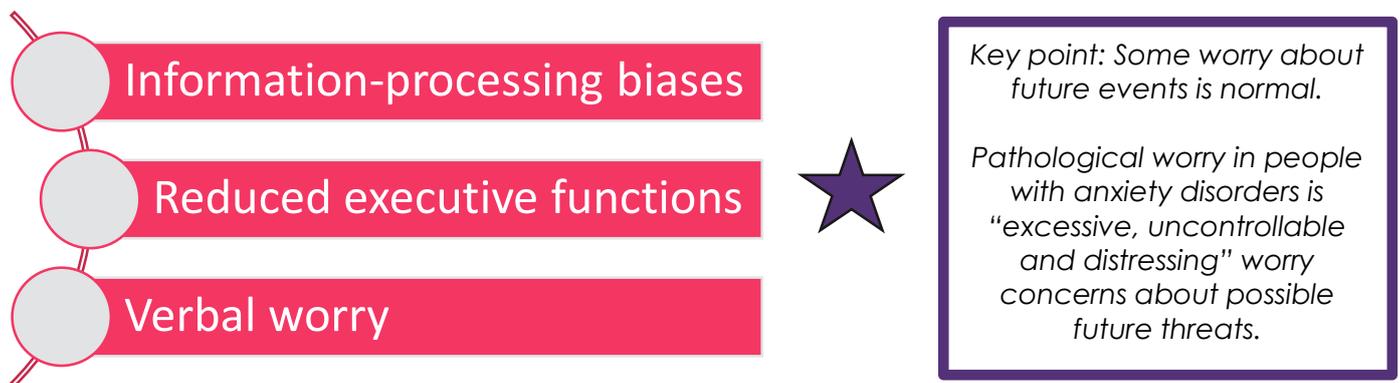


Figure 7. A diagram showing how worry and rumination form repetitive negative thinking (RNT) and this contributes to anxiety and depression.

Repetitive Negative Thinking is comprised of two key cognitive processes: worry and rumination. You looked at one of these processes (worry) as part of your homework.

a. The role of worry in anxiety disorders

According to Hirsch and Matthews' (2012) cognitive model of pathological worry, there are three core elements: INFORMATION-PROCESSING BIASES; REDUCED EXECUTIVE FUNCTIONS; VERBAL WORRY.



b. The role of rumination in depression

Rumination is: a thinking style linked to past events or negative personal attributes linked with depression. For example: "Why am I such a failure?" as the normal response to getting a bad exam grade or "they don't like me" as an explanation for a friend not texting back.

3. Looking at how CBT could be helpful as a treatment

As a group, let's remind each other about the over definition of 1) cognitive behavioural therapy (CBT) and 2) a randomised control trial.



Activity

Think of one thing from your homework that describes CBT and one thing that describes an RCT. Share it with the class. You might want to add your definition to the "glossary of words" in the handbook.

Activity

We will now look at an experimental study linking everything together.

The title is "Prevention of anxiety disorders and depression by targeting excessive worry and rumination in adolescents and young adults: A randomized controlled trial" and it is written by Topper et al., 2016.

In pairs, answer some questions about this study based on some information from the abstract.

A B S T R A C T

Background: This randomized controlled trial evaluated the efficacy of a preventive intervention for anxiety disorders and depression by targeting excessive levels of repetitive negative thinking (RNT; worry and rumination) in adolescents and young adults.

Methods: Participants ($N = 251$, 83.7% female) showing elevated levels of RNT were randomly allocated to a 6-week cognitive-behavioral training delivered in a group, via the internet, or to a waitlist control condition. Self-report measures were collected at pre-intervention, post-intervention, 3 m and 12 m follow-up.

Source: Topper et al., 2016.

a. What type of research design does this study use? (circle the correct answer)

Option 1 = Randomised control trial Option 2 = Cross sectional study Option 3 = Cohort study

b. How long were participants enrolled in the **intervention** (note: this doesn't include the follow-up)? (circle the correct answer)

Option 1 = 3 months

Option 2 = 12 months

Option 3 = 6 weeks

c. Fill the gaps in this CONSORT diagram with the words/numbers below and by using information from the abstract.

A =	E =
B =	F =
C =	G =
D =	H =

Group intervention ($n = 82$)	Waitlist control	Internet intervention ($n = 84$)	3 month follow-up
251	616	Post-intervention	12 month follow-up

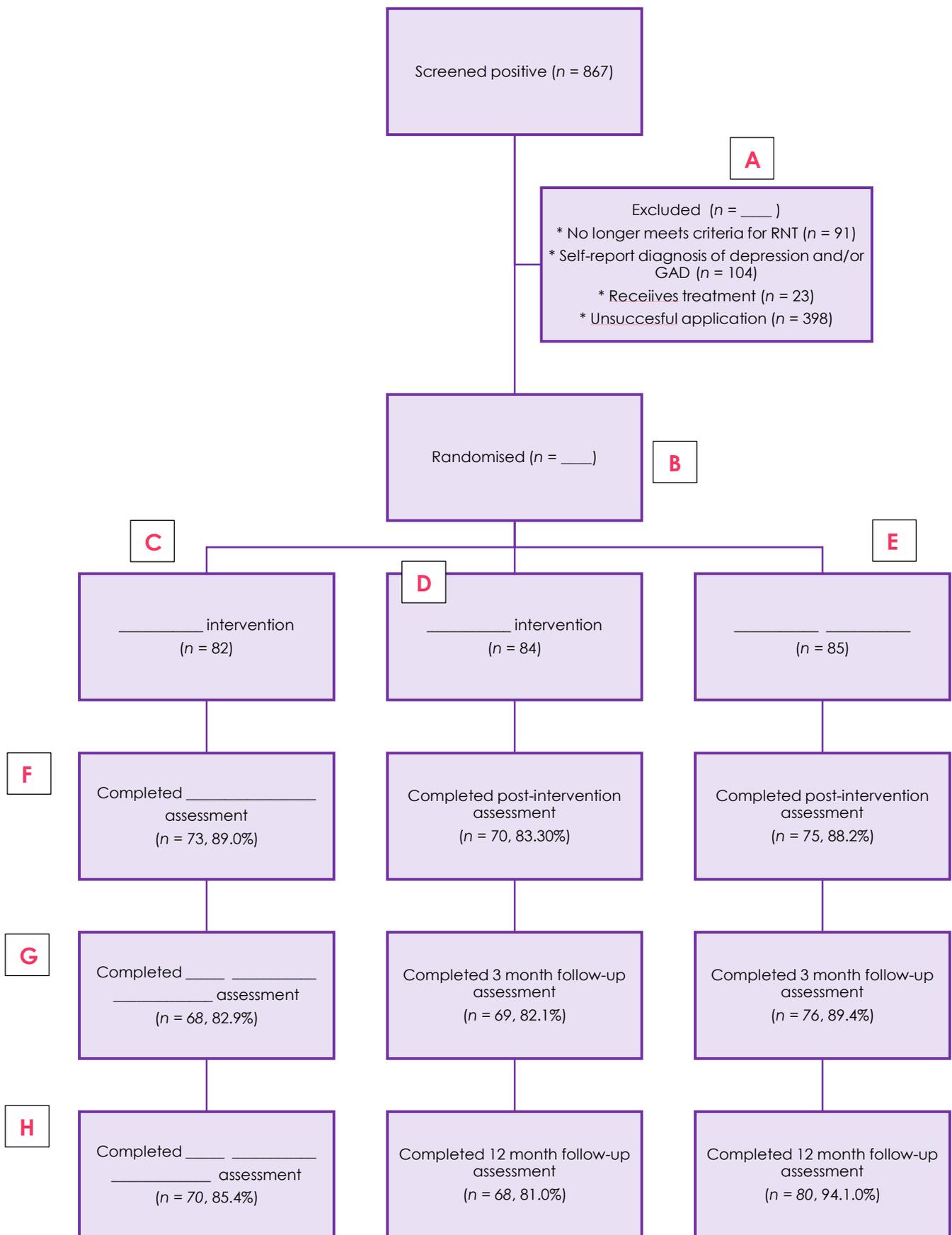


Figure 8. A CONSORT diagram of a randomised control trial comparing a 6-week cognitive behavioural therapy (CBT) intervention delivered online or in a group with a waitlist control. Reproduced from Topper et al., 2016.

