Independent Synoptic Project Handbook

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Overview

This handbook will act as a guide for you as you write up your Independent Synoptic Project. We appreciate that students will produce projects personal to them and will cover an array of different topic areas, however, we are looking for some structural consistency across the submissions. This handbook will ensure that a structural outline is provided to encourage targeting of the project to meet the module learning outcomes that are outlined in the Independent Synoptic Project Module Guide. There is a need for projects to be uniform in their structure, content and formatting independent on the type of project you are undertaking. This is to reflect the nature of project structure and report writing in science. In addition, the 'Scientific Method' adopted in both psychology and neuroscience research (to varying degrees) requires, amongst other things, that replication of findings should be possible. Thus, projects must be written clearly and provide all relevant information. Science should be open to public scrutiny and therefore, ideas and results need to be efficiently and parsimoniously communicated.

In writing your project, your aim should be to try to emulate the good practice of established researchers. They write their reports with the intention of submitting them to journal editors to be considered for publication and with the hope that other researchers will read and be influenced by their paper. This may seem a very ambitious aim for you as a postgraduate on a taught MSc, but it provides three clear benefits. First, adhering to the required writing style will allow markers to better understand and follow your report. Secondly you will be much better able to evaluate the published work of others. Finally, through the selected formatting as outlined below you will gain valuable practice and knowledge as to how to prepare a report or research proposal close to the formats that are requested by publishers. Focusing on formatting may seem overly 'fussy', but it shows an attention to detail, something essential in scientific practice. For this Independent Synoptic Project, we allow students to write their projects in one of three types/formats, all linked to research in psychology and/or neuroscience: 1) a Research Article (primary or secondary data), 2) a Research Proposal, 3) a Narrative Synthesis Systematic Review (for quantitative data) or Meta-synthesis Systematic Review (for qualitative data). A more in-depth outline follows below.

There are several reporting styles used by publishers in psychology and neuroscience, and these share many similarities. However, by far the most widely adopted is the style of the American Psychological Association (APA) now in its 7th edition (APA; 2019) and this is the style that has been adopted by the MSc PNoMH and Applied Neuroscience team, and so should be used for your Independent Synoptic Project in-text citations and reference lists.

Submission Formatting guidelines

Presentation, Line Spacing and Fonts

Your project should be submitted using the coversheet provided. You should indicate your word count on the space provided but should NOT make any changes to the text on the coversheet. If you have any questions on the coversheet, please contact the programme team.

There are no strict rules regarding fonts for your submission, but please use an easily readable and formal serif or sans serif font such as Arial, Times New Roman, Verdana, Garamond or similar. We suggest size 12 font and double-line spacing for your main project sections (apart from abstracts, tables, references, and appendix which can all be single-line spacing).

Avoid using italics, underlining or bold to 'add emphasis'; use only where directed as 'special' formats. For emphasis/specific use of a term/phrase use '....'. Use "...." only for actual quotations (which should be appropriately cited and referenced).

You may include tables and figures to support your writing, or you may prefer not to include these (some guidance is offered as to the number of tables/figures you may wish to include below). They should be used sparingly and are not a substitute for the main text. Tables can be helpful to consolidate information that you refer to in the text. Figures can help illustrate important concepts. A font size of 10 points may be used for table content and references - only. All text should be either left aligned or justified, with the exception of some parts of tables (which may be centre aligned, although decimal points should line-up). Make sure you clearly refer to figures or tables in your text e.g., 'Figure 2 demonstrates…', 'Table 1 summarises…'. Consider if you need to use a reference for any figures – if you have copied the image, you will need to cite the original figure; if you have adapted the image then you should write 'adapted from' and the reference. We recommend that you develop your own tables and figures, using your own words. A useful resource for this is the KEATS course 'Graphic Design for Scientific Visual Communication' (https://keats.kcl.ac.uk/course/view.php?id=89591).

Word count

The word limit is strictly a maximum of 5000 words for the main body/sections of the project. The usual +10% words is **not** applicable to this submission. Your marker will stop marking once they reach the word limit and you will be penalised by 5 marks if you exceed the word limit.

The word count includes:
- Headings and subheadings
- In-text citations
- Text in tables (apart from tables included in narrative synthesis reviews, and extracts/quotes given as part of Qualitative data presentation for Research articles) – *See further details in Project format sections*

- Figure and table descriptions/legends (that are written beneath the figure/table)
- Footnotes (if lengthy or used repeatedly – try to avoid this)

The following are not included:
- The abstract (although this should not exceed 250 words)
- The title (general rule of thumb maximum 16 words)
- Brief text *within* figures e.g., if you develop your own figure or use an existing image, which contains text, this text will not be included; we will include the description (see above). Please note if the figure contains a large amount of text, it should be explained in the submission as the marker will not include the text in the marking.
- Brief footnotes (1-2 short sentences, used sparingly and appropriately)

Note on in-text citations – please note when reporting results in evidence-based research it is not common to quote authors, it is more usual to report the findings in your own words.

Margins

To provide room for feedback and to maintain consistency, use the margins stated below:
25.4 (2.54 cm) mm top and bottom, 25.4 (2.54 cm) left and right (all minimum).

Page Numbers and Headers

All projects should include a header (right-hand side at the top of page) that includes your student ID number and the page number. Page numbering should start from the first page for projects (do **not** start new pages between sections).

Abbreviations, Acronyms and Contractions

Abbreviations and acronyms should be used sparingly to ensure maximum clarity. The reader should not have to keep referring to an explanation of an abbreviation earlier in the text. This is particularly the case for names of conditions and variables – for these use short but fully identifiable terms, rather than abbreviations. No more than three or four key abbreviations should be adopted in a report. Equally, to avoid confusion for your reader keep acronyms to a minimum.

In the first instance for both abbreviations and acronyms the full name/term must be written in full before the abbreviation/acronym are given in parenthesis. The only abbreviations that may be used without explanation are 'et al.' (as part of a citation), and scientific abbreviations (e.g., 'm' for meter, 's' for seconds, *M* for mean when in parenthesis, *SD* forstandard deviation when in parenthesis). It is recommended that in the Abstract you

use the full name and do not give the abbreviated form there but repeat the full name with abbreviated form in the Introduction (or later).

Use the following Latin abbreviations **only** in parenthesis (which are these around this text) (these [{}] are brackets!):

e.g., i.e., etc., vs., viz., cf.

In the text you should write in full, they are, respectively:

for example, that is, and so forth, versus, namely, compare

The ampersand '&' character should only be used in parenthesis and in references, in all other cases use 'and'.

Do **not** use **contractions**: words such as can't, or don't – write these in full – your report should be a formal piece of writing and not include 'chatty colloquialisms' or 'text speak'.

Numbers

All measurement reporting is done in metric units. The numbers zero through to nine are spelled out (except when it is a table or figure number, or a measurement, or in parentheses). The numbers 10 and above are written as numbers (i.e., digits). However, try to be consistent within a sentence. Avoid using digits at the beginning of a sentence. For example, rather than '100 participants…' use 'The 100 participants…', or 'One hundred participants…'

Capitalise nouns followed by numerals or letters that denote a specific place in a numbered series. For example, 'As can be seen in Figure 3, during Block 4 of Session 2…'; this contrasts with four blocks and two sessions. In the Abstract, use digits for all numbers except when they begin a sentence.

Decimal Places

Note that descriptive statistics (e.g., means and standard deviations) should be reported to **two** decimal places, although this is dependent upon the precision of the measurement used. For example, milliseconds should be reported in **'whole numbers'**, as a millisecond is very small in terms of a human response and to use an even smaller value is of no benefit besides being cumbersome.