Homework

1. What is meant by “evidence-based” treatment for mental health? Do some independent research to answer this question. You can give a definition and some examples. (3 – 4 sentences)

2. Who are the National Institute for Health and Clinical Excellence (NICE) and what evidence-based work do they provide for doctors, researchers and patients? (3 – 4 sentences)

3. Read through the article below by Leigh (2016) on evidence-based practice for mobile phone apps aimed at helping people with their mental health and answer the following questions.

It isn't expected that you'll know all of the language used in the article. If there are any words you don't understand, make a note of them and look them up. The main purpose of this exercise is to get you thinking about why quality evidence is so important in mental health research, as well as some of the challenges and opportunities of using mobile apps to deliver psychological support.

a. What might be 3 benefits of having a mobile phone app to deliver psychological interventions?

Answer:

b. How many health apps were available or downloaded in 2015?

Answer:

c. To be approved as a treatment on the NHS, new medications (e.g., anti-depressants) and talking therapies (e.g., CBT) must have a Health Technology Assessment (HTA). According to Leigh (2016), they “benefit from the existence of approved guidelines” in their application for approval on the NHS. Can the same be said for new smartphone app-based interventions? Do they have approved guidelines they can follow? If no, what is the problem? (1 – 2 sentences)

Answer:

d. What are two ways that might improve how evidence is collected for app-based interventions?

Answer:

Comparing applets and oranges: barriers to evidence-based practice for app-based psychological interventions



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ABSTRACT

Poor-quality pharmaceuticals and medical devices rarely make it to market; however, the same cannot be said for app-based interventions. With a high availability but low evidence base for mHealth, apps are an increasingly uncertain prospect to users and healthcare professionals alike. Although in a first-best situation, the burden of proof concerning app safety, clinical and cost-effectiveness 'should' ultimately lie with app developers; a number of barriers to evidence generation, including the fact that 'acceptable evidence' itself is largely open to interpretation, mean that it may be folly to expect this paucity of real-world effectiveness research to improve. While the health technology assessment of established therapeutic modalities including pharmaceuticals and talking therapies benefits from the existence of approved evaluative guidelines, unfortunately the same cannot be said for app-based interventions, specifically with regard to outcomes measurement. As such, it would seem that in order to prevent the comparative assessment of apps simply becoming an exercise comparing apples and oranges, there is a clear need for consensus and guidance for app developers, as to which patient-reported outcome measures, among the hundreds available, are of clinical use to those making decisions, and should therefore be used when developing app-based interventions. By negating the fear that any evidence collected may be of poor quality, we can reincentivise developers to engage in evidence generation, and in doing so, maximise the likelihood of evidence-based decision-making taking a firm hold. However, only by dispelling the ambiguity around what acceptable evidence can and should look like, can we begin to do so.

BACKGROUND

Untreated mental health disorders are now the single largest cause of disability in the UK,¹ affecting one in four people and costing the English economy ~£105 billion per year.² While waiting lists, demand³ and financial pressures⁴ for National Health Service (NHS) psychological interventions are on the rise, so is the use of apps and mHealth.⁵ It is estimated that 71% of Britons own a smartphone,⁶ 75% use smartphones or tablets to search for health information online⁷ and 90% would use online services to contact healthcare professionals, were these services available.⁶ When combined with the fact that the UK is the least expensive place in the world to engage with online solutions for digital health,⁸ the potential patient and health service benefits that could be achieved through the wider use of high-quality evaluated apps could be considerable.

However, despite the potential for apps to play a valuable role within NHS-led mental healthcare, not all apps available to consumers are likely to be clinically effective, and of those that are, only a small number can demonstrate a clear picture of real-world effectiveness through the use of patient-reported outcome data.⁹ Even with respect to NHS-accredited app-based psychological interventions, historically, as few as 15% have been backed by data to corroborate claims of effectiveness.¹⁰ However, this paucity of high-quality effectiveness data is not a new phenomenon concerning electronic medical technologies, with the medical device industry historically suffering a similar shortage of evidence.¹¹ This is because unlike pharmaceuticals, which are required to undergo years of rigorous and controlled assessment concerning safety, dosing and effectiveness, regulators are often evaluating medical devices at a very early stage of their market life cycle.¹¹ Subsequently, the extent of product exposure, data collection and research is typically very sparse and particularly so if considering any longer term outcomes and the sustainability of treatment effects.

BARRIERS TO EVIDENCE-BASED PRACTICE WITH APPS

Although the majority of health apps are not currently classed as medical devices, this shortage of outcomes research is also observed within the market for app-based psychological interventions. Despite the apps industry quickly gathering momentum, with ~165 000 health apps available online as of 2015,¹² an estimated 50% of such apps will receive fewer than 500 downloads across their entire product life

cycle.¹³ The result is that, if left to market forces, the rate of app uptake is likely to be prohibitively slow, thereby limiting the potential for app developers to gather sufficient data in order to power and detect meaningful treatment effects at conventional levels of statistical significance. This is likely to be particularly problematic if aiming to evaluate and publish data from apps within a time frame which is proportionate to the speed of app development, leaving a question regarding the value to app developers, of attempting to formally collect and analyse evidence of user outcomes at all.

This seemingly uncertain value of data collection in order to support any claims of effectiveness is likely compounded by a current absence of published guidelines for prospective app developers, as to how the merits of app-based interventions should be assessed. The result is that, unlike the structured and coordinated health technology assessment (HTA) of traditional health-generating technologies, including pharmaceuticals, talking therapies and medical devices, which benefit from the existence of approved guidelines¹⁴ and a much clearer path from development to reimbursement, it is currently largely unclear what constitutes a minimum acceptable standard of evidence for app-based interventions. When combined with the ambiguity as to the form any evidence should take, whether prospective or retrospective, the preferred methodologies to be applied, including randomisation and blinding, and the follow-up, comparators and time horizon that should be considered, the ability of developers to provide meaningful data to inform the debate regarding the merits of app-based interventions seems a long way from realisation.

But perhaps most importantly, and regardless of the methodology applied, in order to prevent the evaluation and comparison of app-based psychological interventions simply becoming an exercise comparing apples and oranges, there is a clear need for consensus as to which patient-reported outcome measures (PROMs), among the hundreds that could potentially be deployed by prospective app developers,¹⁵ should be incorporated when developing app-based interventions.

Some, including a recent perspective published in this journal,¹⁶ have noted that the use of traditional quality indicators may be unrealistic in the context of apps, naturally leading to a discussion around a range of potential alternative indicators which may be more conducive to gauging app quality. Such indicators however, which include accessibility, user experience and technical quality, while useful from a general

assessment standpoint, have uncertain links to effectiveness and cost-effectiveness. While each of these measures will intrinsically impact on the overall clinical efficacy of an app, in the absence of clinical PROMs, their individual powers as a gauge of efficacy and value are limited, as it is largely unclear how much the NHS would be willing to pay for an X percentage point improvement in usability. On the a priori that the primary purpose of app-based psychological interventions is to alleviate psychological symptoms and actively manage mental health concerns, it seems vital that the elicitation of clinical efficacy, obtained through the use of PROMs, is given much greater consideration.

A consensus must be reached as to which PROMs actually provide utility to those making real-world treatment decisions, whether in line with existing minimum clinically important differences as used by the Improving Access to Psychological Therapies (IAPT) programme,¹⁷ or the consistent application of alternative metrics which may be more conducive to use within apps. In the context of anxiety disorders, extensive questionnaires, including the 20-item and 18-item Beck Hopelessness Scale and Health Anxiety Inventory (HAI), designed to comprehensively assess mental well-being in routine clinical practice may be unsuitable for inclusion within app-based interventions. However, the less administratively burdensome and time-consuming 7-item Generalised Anxiety Disorder-7 (GAD-7) or short Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) may be better suited, especially when considering that meaningful data collection necessitates that such questionnaires be completed at baseline, post app use and ideally after a suitable period of follow-up.

In the absence of guidance to app developers as to which PROMs should be incorporated when building apps for the purpose of comparative assessment, the reality is that developers will simply continue to employ the metrics most likely to demonstrate the greatest efficacy for their product. Consequently, from the perspective of the clinician looking to provide high-quality support to patients, or the healthcare commissioner who may be considering the deployment of apps to supplement existing care pathways, applying a balanced, consistent and objective approach to the comparison of the costs and benefits, of the many app-based interventions currently available to consumers, both against one another and against existing NHS services, will be a significant challenge. Without the presence of a common denominator, it becomes almost impossible to compare the clinical and economic return on investment of a 10% improvement in self-belief from one app, a five-point reduction in the Penn State Worry from another and a three-point reduction in the Beck Depression Inventory from another, leaving a question as to which app is likely to deliver the greatest benefit to prospective users, and which, if any, should be recommended or funded in practice.

THE APP DEVELOPER'S PERSPECTIVE

While it is clear that in a first-best situation, the burden of proof concerning app safety, clinical and cost-effectiveness 'should' ultimately lie with app developers, the barriers to effective and meaningful evidence generation that currently exist, including the fact that 'acceptable evidence' itself is largely open to interpretation, mean that it may be folly to expect the potential value of app-based interventions to be unlocked any time soon. Much like the NHS, app developers are faced with trade-offs and decisions regarding how best to allocate their limited resources; yet, unlike pharmaceutical and established medical device manufacturers, the majority of app developers are likely to be small and lacking adequate research and development funding and analytical expertise. The highly competitive nature of the market for app-based psychological interventions means that potentially expensive and time-consuming data collection and analytics will inevitably incur opportunity costs, that is, 'what benefit could have been achieved with these funds if used alternatively?' As such, app developers are currently likely to have little incentive to engage with existing regulatory frameworks,

which rely on time-consuming and often expensive randomised controlled trials (RCTs), with perceived returns on investment for competing business development activities, including advertising and app updates, likely to be far in excess of those associated with evidence generation. This is likely to be particularly true if developers fear that in the absence of guidance regarding what standard of evidence is acceptable, any evidence provided may be of poor quality, thereby negatively impacting sales or in some cases, even their reputation.¹¹

REALISING THE POTENTIAL OF APP-BASED PSYCHOLOGICAL INTERVENTIONS

The high degree of competition and fast pace of development within the apps market, coupled with the minimal barriers to patients accessing apps, present a considerable opportunity for healthcare systems to benefit from the development of systems to improve the overall quality of app-based interventions. While poor-quality pharmaceuticals and medical devices rarely make it to market, the same cannot be said for app-based interventions, and it would seem that setting a high standard from the outset is vital to achieving long-term benefit for patients and the NHS. In certain therapeutic indications, apps could be deployed as a means of improving care quality and promoting efficiency, providing a temporarily sufficient 'bridging' treatment for those presenting with mild symptoms, and thereby allowing healthcare professionals to divert a greater amount of time to more challenging cases. Apps could be used as a relatively low-cost means of providing patient support and a continuity of care, and doing something when otherwise seen to be doing nothing, including providing coping strategies for those on waiting lists for talking therapies. Some app-based interventions may even turn out to be less effective and cost-effective than existing mental health services, and in some cases may even exacerbate mental health disorders or potentially widen existing health inequalities. Yet, before we can begin to address the many unknowns regarding the potential role and value of app-based psychological interventions within a 21st century NHS, and begin to maximise the potential of this infant therapeutic medium, we must first and foremost dispel the ambiguity around what 'acceptable evidence' to inform such decisions can look like.

Through acknowledging the current barriers to meaningful evidence generation that characterise the apps market, and adapting our approach to evidence generation accordingly, the NHS can begin to take full advantage of the current apps revolution, much the same way as the aviation, telecommunications and even taxi industries have done previously. A switch in emphasis, away from the traditional RCT and towards more pragmatic, less expensive and more widely available observational data, as suggested within this journal,¹⁶ is likely to present a significant step towards circumventing a number of the current barriers to mHealth evidence generation.

However, not all evidence is equal, and prior to committing, en masse, to new alternative methodologies, it is essential that we first and foremost lay the groundwork as to what we are trying to answer with studies in mHealth. Only through clarifying what 'acceptable' evidence can and should look like, including guidance as to what additional observational data are necessary in order to negate the possibility of confounding and pooling bias, and providing sufficient support for the funding, collection and analysis of user data, can we expect the potential benefits of this therapeutic medium to be realised.

Through raising the perceived importance and informative value of evidence generation, we can maximise the likelihood of evidence-based decision-making taking a firm hold, and as a result, benefit from timely and rigorous assessment of app-based interventions, rather than the current reality of a trade-off between the two. In doing so, we can begin to generate meaningful clinical and economic insights that can help shape and improve the standard of care with respect to mental health services, and highlight which of the thousands of app-based interventions currently available to consumers are likely to result in

measurable clinical benefit and at a reasonable price (this applies to the NHS in the UK, but can be extended to other countries as well). However, only by providing sufficient incentives for app developers to collect patient-reported outcomes, providing a clear means of navigating the currently complex and uncertain regulatory landscape, and making it clear exactly what form of evidence is required, can we begin to do so.

Competing interests SL is an advisor to Mined Access, a company creating apps to deliver solution-focused brief therapy (SFBT).

Provenance and peer review Not commissioned; externally peer reviewed

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Information, Advice and Guidance Homework – Tutorial 4



Student Finance and Revision

You have received a booklet with a set of Information, Advice and Guidance (IAG) resources on applying to university over the VLE.

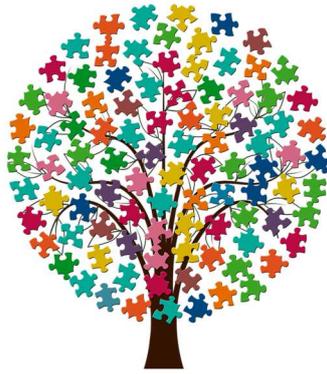
If you have not received this booklet, please let your PhD Tutor know as soon as possible.

Please spend 15 minutes this week on three topics from the resources listed below.

Write down one thing that you already knew, and one thing that you did not know before.

IAG Topics	Something you already knew	Something you did not know before
Student finance		
Additional resources (Optional)		

Tutorial 5 – Review session



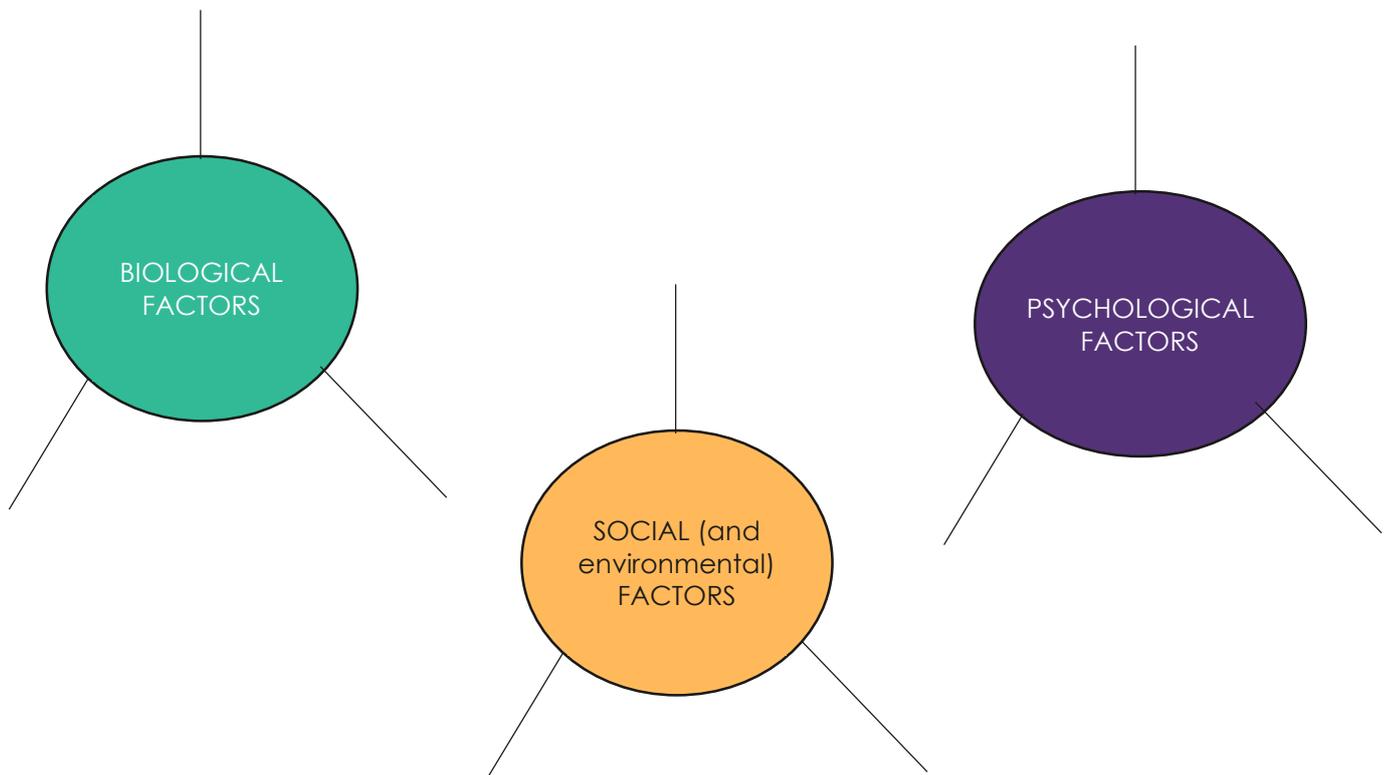
What is the Purpose of Tutorial 5?