Figures within analyses notations should be reported to **two** decimal places, **except for** p values. For example, $r = .65$, or $F = 2.34$, or $p = .058$.

Where the maximum possible value of a statistic is 1, do not put a 0 before the decimal point; where the maximum value can exceed 1, do use a whole number (including 0) before the decimal point. For example, $r = .65$ rather than $r = 0.65$, and $F = 0.346$ rather than $F = .346$, and $p < .01$ rather than $p < 0.01$. For further information on APA in-text writing please see Appendix 1

Paragraphs

Use paragraphs appropriately to divide content into sections. The basis of this should be on the nature of the content, not the length. Do not use a paragraph just because you feel it is time to. The first sentence of a new paragraph should be **independent** of the preceding sentence (therefore, it should not start with a 'connecting' word, e.g., however, thus, etc.). Format either by indenting the first line by 5 points/1cm, or by leaving a blank line between. Do **not** use both together, or use inconsistently throughout your report.

Headings

Use the four levels of headings given below in your project – do **not** number:

FLUSH LEFT, BOLDFACE UPPERCASE, FONT SIZE 14 (LEVEL 1)

Flush Left, Boldface, Uppercase and Lowercase, Font size 12 (Level 2)

Indented, boldface, lowercase paragraph heading, using the same font size as for the main text (Level 3)

Indented, boldface, italicized, lowercase paragraph heading, using the same font size as for the main text (Level 4)

Level 1 headings should be used for main sections (e.g., METHOD)

Level 2 for subsections of these (e.g., Design)

Levels 3 and 4 are for any further subsections (of sub-sections) – note that it is unlikely that Level 3 will be needed very often, and Level 4 is expected to be rare and only needed in Project reports (if at all).

Citations and References

When writing essays, laboratory and research reports, or in this case your Independent Synoptic Project you will need to refer to the work of other authors. When you discuss anything that is not original to you, from a book, journal article, website etc., it must have a reference. Referencing comprises of two elements, namely citations (abbreviated details of the sources) in the body of the text and references (full details of the sources) in the separate References section at the end. We cite the work of others for a number of reasons:

- To give credit where it is due

  - If you present others' findings as your own this could be construed as plagiarism, which is a serious academic offence.

- To add credence to a claim

  - Your writing should be developing a rationale and/or an argument – you can do this only by presenting evidence (findings and theories) and evidence can be accepted only with the source being detailed.

- To show academic development

  - Research progression in a field is identified by clearly showing the relationship between existing theories and your ideas.

- To facilitate the retrieval of information

  - The reader may wish to obtain the sources used. Citations and references make this possible.

In the text you **must** include citations in the formats given below. In order that you can do this, you will need to take details of the materials you access. Essentially you should obtain author(s); title of work; title of journal, or book, or Web page this is from; date published; page numbers; volume number (journals), Digital Object Identifier (DOI: all electronic information), URL (Web 'address': where DOI unavailable). Part of this information is used for citations and part for references.

You must use **APA 7**th (Author-Date) style for all in-text citations and your reference list. You must provide a reference list at the end of your submission, which includes every source that you have referenced in-text. We suggest the use of APA 7th style as this will save you some words. It is strongly recommended that you use a reference manager for your reference list. You can find guidance on APA 7th ed. On the King's College London library pages (https://libguides.kcl.ac.uk/reference/authordate) where you can see examples of how to cite reference books, journal articles, book chapters, websites etc. There is also more in-depth APA Guide PDF there which goes into greater depth on citation and referencing including single, multiple authors, and no publication date given.

Writing Style

There are a few definite things you should do or should not do in writing your project:

General Narrative

Writing should be in narrative style namely, full sentences, full width of page (less margins), and appropriate paragraphs etc. Do **not** use bullet points, or forms of shortened sentences/phrases. You need to use the APA reporting structure (along with any specific KCL amendments and additions detailed herein) throughout your report.

Take care of grammar. Pay attention to the meanings of words that are often confused (e.g., 'effect' vs. 'affect'). (Data are plural!). You should proof read and revise your work (more than once) before submitting. Reading aloud and using the spellchecker can help, but you will *knead* to *cheque* for homophones like these as well.

Third/First Person

Your narrative will vary dependent on the type/format of your Independent Synoptic Project. In Psychology and the APA 7th ed, it is acceptable in both quantitative and qualitative research articles, narrative synthesis, or research proposal to write in the first person (e.g., "I think…", "I believe…", "I interviewed the participants…", "My analysis of the data…", "We concluded…", "Our results concluded…". However, you do need to be careful at times especially when discussing other's theories and models, you will need to be careful that it does not read as though you are passing off as your own. Equally, some sciences are less keen on the first-person narrative and believe that a third person narrative is more formative and appropriate (e.g., 'An experiment was conducted') throughout the project. Consider therefore the target audience for your project.

Tense

For the research articles and narrative/meta synthesis use the past tense throughout∗. This is especially important when referring to your study and to previous research and theories. Thus, you should say '…this experiment examined…' rather than '…this experiment examines…'. You may use the present tense **only*** for certain aspects of the Abstract where it 'makes more sense' to do so. For example, with interpretations, but not for what was done (this is in the past).

Note that using the present tense when reporting findings **can change the meaning**. For example, 'X is faster than Y' suggests a 'fact' (i.e., is a generalised statement), and is not the same as 'X was faster than Y', which shows it relates to a specific instance/finding based on a particular design and sample. Be careful about shifting tenses - this can easily happen, particularly in long paragraphs. For those of you carrying out your project in the Research Proposal format you will want to write in the future tense for parts of the report around proposed methods and analysis as you will be proposing to carry out the elements in the future.

Scientific Style

Your projects should be presented as objective pieces of scientific work. This means that you should avoid phrases like 'it was hoped' or 'it was expected'. Instead, you should bear in mind that experiments and studies are normally designed to test hypotheses. This means that phrases like 'it was hoped' should be replaced by 'it was predicted' (you should also explain the basis for your prediction). However, see also the Qualitative Reports section.

Your writing style should be parsimonious – avoid unnecessary details and the repetition of information.

Evidence

Be careful of sweeping, unsupported statements (however obvious they may seem to be). Evidence is required in psychology and neuroscience, and you must cite sources. Do **not** say that your findings 'prove' anything (they do not), rather they 'support' or 'suggest' or are 'consistent with', or alternatively, they 'challenge', or are 'inconsistent with'. One finding is not a fact, so do not word as if it is (see also section on using the past tense).

Participants and Subjects

Human participants should **not** be referred to as 'subjects', the term subjects may only be used to refer to non-human animals. (Note that older articles will refer to humans as subjects).

Types of Project

We support a variety of types of project, although most students will complete:

- Secondary analysis of previously collected data (either quantitative or qualitative analysis, which must address a new question).
- A Narrative synthesis (quantitative data) or Meta-synthesis (qualitative data) systematic review
- A Research Proposal

The guidance on structuring your project provided in this handbook is for students doing one of the three above types/format of project but you are not limited to these. If your Content Advisor (CA) suggests an alternative format, please ensure clarity and for further guidance on how to organise the submission. It is also essential that you inform your Teaching Fellow (TF) and module lead so that we are clear on the format and that the format still allows you to meet the marking criteria which is the most important thing. Where possible your submission should still remain as close to the suggested types outlined below. It will likely be very similar to what is described below, but some adjustments may be required.