- Review what we've learned: the biopsychosocial model of mental health and the different biological, psychological and social causes of anxiety and depression in young people; how research in these areas is carried out and different types of research designs; what is meant by evidence-based treatment and how it might help a young person with anxiety or depression
- Practice skills of using databases and finding journal papers that are relevant to your topic
- Prepare for the final assignment - essay structuring and referencing

1. How everything links together

Activity

In 5 minutes, write down as many key terms and concepts as you can around the three spider diagrams. Then swap with your partner and spend a further 3 minutes adding to their spider diagram.



Spend a few minutes talking to your partner about 3 things you found most interesting about the course and the 3 most challenging things about the course.

2. Preparing to write the essay and how to reference correctly

“Knowledge is the enemy of disease” – Sir Muir Gray, NHS England

Thinking about your homework, why is it important to have evidence-based research?

Answer:



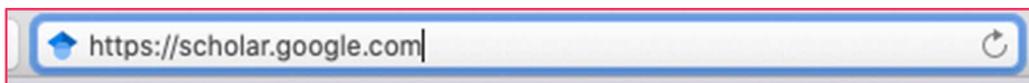
Key point: Well-conducted research uses evidence in a way that...

- *Is balanced and limits bias*
- *Acknowledges uncertainty*
 - *Includes references*
- *Uses consistent language*
 - *Is impartial*

(De Brun, 2013)

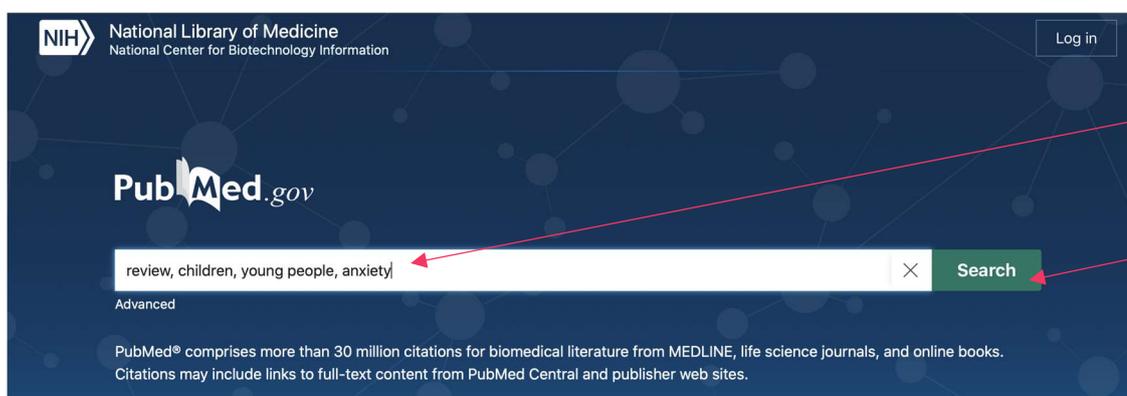
Searching and evaluating the academic literature (e.g., books, journal articles, reports) for your particular topic helps us to produce strong evidence-based research.

Google Scholar is one of the most useful tools for this task, which you were introduced to in Week One for the Baseline Assignment.



Not all research articles will be free to view. Another way to search the literature is using an academic database that lets you filter for open access texts which are free for everyone.

Example: PubMed.gov



1) Type in your keywords (try several in combination with each other)

For example: “children, risk factors, anxiety” or “children, youth, depression, CBT”

2) Press search

The screenshot shows the PubMed search interface. The search bar contains the text "review, children, young people, anxiety". Below the search bar, there are buttons for "Save", "Email", and "Send to". The search results are sorted by "Best match". On the left side, there are filters for "MY NCBI FILTERS", "RESULTS BY YEAR" (with a bar chart showing results from 1983 to 2020), "TEXT AVAILABILITY" (with checkboxes for "Abstract", "Free full text" (checked), and "Full text"), "ARTICLE ATTRIBUTE" (with a checkbox for "Associated data"), and "ARTICLE TYPE". The main results area shows 257 results. The first result is "Practitioner Review: Anxiety disorders in children and young people - assessment and treatment." by Creswell C, et al. The second result is "Mental Imagery in Social Anxiety in Children and Young People: A Systematic Review." by Chapman J, et al. The third result is "Practitioner review: health anxiety in children and young people in the context of the COVID-19 pandemic." by Haig-Ferguson A, et al. A red box labeled "1" points to the "Free full text" checkbox in the filters. Another red box labeled "2" points to the "Free PMC article" label in the second result.

1) Select "Free full text" and you'll see that some articles say "Free PMC article"

2) Select this text...

The screenshot shows the article page for "Mental Imagery in Social Anxiety in Children and Young People: A Systematic Review" by Jennifer Chapman, Brynjar Halldorsson, and Cathy Creswell. The article is published in "Clin Child Fam Psychol Rev." in 2020. The PMID is 32297091 and the PMCID is PMC3766604. The article is labeled as a "Free PMC article". The abstract is visible. On the right side, there are "FULL TEXT LINKS" including a SpringerLink button and a "PMC Full text" button. Below the links are "ACTIONS" (Cite, Favorites) and "SHARE" options (Twitter, Facebook, LinkedIn). A red box labeled "1" points to the "PMC Full text" button.

You will then see a button under "Full text links" where you can access the full text for free.

Key point: can't get the article for free? Don't worry!

Even if you can only see the article's abstract, this is very useful to give you an overview of the study and it might be all the information you need to support the point you make in your essay. As researchers, we don't have time to read every article we come across so abstracts make a great starting point.



Other academic databases you could use include

- JSTOR: <https://www.jstor.org/?refreqid=search%3A455c83caa3f91e3c35ba2c94f1779b85>
- Taylor & Francis Online: <https://www.tandfonline.com>
- Science Direct: <https://www.sciencedirect.com>

How to read a research paper

- 1) **SKIM:** get an overall picture by reading the abstract carefully, scanning the title, keywords, headings and subheadings.
- 2) **RE-READ:** read again and ask yourself these questions:
 - What is the main question of this paper? What are they trying to understand or do?
 - Are the findings supported by evidence?
- 3) **INTERPRET:** read the discussion and results sections, and look at the graphs and tables. See if the authors have found any new findings and whether they mention any limitations/issues with their study.
- 4) **SUMMARISE:** taking notes and highlighting points you think are particularly important as you go along will help you understand all the important information.

Referencing correctly: part one, referencing within the text of your essay

1. If you want to reference someone's work in a sentence, *paraphrase* what they say. This means using your own words without changing the original meaning by the author.

Here are some examples of paraphrasing and referencing what you've said in a sentence:

Number of article authors	Example
One author	"Wilson (2020) explores the current state of youth mental health research and considers the future direction of travel."
Two authors	"Hirsch and Matthews (2012) proposed a cognitive model of worry in adults that consists of three key elements."
Three or more authors	"Eriksson et al. (2018) provide a comprehensive look at Bronfenbrenner's ecological systems theory (1977) and explore its practical application in public mental health settings."



Key point: Paper has 3+ authors?

Only write down the surname of the first author, and follow it with "et al."

The names of the other authors will go into our referencing list at the end of the article/essay.

2. If you want to quote directly from an article:

Conclusions from a recent editorial reminds us that "there is no one-size-fits-all solution to tackling the mental health crisis" (Wilson, 2020, p.373)

Wilson (2020) suggests that "there is no one-size-fits-all solution to tackling the mental health crisis" (p.373).

3. For direct quotes of more than 40 words show the quote as an indented block of text, without quotation marks, and include the authors' names, year, and page number in parentheses (brackets) at the end of the quote. For example:

Our current findings, along with previous observations, emphasize the significant role of individual circumstances on the settings of the HPA axis. Notably, the contribution of unshared environmental factors on cortisol production was considerable and was found to increase with age, implicating a predominant role of individual circumstances with aging. (Van Keulen et al., 2016, p. 450)



Key point: There are lots of different referencing styles.