It is important that you come to a decision on your project type as soon as you can so as to be clear on the structure of your project. We do have 13 weeks to complete the project, and although this sounds like a relatively long time for 5000 words you will need to spend time carefully reviewing the literature around your topic area before and thinking as to what your structure will be.

Assessment

Although your final Independent Synoptic Project submitted at the end of week 13 will make up 100% of your final grade for the 7PADINSP Independent Synoptic Project module, you are required to complete a project plan (see guidelines below), which will help ensure that you have a scaffolding/handrail in place to help you keep a focus as you progress during the module. The project plan will be submitted for early feedback from your CA and TF, and will also be included as part of your Portfolio of Applied Learning (PAL) which will be submitted as a formative (non-graded) mandatory submission at the end of week 16 of term. Please see your 7PADINSP module KEATS page, and look within the Portfolio of Applied Learning folder for specific dates and guidelines specific to you.

The project module is one of the most important elements of your programme of study. It is worth $1/6^{th}$ of the final mark (30 credits). Each project plan is reviewed by both the TF and CA. Each final Independent Synoptic Project is first marked by the Teaching Fellow, with a percentage of the submissions then marked as part of the moderation process. The projects are marked based on the KCL level 7 taught postgraduate marking criteria (please see next page). We encourage you to pay particular attention to the criteria that mention research dissertations/projects. Although the below is the basis for marking you will also find a marking rubric used as part of the marking feedback (please see in the Submission area on KEATS).

TABLE 1: THE KCL LEVEL 7 TAUGHT POSTGRADUATE MARKING CRITERIA

An exceptional answer that reflects outstanding knowledge of material and critical ability ~ Distinction ≥ 70			
Understanding	Depth of knowledge	Structure	General
Advanced, in- depth, authoritative, full understanding of key issues with evidence of originality	Complex work and key issues analysed Wide range of sources used selectively to support argument/discussion Strong evidence of critical approach to key issues and ability to evaluate arguments	Coherent and compelling work logically presented	A++ (90-100) Insightful work displaying in-depth knowledge. For research dissertation/project: publishable quality, outstanding research potential, originality and/or independent thought, ability to make informed judgments. Highest standards of presentation. A+ (80-89) Insightful work displaying in-depth knowledge. For research dissertation/project: work of publishable quality, excellent research potential, originality and/or independent thought, ability to make informed judgments. High standards of presentation. A (70-79) Thoughtful work displaying in-depth knowledge. For research dissertation/project: good research potential, evidence of independent thought, ability to make informed judgments. High

A coherent answer that demonstrates critical evaluation ~ Merit 60-69			
Understanding	Depth of knowledge	Structure	General
In-depth understanding of key issues with evidence of some originality	Key issues analysed. Relevant sources used effectively to support argument/discussion Clear evidence of critical	Coherent work logically presented	B+ (65-69) Thoughtful work displaying good knowledge and accuracy. For research dissertation/project: some evidence of research potential, clear thinking and/or ability to make informed judgments. Good standards of presentation. B (60-64) Work displays good knowledge and accuracy. For research dissertation/project: some evidence of clear thinking and/or ability to make informed judgments. Good standards of

A coherent and logical answer which shows understanding of the basic principles ~ Pass 50 - 59			
Understanding	Depth of knowledge	Structure	General
Understanding of some key issues with evidence of ability to reflect critically	Some key issues addressed. Relevant sources used to support argument/discussion Some evidence of critical approach to key issues and	Competent work in places but lacks fluency/ coherence	C+ (55-59) Work displays knowledge and understanding in most areas but the standard of work is variable. For research dissertation/project: evidence of clear thinking in places but lacks insight. Satisfactory standards of presentation. C (50-54) Work displays knowledge and understanding in some areas but some key issues are not addressed. For research

A superficial answer with limited knowledge of core material and limited critical ability ~ Fail 40 – 49			
Understanding	Depth of knowledge	Structure	General
Superficial understanding of some key issues, lack of focus	Key issues not always understood or addressed, gaps in the use of relevant sources used to support work	Weakness in structure, fluency and/or coherence	F+ (40-49) Work displays patchy knowledge and understanding and some key issues are not addressed. For the research dissertation/project: limited evidence of clear thinking, insight and/or fluency. Presentational weaknesses.

An answer almost entirely lacking in evidence of knowledge and understanding ~ Fail 0-39			
Understanding	Depth of knowledge	Structure	General
Lack of understanding of, or focus on key issues	Key issues misunderstood or not addressed' Limited or no use of relevant sources to support work No evidence of a critical approach to key issues or ability to evaluate arguments	Work is confused and incoherent	F (33-39) Incomplete answers with only peripheral knowledge relevant to the questions. Displays poor, disorganized presentation. FF (20-32) Some attempt to write something relevant but with many flaws; nothing of substance. FFF (0-19) Serious errors, largely irrelevant material or

Structure of the Project Plan and Project

Project Plan

Your research proposal should be 1,500 (+/-10%) words excluding references, Tables, Figures and Appendices, and should be structured as follows:

Title:

The title should be descriptive of the study, but as brief as possible (try to keep to no more than 16 words). The title can change in your project.

Introduction:

Give appropriate background evidence. Make sure you develop a rationale for your study. Succinctly explain what is already known (this will help you form appropriate hypotheses, if relevant); what is not yet known or less well established; how your study will help advance knowledge in the field, and why this is important. Try to incorporate a maximum of 5 citations to help build rationale, this will help you to gain an early understanding of the literature and allow you to start to evaluate what others have done. Describe the study aims, and, if relevant and appropriate, why the specific procedures and materials were chosen. Lastly, present your specific research questions, and where appropriate, hypothesis/es.

Methods (what?):

Briefly outline the proposed methods and analytic strategy, including the following subheadings: study design, participants, materials & procedures, and data analysis.

Methodological considerations (why?):

All projects require a series of decisions to be taken and design issues resolved. For the Methods section you should identify and consider (although not limited to). E.g.:

- Explain key decisions about the design.
- Have pragmatic constraints (e.g., time, funding) affected methodological choices in the project?
- Are you using a within- or between-participants design? Why?
- Who will be recruited and why?
- For main outcomes, why was a particular test chosen?

- Has the difficulty of the tasks been adjusted to avoid ceiling and floor effects?
- Will items/stimuli be randomised/counterbalanced?
- Are there potential confounding variables you need to address in the study design or statistical analysis?

You should identify and explain the decisions made with respect to such key aspects of the study design. Other studies not involving testing, such as Narrative synthesis and Meta-synthesis reviews, and neuroimaging studies, also have methodological considerations, although arguably fewer, allowing you to focus more on other sections.

Ethical considerations:

You need to explain briefly what ethical considerations will be or were made, and how you will ensure your project conforms to ethical standards set out by the British Psychological Society. Standards outlined in guidance by the MRC are also helpful. Both are available in the links below:

http://www.bps.org.uk/sites/default/files/documents/code_of_human_research_ethics.pdf

http://www.mrc.ac.uk/publications/browse/good-research-practice-principles-and-guidelines/

All projects require a section on ethical considerations. However, this section may be less relevant to certain projects (e.g., reviews and secondary analysis projects), so for these studies you should explain what appropriate ethical principles and considerations in the field of study would be and should evaluate.

Results/Analysis

Although, you may not know your results at this point, it can be beneficial to start to plan for them. Consider as to what analysis will be most appropriate for your study based on methods and type of data that will be generated if you are carrying out a research article or proposal format. If you are carrying out a narrative synthesis/meta-synthesis, give brief outline of what you will look to achieve with the review, how will you present your themes, use of tables/flow charts. Overall, the results section for the project plan should be an opportunity to make notes and suggestions as to what your results section may cover. Use past publications or similar studies as an example for yourself and look to bring the good elements through in your work. If carrying out a research proposal, consider textbooks that you can use as supporting sources for evaluation of which analysis you will use.

Discussion/Conclusion

The discussion section plan will allow you to bullet key considerations that will be considered for your project. Please see the guidelines for the Discussion/Conclusion section for different formats below and outline as to how you will look to address, or even just bullet to remind yourself for the actual project write up as to how these are elements to consider. The more you can identify as talking points now, the easier it will make your actual write up e.g., potential weaknesses to study design, quality of the literature expected to be used in the review.

References (not part of word count)

Give a reference list of any cited work used in your project plan

Research Article

Your project should be written in the format of a scientific manuscript adhering to overall author guidelines as below. The following guidelines have been adopted and amalgamated from a wide range of psychology and neuroscience journal articles in the area of mental health and more generally. A sample of these have been shared and the following six peer-reviewed journals: Psychological Medicine; British Journal of Psychiatry; European Psychiatry; Psychological Science; Journal of Mental Health; and Nature Neuroscience (See tabulated summary of author guidelines at the end of the document), can be looked at in greater detail. You are expected to follow the below guidelines as these were the most common found across a range of journals reviewed. By following these guidelines you will learn to write a research article in a concise manner, and still be able to meet the learning criteria for the module. To help an approximate word count for each of the main sections has been outlined (however please note that this is just an approximate guidance and you will need to decide with your supervision team as to how you will distribute the word count). **The upper limit is 5,000 words.**

Your project should be structured as follows:

The structure, word length, format and reference style of the project should conform to the below. You will see from the tabulated summary of journals that each has specific guidelines, however, your project should include the following:

▪ **Title page:** Including your student ID number (NOT your name: work is marked anonymously, in accordance with the policy of King's College London), the full title of the project, the module title & code, the word count for the abstract and the main body of the project, as well as any additional information (e.g. number of tables and figures). The title and the abstract are key elements that inform the reader of the contents of the manuscript and are the parts of the manuscript that gain the widest exposure. *(This is not part of your word count)*

▪ **Statement of Contribution:** This must clearly state which work (e.g. hypothesis formation, recruitment, data collection and analyses, interpretation of the results etc.) was conducted by the student, and whether it was done independently or jointly with the Content Advisor(s) and/or fellow researchers. *(This is not part of your word count)*

▪ **Abstract:** A Structured abstract to the headings of Background, Aims, Methods, Results and Conclusions. The abstract should include a brief background, research aim(s) or question(s), methodology, findings, interpretation and implications. The research question should be clearly defined, relevant, and supported by the methodology. The abstract serves an important purpose in summarizing the hypotheses, design, and findings of the study, and in representing the article in indexing databases. *(This is not part of your word count)*

- **Keywords:** See guidance offered in peer-reviewed journals in table. In general, keywords should capture the essence of your paper. They are used for indexing purposes and for making your paper searchable. *(This is not part of your word count)*

- **Introduction:** A strong introduction engages the reader in the issue under investigation and provides a context for the study at hand. In introducing the research concern, the writer should provide a clear rationale for why the problem deserves new research, placing the study in the context of current knowledge and of prior theoretical and empirical work on the topic. Responsible scholarship stipulates that the writer properly credits the work of others. Whereas it is impractical to exhaustively describe all prior research, the most current and relevant studies should be cited. **(initial introduction and background approx. 200-300 words)**

  - **Literature Review: (approximately 1,200 - 1,300 words)**
    - Subsections
      - Include sub-sections connected logically and coherently. These sub-sections should highlight the gaps in the literature and present relevant varied or contradictory findings in your topic area that are pertinent to your research aims. **We encourage you to use sub-headings** to organise your material.
    - Findings in the literature
      - It is important to focus your literature review on the **findings** presented by the published literature that are relevant to the aims of your project. When discussing contradictory findings, if relevant you can consider including some *brief* critical evaluation of the methods used by the studies in question, to help explain why the findings may differ.
    - Overview of the research
      - Remember also that **you do *not* need to consider individual results in depth**, for example comparing effect sizes. It may occasionally be appropriate to comment on a particularly large effect, or weak effects, but your task is to discuss the varied findings in your topic area rather than exploring the magnitude of those results. It may help to think of your task as 'Is there evidence that a phenomenon exists, or that an intervention works?' rather than 'What size effects are found?'. The purpose of a literature review is to provide an overview of the **research** that has been done on your topic, and to evaluate the papers you are reviewing.
    - Original Studies

- Whilst you *may* refer to findings from systematic reviews or meta-analyses, we prefer that you focus on original studies and the clear majority of your submission should focus on original studies. When referring to existing reviews, remember to highlight similarities and differences between the scope of the review and your own work, and make it clear that you are referring to a review.

  o Structure

    - You may choose to organise your material according to particular themes or concepts. For example:

      First key concept (use a section heading) → describe why it's important → compare/critically evaluate the findings → summarise the evidence relating to this concept and link to your research aims.

      Second key concept (use a section heading) → describe why it's important → compare/critically evaluate the findings → summarise the evidence relating to this concept and link to your research aims.

      And so on.

    - Or you may find it appropriate to organise your **material chronologically,** to show the development of a particular field. Whichever approach you use, remember to make connections between concepts where appropriate and highlight gaps in our knowledge.

- **Research Question (and where appropriate Hypotheses): (approximately 100- 200 words)** You should end your introduction with a clear statement of your research question (and where appropriate hypothesis/ses. If you do not have specific hypotheses because the study is exploratory or qualitative, then state concisely your research aims and objectives.

▪ **Methods: (approximately 1,300 - 1,500 words)** Describe what you did as clearly as possible. Provide sufficient detail for replication. You will see that this section can vary depending on the instructions of the peer-reviewed journal. We would like you to report to the following subsections, include:

- *Design* (an overview)

- *Participants.* Include details of sampling, recruitment, inclusion/exclusion criteria, sample size, dropouts, those excluded after testing and why). Participant characteristics can be presented in table form if there is a lot of information.
- *Materials* (e.g., what you used during testing). Subheadings in this section often include 'Questionnaires' and/or 'Tasks' (information on questionnaires or scales should include the name of the instrument, main characteristics, response type, and if available, reliability results in the literature. A clear link between the instruments adopted and the conceptual background presented in the introduction is expected.)
- *Procedure* (what happened during the study. Include details of randomisation/matching, consent, how data was collected, what participants had to do and debriefing. In the case of qualitative data, describe the procedure adopted for the anonymization of data during transcription and/or analysis.)
- *Ethics.* **(at least 300 words should be used on this section as a key learning outcome).** For this section you will need to consider ethics in relation to your participants. Note that we do **not** expect to see general discussion of the history of ethics e.g., Declaration of Helsinki. Keep to the modern-day concepts and principles that are applicable to *your* research topic. We expect to see critical evaluation of these concepts and principles in relation to the primary research you carried out or in relation to the original study that you are carrying secondary data analysis for. The four principles of ethical research are: respect, scientific value, social responsibility, maximising benefit and minimising harm (you may see these described slightly differently and may use different terms if you wish).

  We appreciate that research ethics differs between countries, so suggest you consider the following concepts, focusing on those most relevant to your study: risk to the participant, valid consent, confidentiality, giving advice, deception, debriefing, safeguards or working with vulnerable populations (children, persons lacking capacity, individuals in a dependent or unequal relationship).