In the social sciences, the most common ones are Harvard, Vancouver, Chicago and APA 7. In psychology, we use APA 7, which is the style I have used in this handbook and in the examples here.

Referencing correctly: part two, a reference list at the end of your essay

At the end of your essay, put all of your in-text references into a list in alphabetical order. For example, look at the section of this handbook called "References in Full". See below for some examples:

1. Academic journals: Author(s), (Year of publication). Title of article. *Name of Journal*, Issue number(volume), page numbers #-#. DOI.

Example of academic journal reference:

Grist, R., Cliffe, B., Denne, M., Croker, A., & Stallard, P. (2018). An online survey of young adolescent girls' use of the internet and smartphone apps for mental health support. *BJPsych Open*, 4(4), 302-306. <https://doi.org/10.1192/bjo.2018.43>



Key point: DOI stands for Digital Object Identifier.

It is a way to identify an article or document, much like having student ID numbers or an NHS number.

2. Book chapters: Author(s), (Year of copyright). Title of book chapter. In author(s) of editor(s) (Eds.), *Title of book* (Edition., page numbers #-#). Publisher. DOI or URL (if known).

Example of book chapter:

Knapp, M., McDaid, D., & Wilson, E. (2018). Money Matters: Funding Care. In A. Martin, M. H. Bloch, & F. Volkmar (Eds.), *Lewis's Child and Adolescent Psychiatry: A Comprehensive Textbook, 5th Edition*. Wolters Kluwer.

3. Webpage of a website with a group author: Name of organisation. (Year, Month). Title of article or webpage. URL.

Example of website:

World Health Organization. (2018, March). Questions and answers on immunization and vaccine safety. <https://www.who.int/features/qa/84/en/>

4. Webpage on a news website: Author. (Year, Month, Day). Title. News organisation. URL

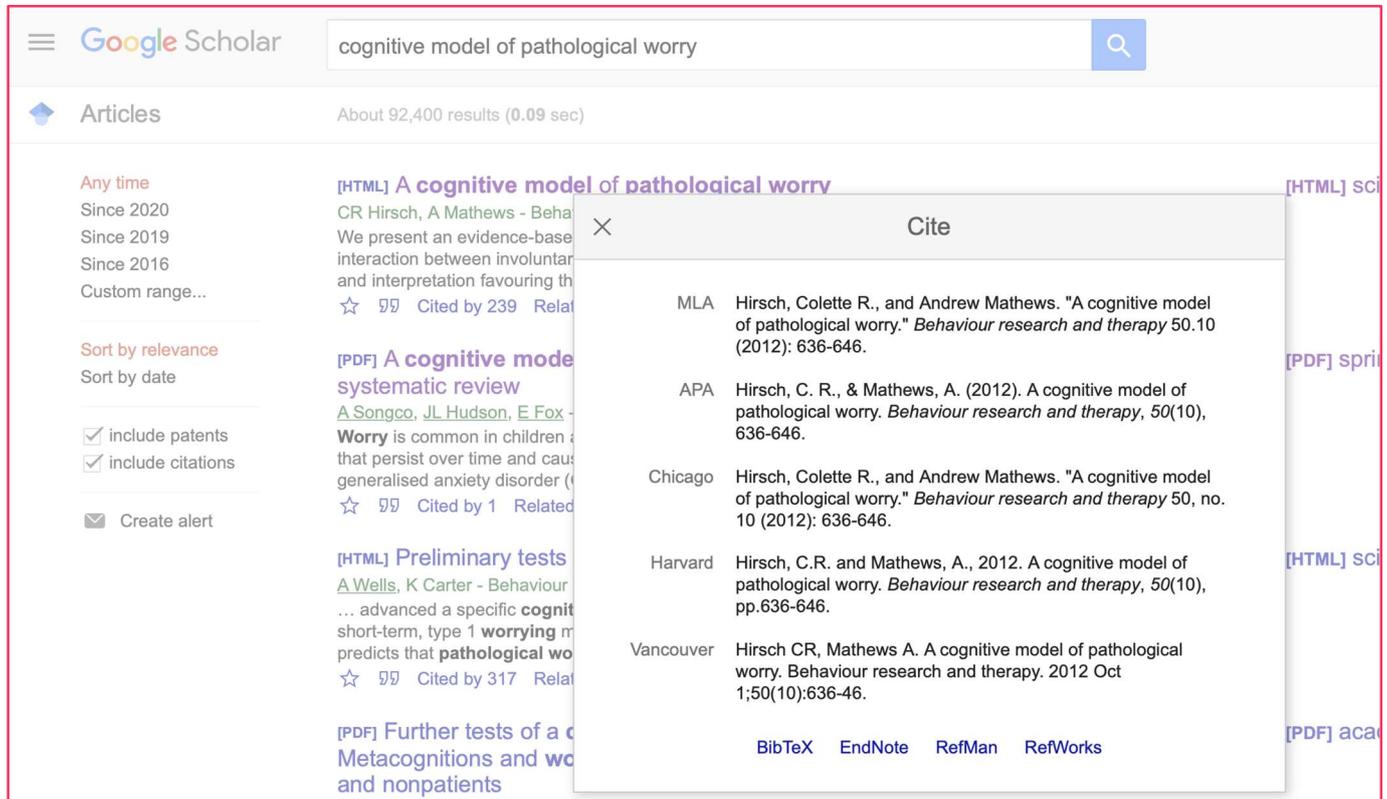
Example of article on news website:

Cosslett, R.L. (2020, August 29). For many teenagers, lockdown has been a lesson in wellbeing. <https://www.theguardian.com/commentisfree/2020/aug/29/teenagers-lesson-schools-pandemic>

Quick ways to find the full reference (but it's ok to write by hand too!):

1. Google Scholar

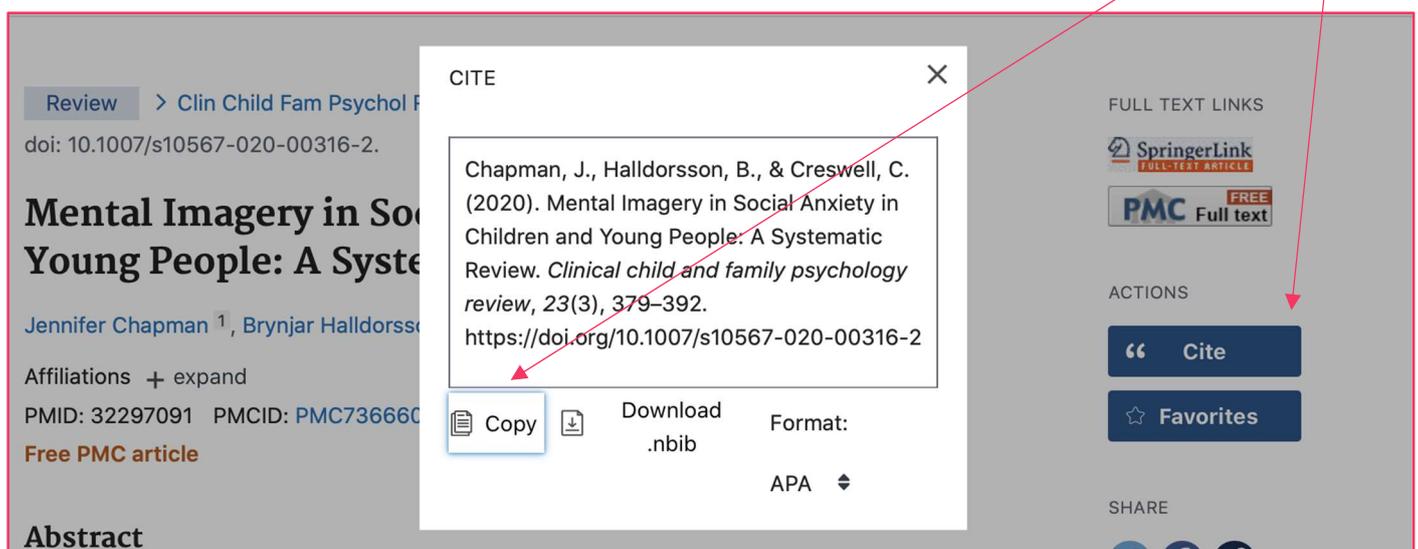
One easy way to get a reference is by selecting the  button in Google Scholar and copy and pasting the text from the "Cite" pop-up box into your reference list. Sometimes the DOI and other elements are missing, so do check the details by going onto the journal website if necessary.



The screenshot shows a Google Scholar search for "cognitive model of pathological worry". The search results list several articles. A "Cite" pop-up window is open over one of the results, displaying citation information in various formats: MLA, APA, Chicago, Harvard, and Vancouver. The citation text includes the authors (Hirsch, Colette R., and Andrew Mathews), the title ("A cognitive model of pathological worry"), and the journal information (*Behaviour research and therapy*, 50(10), 636-646, 2012). The pop-up also includes options for "BibTeX", "EndNote", "RefMan", and "RefWorks".

2. On the journal database

Here's an example from PudMed: 1) Press Cite, 2) Copy text



The screenshot shows a PubMed article page for "Mental Imagery in Social Anxiety in Children and Young People: A Systematic Review" by Jennifer Chapman, Brynjar Halldorsson, et al. (2020). The article title is highlighted in red. A "CITE" pop-up window is open, showing the citation text: "Chapman, J., Halldorsson, B., & Creswell, C. (2020). Mental Imagery in Social Anxiety in Children and Young People: A Systematic Review. *Clinical child and family psychology review*, 23(3), 379–392. https://doi.org/10.1007/s10567-020-00316-2". Below the citation text are buttons for "Copy" (highlighted in red) and "Download .nbib". The "Format" dropdown is set to "APA". On the right side of the page, there are buttons for "Cite" (highlighted in red) and "Favorites". Red callouts with numbers 1 and 2 point to the "Cite" button and the "Copy" button, respectively.

1

2

PubMed.gov search results for "mental imagery social anxiety". The search bar contains the query and a "Search" button. Below the search bar are options for "Advanced", "Create alert", "Create RSS", and "User Guide". The results section shows "45 results" and a "RESULTS BY YEAR" bar chart. A citation popup is visible for the first result: "Mental Imagery in Social Anxiety in Children and Young People: A Systematic Review. Chapman J, Halldorsson B, Creswell C. Clin Child Fam Psychol Rev. 2020 Sep;23(3):379-392. doi: 10.1007/s10567-020-00316-2." The popup includes options to "Copy", "Download .nbib", and "Format: APA".

Useful website for further information: <https://apastyle.apa.org/instructional-aids/reference-guide.pdf>

Critically analysing the literature

What makes a good research study that you might want to use to support your evidence? Here are some things to look out for:

- The sample size (if there are only a few participants, it is less likely we can make a generalisation about the findings; larger sample sizes often give us more confidence that findings can be relied on)
- How were participants recruited and how many participants groups are there (i.e., is there a control group? Is it a randomised control trial (the "gold standard" of research), where researchers don't know who has been placed into which group (something which reduces bias, or cheating)?
- In the Measures section of the paper, does the study say it has used measures which have been validated in other papers or have they made up the scale themselves?
- Does the study's conclusion align with the study's findings and do the authors link their findings to the existing literature in the field? This is helpful for comparability.
- Number of citations their paper has on Google Scholar. Keep in mind that older articles are more likely to have more citations than articles published in more recent years.

Google Scholar search results for "online intervention, anxiety, depression, youth, children". The search bar contains the query. The results section shows "Articles" with "About 240,000 results (0.20 sec)". A result is highlighted: "Review of internet-based prevention and treatment for depression in children and adolescents" by AL Calear, H Christensen - Medical Journal of Australia, 2010 - Wiley. The citation information shows "Cited by 234".

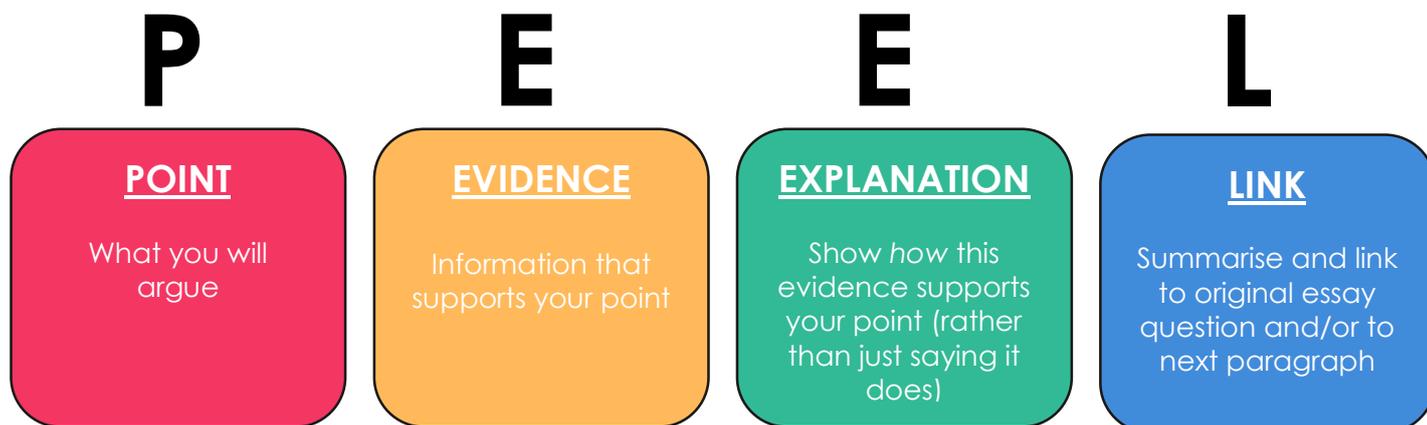


Key point: "cited by" refers to how many other research articles have used this paper as a reference. Papers with high citations are probably quite influential in their field.

3. What makes a good essay?

The PEEL approach

You may have come across this in your History classes and it's an approach often used at A-Level. By formulating each paragraph using PEEL, it helps keep your paragraphs focused, allowing you to explain your ideas clearly, with a structure that allows you to expand and analyse your points effectively.



A consistent, formal style

Here are some useful linking words to consider when presenting information and making your point.

Writing in sequence	Introducing alternative points of view	Useful verbs
First(ly); second(ly); third(ly)	By contrast; another way of viewing this is; alternatively; rather; one alternative is; another possibility is;	Argues States Insists Hypothesises
Another; in addition; finally	On the one hand... on the other hand	Claims Believes
Moreover; additionally; also; likewise	In comparison; though; although; on the contrary	Proposes Suggests
Next; then; to conclude; lastly; finally	Despite; regardless	Indicates Demonstrates Shows Finds

Essay writing reflection

Use the checklist below to reflect on your essay writing ability at the moment. Read the statements for each skill and then tick the box that most closely fits how you currently feel about your ability to do that skill.

You will use this to help your PhD tutor give you feedback in your next tutorial. They will give you specific advice on how to improve these areas in relation to your draft assignment so be completely honest.

Addressing the question			Using evidence		
I can... <ul style="list-style-type: none"> identify what the title or question is asking me to do select relevant information from the course to answer the title or question explain why the information I have used is relevant 			I can... <ul style="list-style-type: none"> select evidence that supports my points link evidence to my points and ideas clearly and convincingly explain how my evidence supports my points use references 		
I feel...			I feel...		
Confident	Partially confident	Not confident	Confident	Partially confident	Not confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Developing an argument			Critical evaluation		
I can... <ul style="list-style-type: none"> include a point of view or position in response to the title or question develop and explain my point of view argue why my point of view or position is correct 			I can... <ul style="list-style-type: none"> ensure I analyse events and information rather than just describe them assess the relevance and significance of the ideas and examples I am writing about 		
I feel...			I feel...		
Confident	Partially confident	Not confident	Confident	Partially confident	Not confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Structuring			Use of language		
I can... <ul style="list-style-type: none"> arrange my points in to a logical order write paragraphs that focus on one idea or point each write an introduction that explains how I will deal with the issues of the essay write a conclusion that sums up my main points 			I can... <ul style="list-style-type: none"> minimise spelling, punctuation and grammar errors ensure my writing makes the meaning clear and easy to follow write using and appropriate tone and level of formality 		
I feel...			I feel...		
Confident	Partially confident	Not confident	Confident	Partially confident	Not confident
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Homework

Prepare a draft assignment of your final assignment.

- This should be around 1 page in length.
- Use bullet points to **outline** what will be in each paragraph and how you will structure your essay into relevant sections based on the questions.