  You may refer to one of the following guidelines to help you:
  - The British Psychological Society (BPS) code of human research ethics (last updated April 2021) https://www.bps.org.uk/guideline/bps-code-human-research-ethics-0
  - UKRIO Code of Practice for Research https://ukrio.org/publications/code-of-practice-for-research
  - MRC Good Research Practice [https://mrc.ukri.org/publications/browse/good-research-practice-principles-and-guidelines/

The key in this section is to highlight key aspects that you did/or were done to ensure ethical compliance, with a brief outline as to why these were required to showcase your understanding and appreciation of ethics.

- *Data cleaning.* You should check your dataset for errors, outliers and other mistakes. You should summarise what data cleaning, if any, was undertaken and how much (%) data was lost as a result. Your supervisor will advise you what is common in the field.

▪ **Results: (approximately 800- 1,000 words).** This is often the most difficult section to present clearly, especially for quantitative analyses. Your supervisor's advice will be invaluable help with this section. It is important to leave enough time to revise this section based on their feedback. You should NOT include 'raw' un-summarised data (if relevant, this data can be included in an appendix) or anything that could give away the identity of a participant (especially in qualitative work).

- **Summary of the main data** - usually this will be in table form and show means and standard deviations, correlations and reliability values (if questionnaires/scales were used). Qualitative data analysis should include information on the saturation point(s) and inter-rater reliability, as well as any additional cross-validation efforts.
- If you have **two or more groups of participants**, you will need to test whether the groups differ significantly in any of these characteristics. If they do, you should control for these differences statistically in subsequent analyses.
- **Analyses** - this is where you report the main analyses you conducted. The analyses you do should directly address (test) the main hypotheses of your project, as stated in the introduction. You should state why you are conducting each analysis - which hypothesis is it addressing? Analyses that address slightly different questions, even if they are related, are not relevant. The most common problem with results sections is the reporting of analyses which do not adequately test the hypothesis/-es stated at the outset.
- **Qualitative work** - you need to describe how the data was organised and analysed using a similar structure. Identify key themes /points for discussion. Some themes will be pre-set by your research questions, and some will emerge through the process of analysis. *Please note for qualitative data extracts/quotes used in support of themes we will not include as part of the word count.*

▪ **Discussion: (approximately 800- 1,000 words)** In this section you should make sense of your findings by interpreting them in the light of the theories/research/issues and questions raised in the introduction. Again, a good structure is essential; use the following structure as a guide:

- *Results summary* - You should start with a summary describing the main results of your study, relating these to the research question(s)/hypotheses you had at the start. What do your findings mean in relation to those? Were your hypotheses supported or not?

- *Discussion of results* - Next you discuss why you think you have found these results. Consider also what the wider implications of your findings are for the field as a whole. How do they tie in with or contradict other published work? Discuss in relation to some of the previously reviewed studies.

- *Other unexpected findings* – You should then move on to address any additional unexpected findings thrown up by your analysis and offer some explanation for these.

- *Limitations* - What were the problems anticipated/encountered/overcome? How could your study have been improved?

- *Conclusions* - You should end the project with a summary of the final conclusions. This should be more general than the results summary at the start of this section. It should draw together the threads of the research to arrive at an overall conclusion for your work. It should relate very clearly to your title. You should also suggest the way forward for future similar work. This is an important part of the project so avoid a bland summary or simply listing recommendations. Using a constructive and positive tone, and reflect on the conceptual, methodological and translational relevance of the results, as well as implications for future research and practice.

▪ **Tables and figures:** Use tables and figures (i.e. charts, graphs and pictures) to display your most important results. These should be numbered consecutively throughout the text. Tables and figures are particularly valuable for conveying large amounts of information and for showing relationships among data. A good figure will make a specific point (e.g., the intervention group improved but the control group did not) and/or summarise the take home message of your data. The text should highlight the key results presented in the tables or figures. Tables and figures should portray the information with sufficient clarity to stand alone without captions.

▪ **References:** Use APA 7th edition as outlined earlier in the document. *(This is not part of your word count)*

▪ **Supplementary material/ Appendices:** *(This is not part of your word count)*
Examples include material which is too bulky for the main body of the project or which, though relevant, might be too distracting. E.g.:
- Raw, un-summarised data
- Extra tables of data
- Questionnaires/other research instruments

- Examples of stimuli or materials used

- Information sheets, consent forms and debriefing form

- Extracts from interview transcripts to illustrate identification of codes, categories, themes.

- Anything else which needs to be included but is too long.

Table 2: Summary of main author guidelines for example journals (updated Oct 2022, please check for updates as journals may update their guidelines).

Journal	Focus	Word Limits	Structure main body	Structure abstract	Tables/ Figures	Reference Style	Keywords
Psychological Medicine Link to guidelines	Clinical psychiatry Findings from basic science relevant to psychology	Main body*: 4500 Abstract: 250		**Original Work:** Background, Methods, Results, Conclusions **Reviews/Meta-analyses:** Unstructured	Max. 5 in total e.g., 2 Tables & 3 Figures Use Black and White if possible	APA 6th edition**	Not required
British Journal of Psychiatry Link to guidelines	All fields of psychiatry Focus on clinical aspects	**Original Work:** Main body: 3000 - 4000 Abstract: 250 **Reviews/Meta-analyses:** Main body: 6,000	Introduction Method Results Discussion	Background Aims Method Results Conclusions	**Original Work:** Max. 4 in total **Reviews/Meta-analyses:** Max. 7 in total	Vancouver** Max. 25 beyond citations of methodological procedures. Max. 75 for reviews	Not required
European Psychiatry Link to guidelines	Clinical and Non- clinical Psychiatry & Mental Health Biological, psychological and social sciences	**Original Work:** Main body: 3500 Abstract: 250 **Reviews/Meta-analyses:** Main body: 4000 words	Introduction Methods Results Discussion	**Original Work:** Background, Methods, Results, Conclusions **Reviews/Meta-analyses:** Background, Methods, Results, Conclusions	**Original Work:** No limit **Reviews/Meta-analyses:** No limit	Vancouver**	3-5 keywords listed under the abstract
Psychological Science Link to guidelines	Research on mind, brain or behaviour Mainly publishes original work	Main body: 4500 words Introduction & discussion combined: 2000 Method and results combined:2500 Abstract:150 words	Introduction Method Results Discussion	Unstructured + separate 150-word statement of relevance	No limit	APA 6th edition** Max. 40 references	Not required
Journal of Mental Health Link to guidelines	Mental health research and practice	**Original Article:** Main body: 4000 Abstract: 200 **Review Articles:** Main body: 6000 words Abstract: 200	Introduction Materials & Methods Results Discussion	Background Aims Method Results Conclusions	Max. 4 tables and 2 figures	APA 6th edition, see journal specific guidance here	3-7 keywords listed under the abstract
Nature Neuroscience Link to guidelines	Molecular, cellular systems and cognitive neuroscience	**Original Article:** Main body* 4500 words (excl. methods) Abstract: 150 words **Review articles:** Max. 6,000	Introduction Methods Results Discussion	Unstructured	**Original Work & Reviews:** 3 – 8 figures and/or tables)	Vancouver**	Not required

*Main body includes all sections except for the abstract, tables, figures and references; ** Please see information on the different reference styles and note for our projects we are using APA 7th edition.