You may also wish to make some notes:

1) Research I need to do

2) Question to ask in the next tutorial

Final assignment

Please write a 2,500-word essay about anxiety **or** depression in young people. This essay should be composed of three parts:

Part 1) Describe the biopsychosocial model of mental health by explaining the different components (biological, psychological and social factors). This section doesn't have to be tailored to the condition you have chosen. (approx. 350-450 words)

Part 2) Provide one biological, one psychological and one social factor that can help explain the development of anxiety **or** depression in young people. For each of these three factors, argue why it provides a stronger explanation for the development of anxiety or depression than other possible factors. Use the academic literature to justify your arguments, ensuring that you use references as well as critical analysis. (approx. 1,700-1,800)

Part 3) Critically present an evidence-based psychological treatment for your chosen condition (i.e., anxiety or depression). To what extent can this treatment help young people with this condition? (approx. 450-550 words)

Support the arguments you make in your essay by using evidence-based research.

Tutorial 6 – Draft assignment feedback and reflection

What is the Purpose of Tutorial 6?

- To received feedback on your draft assignment
- To reflect on your essay writing skills
- To identify practical ways to improve your assignment

What three things can you now do to improve your assignment and your essay writing ability?

1

2

3

Tutorial 7 – Final assignment feedback and reflection

What is the Purpose of Tutorial 7?

- To receive feedback on final assignments.
- To write targets for improvement in school lessons.
- To reflect on the programme including what was enjoyed and what was challenging.

Final assignment feedback

What I did well...	What I could have improved on...
<ul style="list-style-type: none">•••	<ul style="list-style-type: none">•••

My target for future work is...

Reflecting on The Scholars Programme

What did you most enjoy about The Scholars Programme?

-
-
-

What did you find challenging about the programme?

-
-
-

How did you overcome these challenges?

-
-
-

References in full

Week One

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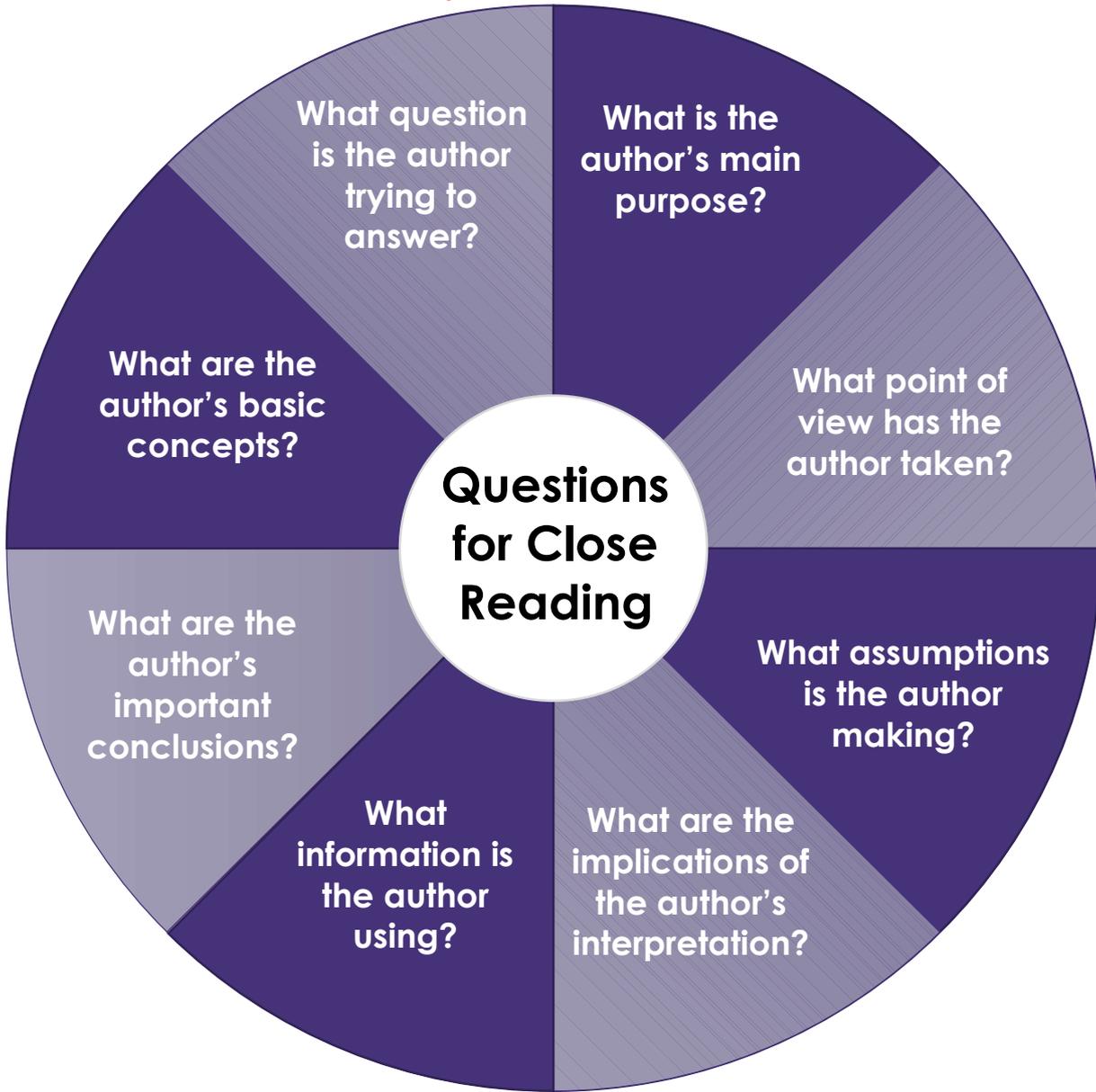
Appendix 1 – Finding and Evaluating Good Academic Sources

There are so many places to get information that it is important to decide if something will be a good **academic** source for your homework or final assignment. When assessing a source, you don't have to read the whole thing to decide if you may want to use it. Instead read the first paragraph or so and use the checklist below to help you decide if this is a good academic source.

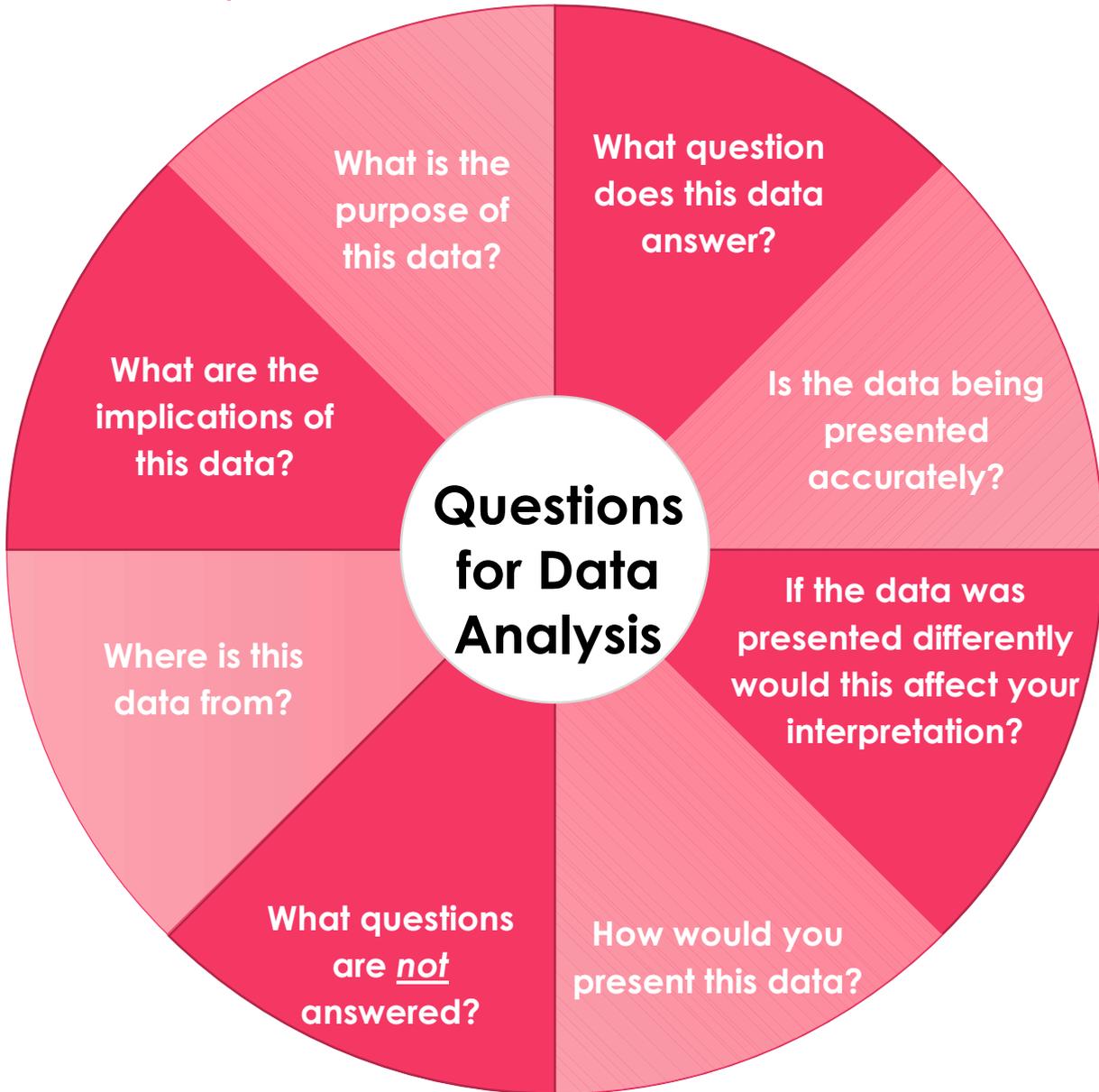
	Questions to Ask	
A uthority	<input type="checkbox"/>	Who is the author? (this could also be an organisation, rather than a single person)
	<input type="checkbox"/>	Check their credentials: what knowledge or skills do they have that lets you confirm they know what they're talking about?
R eliability	<input type="checkbox"/>	Does the information appear correct?
	<input type="checkbox"/>	Does the author tell you where they got their information from?
	<input type="checkbox"/>	Has the information been reviewed or checked by others?
R elevance	<input type="checkbox"/>	Does the source talk about the topic clearly and effectively?
	<input type="checkbox"/>	It is up-to-date? If not, is there a good reason to use an older source?
	<input type="checkbox"/>	Does it provide new and useful information for you?
O bjectivity	<input type="checkbox"/>	Does the author explore or acknowledge multiple points of view?
	<input type="checkbox"/>	Are they stating mostly facts? Evidence? Opinion? – Remember opinion is fine, as long as it is supported by reliable evidence.
	<input type="checkbox"/>	Does the headline or text try to make you scared or angry about the topic? If so, it might not be the best academic source.
W riting Style	<input type="checkbox"/>	Is the source well organised? (Or is it difficult to follow the author's point?)
	<input type="checkbox"/>	Does the text sound academic? (Or is it informal or chatty?)
	<input type="checkbox"/>	Are the author's points backed up by evidence and do they let you know where that evidence came from?