Research Proposal

Your project should be written in the format of a formal research proposal as part of a grant application. A substantial part of research in both psychology and neuroscience is made possible due to funds that support researchers time, resources (hardware, software, psychometric tools), participants costs (payment or costs accrued) and secondary researchers (post-docs, research associates, PhD). Each organization or charity that offers funding opportunities has their own format for application, however, just as for the research article format to support research proposal writing and consistency the below format has been proposed following the review of a range of organisations and charities that offer research funding in psychology and neuroscience related to mental health (elements of the below have been adopted from the Medical Research Council (MRC) and Wellcome). You are expected to follow the below guidelines to support your learning to write a research proposal in a concise manner, whilst still being able to meet the learning criteria for the module. To help an approximate word count for each of the main sections has been outlined (however please note that this is just an approximate guidance and you will need to decide with your supervision team as to how you will distribute the word count). **The upper limit is 5,000 words.**

Key considerations for your proposal:

- An important aspect of all research proposals are to communicate the importance of the research questions(s). What will your proposed research add/support in the topic field? Will it generate new understanding? Will it address gaps? Will it lead to synthesis of new theory and ideas?

- It will be essential that you showcase your knowledge in the topic field. Be sure to demonstrate your familiarity with historical and contemporary research on the topic, as well as discussion of others doing similar research to your proposed project.

- Part of the role of the proposal is to convince the awarding body the quality and feasibility of the proposed research. Thus, requiring clear communication, support and rationale for the study, as well as the approach. A well-designed study proposal. You must be able to identify weaknesses and difficulties in the study design and procedural aspects, and as to how these will be dealt with or contingency plans. Be sure to be realistic in your time scales, as well as the research teams capabilities.

- Where there is creativity in your proposal be sure to highlight, it can be beneficial in research proposals to underline development and testing of new concepts, methods and technologies. Does the proposal have the capacity to synthesise new and pioneering research in psychology and neuroscience?

Research Proposal

Your project should be structured as follows:

The structure, word length, format and reference style of the project should conform to the below:

▪ **Title page:** Including your student ID number (NOT your name: work is marked anonymously, in accordance with the policy of King's College London), the full title of the project, the module title & code, the word count for the abstract and the main body of the project, as well as any additional information (e.g. number of tables and figures). The title and the abstract are key elements that inform the reader of the contents of the manuscript and are the parts of the manuscript that gain the widest exposure.

▪ **Start date and duration:** Discuss with your Content Advisor(s) and/or fellow researchers, and outline the expected start date for the research. This is of course a hypothetical research proposal, but important to write in a realistic manner and so it would be realistic to give a date between one to six months after your project date (imagining that to be the final proposal submission date and the start of the decision-making process). The duration of a grant will typically be 12 to 60 months. *Please note this is not part of the word count for the purpose of this assignment.*

▪ **Applicants:** Please outline the principle investigators and all co-investigators that would be involved in the proposed project. For the purpose of this module and assignment you would be the named principal investigator. *Please note this is not part of the word count for the purpose of this assignment.*

▪ **Abstract:** A Structured abstract to the headings of Background, Aims, Methods, Results and Conclusions. The abstract should include a brief background, research aim(s) or question(s), outline of planned methodology, planned analysis, summary of conclusion. The research question should be clearly defined, relevant, and supported by the methodology. *(This is not part of your word count)*

▪ **Introduction:** A strong introduction engages the reader in the issue for the proposed investigation and provides a context for the study. In introducing the research concern, the writer should provide a clear rationale for why the problem deserves new research, placing the study in the context of current knowledge and of prior theoretical and empirical work on the topic. Responsible scholarship stipulates that the writer properly credits the work of others. Whereas it is impractical to exhaustively describe all prior research, the most current and relevant studies should be cited. **(Initial introduction and background approx. 300 words)**

- **Literature Review: (approximately 1,200 words)**
  - ○ Subsections
    - ▪ Include sub-sections connected logically and coherently. These sub-sections should highlight the gaps in the literature and present relevant varied or contradictory findings in your topic area that are pertinent to your research aims. **We encourage you to use sub-headings** to organise your material.

- o Findings in the literature
    - It is important to focus your literature review on the **findings** presented by the published literature that are relevant to the aims of your project. When discussing contradictory findings, if relevant you can consider including some *brief* critical evaluation of the methods used by the studies in question, to help explain why the findings may differ.
- o Overview of the research
    - Remember also that **you do *not* need to consider individual results in depth**, for example comparing effect sizes. It may occasionally be appropriate to comment on a particularly large effect, or weak effects, but your task is to discuss the varied findings in your topic area rather than exploring the magnitude of those results. It may help to think of your task as 'Is there evidence that a phenomenon exists, or that an intervention works?' rather than 'What size effects are found?'. The purpose of a literature review is to provide an overview of the **research** that has been done on your topic, and to evaluate the papers you are reviewing.
- o Original Studies
    - Whilst you *may* refer to findings from systematic reviews or meta-analyses, we prefer that you focus on original studies and the clear majority of your submission should focus on original studies. When referring to existing reviews, remember to highlight similarities and differences between the scope of the review and your own work, and make it clear that you are referring to a review.
- o Structure
    - You may choose to organise your material according to particular themes or concepts. For example:

        First key concept (use a section heading) → describe why it's important → compare/critically evaluate the findings → summarise the evidence relating to this concept and link to your research aims.

        Second key concept (use a section heading) → describe why it's important → compare/critically evaluate the findings → summarise the evidence relating to this concept and link to your research aims.

        And so on.

- Or you may find it appropriate to organise your **material chronologically,** to show the development of a particular field. Whichever approach you use, remember to make connections between concepts where appropriate and highlight gaps in our knowledge.

- **Research Question (and where appropriate Hypotheses): (approximately 100- 200 words)** You should end your introduction with a clear statement of your research question (and where appropriate hypothesis/ses. If you do not have specific hypotheses because the study is exploratory or qualitative, then state concisely your research aims and objectives.

- **Methods: (approximately 1,500- 1,800 words)** Describe what your proposed study will be using the below subheadings as guidance. Provide sufficient detail for replication, as well as sufficient rationale and support for aspects of your design and rationale. We would like you to report to the following subsections, include:
  - *Design.* (an overview)
  - *Participants.* Include details of sampling, recruitment, inclusion/exclusion criteria, sample size.
  - *Materials*. (e.g., what you propose to use during testing). Subheadings in this section often include 'Questionnaires' and/or 'Tasks' (information on questionnaires or scales should include the name of the instrument, main characteristics, response type, and if available, reliability results in the literature. A clear link between the instruments adopted and the conceptual background presented in the introduction is expected.)
  - *Procedure.* (what will happen during the study. Include details of randomisation/matching, consent, how data will be collected, what participants have to do and debriefing. In the case of qualitative data, describe the procedure adopted for the anonymization of data during transcription and/or analysis.)
  - *Ethics.* **(at least 300 words should be used on this section as a key learning outcome). For this section you will need to consider ethics in relation to your proposed sample population.** Note that we do **not** expect to see general discussion of the history of ethics e.g., Declaration of Helsinki. Keep to the modern-day concepts and principles that are applicable to *your* research topic. We expect to see critical evaluation of these concepts and principles in relation to the proposed research that you are outlining. The four principles of ethical research are: respect, scientific value, social responsibility, maximising benefit and minimising harm (you may see these described slightly differently and may use different terms if you wish).

We appreciate that research ethics differs between countries, so suggest you consider the following concepts, focusing on those most relevant to your study: risk to the participant, valid consent, confidentiality, giving advice, deception, debriefing, safeguards or working with vulnerable populations (children, persons lacking capacity, individuals in a dependent or unequal relationship).