If you're not sure if something would be a good academic source, **send your tutor a message on the VLE** and they can help you evaluate the source together.

Appendix 2a - Close Reading Tool – Starting a Conversation with your Text



Appendix 2b - Data Analysis Tool – Investigating how data is represented



Appendix 3 - Referencing and Plagiarism

You may well have heard of plagiarism before, and to have heard that it is something that you need to avoid.

Plagiarism is seeking to pass off the work of others as your own and is considered a form of cheating. Universities take a very strict line on **plagiarism** which can sometimes even result in being removed from a course.

How do you avoid **plagiarism**? There are two essential parts to this:

1. Understanding what needs to be referenced
2. Referencing your sources clearly and correctly

What is a reference?

A reference is just a note in your assignment which says if you have referred to or been influenced by another source such as book, website or article.

Needs to be referenced	Does not need to be referenced
<ul style="list-style-type: none">• Direct quotations e.g. 'A diet low in fruit and vegetables is 'among the top mortality risk factors all over the world'• Paraphrased material e.g. For both men and women, adopting a vegetarian diet can significantly reduce the risk of premature death.• Facts, figures or statistics e.g. Healthy diet, exercise and being a non-smoker can increase life expectancy by 9 – 15 years.	<ul style="list-style-type: none">• Facts already common knowledge e.g. A vegetarian diet is one that excludes meat.

What would a good reference look like?

Text: The proponents of vegetarian, vegan or largely plant-based diets argue that, coupled with regular exercise and being a non-smoker, these diets can increase life expectancy – some studies suggest by up to 15 years [1].

Endnote: [1] Salonen, Arto O. & Helne, Tuula, T., 'Vegetarian Diets: A Way towards a Sustainable Society', *Journal of Sustainable Development* 5:6 (2012), pp. 10-24, (p. 11).

There are a number of different ways of referencing, and these often vary depending on what subject you are studying. The most important thing is to be consistent. This means that you need to stick to the same system throughout your whole assignment.

The example here shows how we would recommend you reference in your Final Assignment.

If you're not sure if something you have used in your essay needs to be referenced, **send your tutor a message on the VLE** and they can help you decide if it needs citation and write a reference. But as a general rule, **if in doubt, reference**.

Appendix 4 - Planning Effectively and Time Management

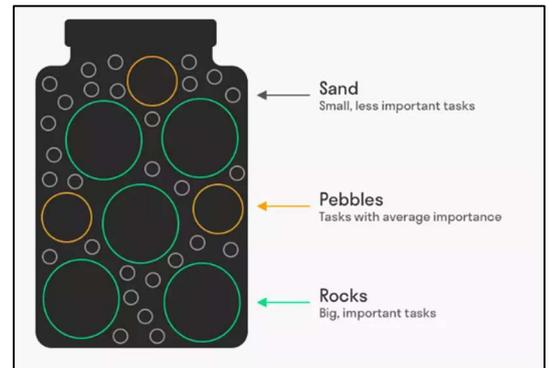
There are lots of things we want to do, need to do and would like to have time for. How do we **manage our time** so that we get all the essentials done, and even have time for some extras? We have some techniques you can try.

'Pickle Jar' Theory

If you have to fit stones of different sizes into a jar, they won't fit if you put the sand in first. But if you put the **rocks** in then the **pebbles** then the **sand**, there's enough room.

This theory suggests you should apply the same logic to your time: put in the **essential** tasks first, then the **important** tasks, then **everything else**.

Of course, you have to decide for yourself what is **'essential'**!



Backwards Planning

1. Work backwards from your deadlines
2. Put the **essentials** in first
3. Estimate how long tasks will take to make sure you start them in good time

Plan your week

Use the grid below to 'backwards plan' your week, putting in the **essentials** first, then the **important** tasks, then any **less important** things you'd also like to get done.

Monday	Tuesday	Wednesday	Thursday	Friday

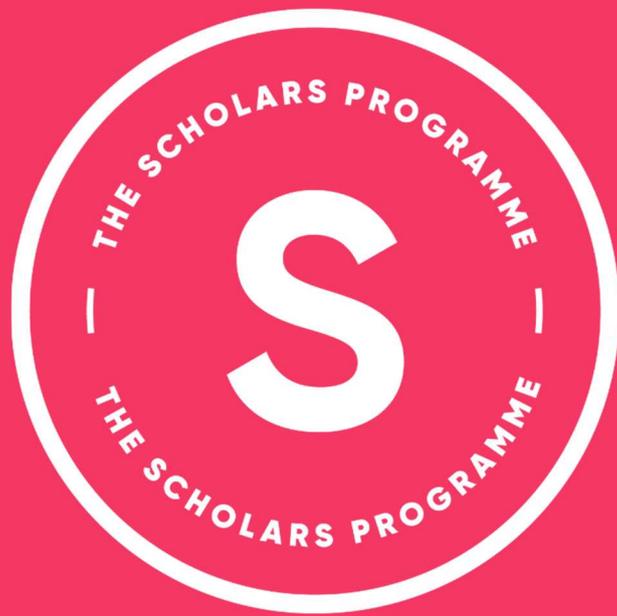
Appendix 5 - Writing an Effective Essay

		Where should I do this?	Have I done this?
R	Restate the Question	In my introduction	
A	Answer the Question	In my introduction	
G	Give evidence from other sources	To support any points I make in my paragraphs	
E	Explain how your evidence proves your point	Each time I give evidence	

Easy Essay Writing Wins

- Prepare an outline or mind map your ideas
- Make sure your essay has a clear structure
- Analyse don't describe! Description is great to introduce a topic, but make sure your essay also includes your argument and interpretation of the evidence you use
- Remember to PEEL (Point, Evidence, Explain, Link) and RAGE
 - Use relevant evidence and research to support your points
 - Link it back to the question and explain why your point answers the question
- Look at the mark scheme in your handbook or ask your tutor for help if you're not sure what to write.

Notes



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