You may refer to one of the following guidelines to help you:

- The British Psychological Society (BPS) code of human research ethics (last updated April 2021) https://www.bps.org.uk/guideline/bps-code-human-research-ethics-0
- UKRIO Code of Practice for Research https://ukrio.org/publications/code-of-practice-for-research
- MRC Good Research Practice [https://mrc.ukri.org/publications/browse/good-research-practice-principles-and-guidelines/

The key in this section is to highlight as to what you are proposing to do so as to ensure ethical compliance, with a brief outline as to why these ethical actions are required to showcase your understanding and appreciation of ethics.

- Reflexivity (for qualitative and mixed-method research) can be included so as to acknowledge your role in the proposed research. As the researcher you are part of the process and your prior experiences, assumptions and beliefs will influence the process, so helpful to give a brief outline.

▪ **Analysis and Reporting section: (approximately 750 words)** This is often the most difficult section to present clearly, especially for quantitative analyses. Your supervisor's advice will be invaluable help with this section. It is important to leave enough time to revise this section based on their feedback. You should NOT include 'raw' un-summarised data (if relevant, this data can be included in an appendix) or anything that could give away the identity of a participant (especially in qualitative work).

- **Quantitative Data** - this is where you will outline and justify the main proposed analyses for the study. The analyses should directly address (test) the main hypotheses of your project, as stated in the introduction. You should state why you are conducting each analysis - which hypothesis is it addressing? Analyses that address slightly different questions, even if they are related, are not relevant. The most common problem with results sections is the reporting of analyses which do not adequately test the hypothesis/-es stated at the outset. You should look to support as to why the analysis is appropriate for the study and cite in doing so. This section should also give a brief account as to how you will report and present your descriptive and inferential analysis.

- **Qualitative Data** - you need to describe how the data will be organised and analysed using a similar structure. Identify as to how you will work on the raw data to generate key themes /points for discussion. Some themes will be pre-set by your research questions, and some will emerge through the process of analysis, however it will be essential that you demonstrate to your reader that you know the steps that will be undertaken in the analysis and as to how you will report on findings.

▪ **Conclusion: (approximately 750 words)** A strong conclusion is essential so ensure you allocate appropriate time and words to this section.

- Highlight the key points discussed in the body of the text – look at the various sections and ensure you mention the main point/s from each one. Consider what have you 'achieved' in this submission. Connect this to your research aim/s.

- Identify limitations of the literature review e.g., perhaps certain types of study were excluded; mention opportunities for future research – what are the next steps in this area?

- Remember to include a summary of your section on ethical considerations. What are the key ethical considerations in your topic area? How can future research in your area (or your own proposed study) safeguard ethical standards? Where applicable, outline the need for future studies to adopt more stringent ethical standards or clearer reporting of ethical considerations.

- Describe how your proposal aims to bridge the gap identified.

- Include a summary of strengths and limitations of the proposed methodology (design and/or procedural aspects). Evaluation here is important and as outlined in the key considerations above shows that you appreciate methodological flaws in the procedure. You can also suggest future research beyond this proposal.

- Note the weight given to the conclusion; it is important that you avoid shallow, unfocused/unsupported statements and instead coherently synthesise the rest of the submission. Avoid introducing new themes or references in your conclusion.

▪ **Tables and figures:** Use tables and figures (i.e., charts, graphs and pictures) to display your most important results. These should be numbered consecutively throughout the text. Tables and figures are particularly valuable for conveying large amounts of information and for showing relationships among data. A good figure will make a specific point (e.g., the intervention group improved but the control group did not) and/or summarise the take home message of your data. The text should highlight the key results presented in the tables or figures. Tables and figures should portray the information with sufficient clarity to stand alone without captions.

- **References:** Use APA 7th edition as outlined earlier in the document.

- **Supplementary material/ Appendices:**

Examples include material which is too bulky for the main body of the project or which, though relevant, might be too distracting. E.g.:

- Raw, un-summarised data

- Extra tables of data

- Questionnaires/other research instruments

- Examples of stimuli or materials

- Information sheets, consent forms and debriefing form

- Extracts from interview transcripts to illustrate identification of codes, categories, themes.

- Anything else which needs to be included but is too long.

Narrative Synthesis/Meta-synthesis

Your project should be written in the format of a scientific manuscript adhering to overall author guidelines as below. The following guidelines have been adopted and amalgamated from a range of psychology and neuroscience related narrative synthesis reviews (please find examples below). You are expected to follow the below guidelines as by following these guidelines you will learn to write a narrative synthesis/meta-synthesis review in a concise manner, and still be able to meet the learning criteria for the module. To help an approximate word count for each of the main sections has been outlined (however please note that this is just an approximate guidance, and you will need to decide with your supervision team as to how you will distribute the word count). **The upper limit is 5,000 words.**

Why a narrative synthesis/meta-synthesis?

Often reviews within psychology and neuroscience look to answer or aim to do one of the following:

- evaluate the effectiveness of interventions,
- influencing factors for the employment of interventions,
- the impact of an intervention or practice on a population, and as to how successfully it meets their needs
- causes of health difficulties/problems

A meta-analysis review may not always be possible, as the data cannot be analysed, not all data and studies lend themselves to the processes, different study designs mean a meta-analysis is in appropriate or the review may be looking at too wide a range of interventions. As outlined by Ryan (2013) a narrative synthesis/analysis may therefore offer an alternative way to evaluate and consider the data from published peer reviewed studies. You can find guidance on the planning of a narrative synthesis at protocol stage from Ryan (2013) here. Additionally, a fuller guide on narrative synthesis by Popay et al., (2006) can be found here. Guidelines for Meta-synthesis (where focus is on qualitative or mixed-methods approach studies) can be found from Finlayson and Dixon (2008) here.

Example Narrative Synthesis/Meta-synthesis Reviews

Wyatt, C., Harper, B. & Weatherhead, S. (2014). The experience of group mindfulness-based interventions for individuals with mental health difficulties: A meta-synthesis, *Psychotherapy Research*, *24*:2, 214-228, DOI: 10.1080/10503307.2013.864788

Smith, A., McKinlay, A., Wojewodka, G. *et al.* (2017). A systematic review and narrative synthesis of group self-management interventions for adults with epilepsy. *BMC Neurology, 17*, 114. https://doi.org/10.1186/s12883-017-0893-3

Connors, M., Quinto, L., McKeith, I., *et al.* (2018). Non-pharmacological interventions for Lewy body dementia: A systematic review. *Psychological Medicine, 48*(11), 1749-1758. doi:10.1017/S0033291717003257

Baker, A., Turner, A., Beck, A., *et al.* (2018). Telephone-delivered psychosocial interventions targeting key health priorities in adults with a psychotic disorder: Systematic review. *Psychological Medicine, 48*(16), 2637-2657. doi:10.1017/S0033291718001125

Carruthers, S.P., Van Rheenen, T.E., Gurvich, C., *et al* (2019). Characterising the structure of cognitive heterogeneity in schizophrenia spectrum disorders. A systematic review and narrative synthesis. *Neuroscience & Biobehavioral Reviews, 107*, 252-278. https://doi.org/10.1016/j.neubiorev.2019.09.006

MacDonald, K., Ferrari, M., Fainman-Adelman, N. *et al.* (2021). Experiences of pathways to mental health services for young people and their carers: A qualitative meta-synthesis review. *Social Psychiatry and Psychiatric Epidemiology*, *56*, 339–361 https://doi.org/10.1007/s00127-020-01976-9

Bower. J., Magee. W.L., Catroppa, C., *et al.* (2021). The neurophysiological processing of music in children: A systematic review with narrative synthesis and considerations for clinical practice in music therapy. *Frontiers in Psychology, 12,* https://doi.org/10.3389/fpsyg.2021.615209

Ventura, A., Hayes, R., & Fonseca de Freitas, D. (2022). Ethnic disparities in clozapine prescription for service-users with schizophrenia-spectrum disorders: A systematic review. *Psychological Medicine, 52*(12), 2212-2223. doi:10.1017/S0033291722001878

Your project should be structured as follows:

The structure, word length, format and reference style of the project should conform to the below.

▪ **Title page:** Including your student ID number (NOT your name: work is marked anonymously, in accordance with the policy of King's College London), the full title of the project, the module title & code, the word count for the abstract and the main body of the project, as well as any additional information (e.g. number of tables and

figures). The title and the abstract are key elements that inform the reader of the contents of the manuscript and are the parts of the manuscript that gain the widest exposure. *(This is not part of your word count)*

▪ **Abstract:** A Structured abstract to the headings of Background, Aims, Methods, Results and Conclusions. The abstract should include a brief background, research aim(s) or question(s), methodology, findings, interpretation and implications. The research question should be clearly defined, relevant, and supported by the methodology. The abstract serves an important purpose in summarising the research question, methodology in search strategy, and findings of the study, and in representing the article in indexing databases. *(This is not part of your word count)*

▪ **Keywords:** See guidance offered in peer-reviewed journals in table. In general, keywords should capture the essence of your paper. They are used for indexing purposes and for making your paper searchable. *(This is not part of your word count)*

▪ **Introduction: (approximately 600 words)** A strong introduction engages the reader in the issue under investigation and provides a context for the study at hand. In introducing the research concern, the writer should provide a clear rationale for why the problem deserves new research, placing the study in the context of current knowledge and of prior theoretical and empirical work on the topic. Responsible scholarship stipulates that the writer properly credits the work of others. Whereas it is impractical to exhaustively describe all prior research, the most current and relevant studies should be cited.

- **Research Question:** You should end your introduction with a clear statement of your research question. If the study is exploratory or qualitative, then state concisely your research aims and objectives.

▪ **Methods: (approximately 900 words)** Describe the literature search, inclusion and exclusion criteria used as well as how study selection took place and data synthesis. Provide sufficient detail for replication, as well as sufficient rationale and support for aspects of your design and rationale. We would like you to report to the following subsections, include:

- **Literature Search/Search Strategy.** A paragraph outlining the **search strategy** you used to identify literature relevant to your topic. Include which databases you used, your search strategy e.g., concepts you used to develop your search, or a PICO or similar structure if you used one. You do not need to list your individual search terms, though if your search strategy is fairly short you may do so. You can also mention any manual searches you did e.g., using existing reviews and/or searching reference lists. Include how many studies were included in the review. Remember we are looking for evidence that an adequate search was conducted and that you are **including suitable studies** – *not* that you developed a search strategy suitable for a full systematic review. Note that

there is no official minimum or maximum number of studies that you should include in your project – this is something you need to agree with your Content Adviser, and it will vary between topics.

- **Literature Inclusion and Exclusion Criteria**. This can include any inclusion/exclusion criteria applied as part of your literature search e.g., date ranges, types of study, specific populations, and their ages etc.

- **Screening**. Outline the screening process applied to get to the final studies selected for the synthesis process. Clarify as to whether the screening was done based on reading of full articles, or title and abstracts. Was this done by a single individual or multiple?

- **Study selection/characteristics** – should provide some form of summary of the final studies that were selected for the synthesis process. You will see from the example reviews that a well thought through summary paragraph paired with a detailed, but concise flow chart can get information across extremely well.

- **Data synthesis**. What was the narrative synthesis/ meta-synthesis development based on? You could consider basing on the "Guidance on the Conduct of Narrative Synthesis in Systematic Reviews" by Popay et al (2006), or the "Qualitative meta-synthesis: a guide for the novice" by Finlayson and Dixon (2008). Links to both can be found above. Outline what elements were applied as part of the data synthesis process and be sure to outline the various steps and cite the guide used. If a guide other than those above be sure to outline clearly and cite.

- *Ethics.* **(at least 300 words should be used on this sub-section as a key learning outcome).** For this section you will need to consider ethics in relation to the topic and studies reviewed. Note that we do **not** expect to see general discussion of the history of ethics e.g., Declaration of Helsinki. Keep to the modern-day concepts and principles that are applicable to *your* research topic. We expect to see critical evaluation of these concepts and principles in relation to the primary research you carried out or in relation to the original study that you are carrying secondary data analysis for. The four principles of ethical research are: respect, scientific value, social responsibility, maximising benefit and minimising harm (you may see these described slightly differently and may use different terms if you wish).

We appreciate that research ethics differs between countries, so suggest you consider the following concepts, focusing on those most relevant to your study, and the ethics guidelines pertinent to the country of interest: risk to the participant, valid consent, confidentiality, giving advice, deception, debriefing, safeguards or working with vulnerable populations (children, persons lacking capacity, individuals in a dependent or unequal relationship).

You may refer to one of the following guidelines to help you:

- The British Psychological Society (BPS) code of human research ethics (last updated April 2021) https://www.bps.org.uk/guideline/bps-code-human-research-ethics-0
- UKRIO Code of Practice for Research https://ukrio.org/publications/code-of-practice-for-research
- MRC Good Research Practice [https://mrc.ukri.org/publications/browse/good-research-practice-principles-and-guidelines/

You could adopt one of the following approaches, considering how it will help address your overall research question:

- Discuss the ethical principles and concepts listed above in relation to the literature. Certain concepts may be more or less relevant; therefore, it is fine to focus your writing on specific areas of your topic — just be clear to your reader about the reasons for this.
- For certain projects, specific ethical themes that have not been covered in the core learning module may be relevant, for example concepts from neuroethics may be appropriate for functional imaging studies. Again, we recommend you determine the best approach with your Content Adviser and contact the teaching team if you have questions about your submission.

Overall, regardless of which approach you adopt, you should ensure that you demonstrate a clear understanding of the ethical issues relevant to studies in your research area. Remember to include critical evaluation and not just a description of the studies you discuss.

▪ **Results: (approximately 2,000 – 2,500 words).** This section will vastly differ for each of you dependent on the topic area that you are reviewing, the research question that you asked (e.g., effectiveness, influencing factors, population impact of an intervention, or causes of health issues), and the findings you come to through your narrative synthesis/meta-synthesis. This is where application of the shared guidelines above will be most useful for you in the "carrying out" of the synthesis.

If you look across the example papers shared you will see as to how each has reported based on their own individual questions and findings, however, there are some shared elements and as per other sections above there are learning outcomes that we need you to evidence that you have met as part of this assessment. It is essential as you do write your results section, that you demonstrate critical evaluation and consideration of the studies chosen for the synthesis process, considering strengths and weaknesses in each study's **methodology, analysis and reporting** as well as the final discussion/conclusion of the results. You must beware of biases in

the studies as well as from yourself as you carry out the synthesis process. Be sure that your synthesis carefully considers the relationship both within and between studies as you explore so that you are better aware of your synthesis results.

Your Results/Findings section should look to cover the following elements in some way as you report on your findings:

- **Participants** – if relevant a brief overview and evaluation of the participants/subjects can be useful whether human or animal. A well thought out summary can be useful in comparing and contrasting differences between samples, discrepancies in inclusion and exclusion criteria or characteristics between participant samples. For some reviews this section will be more important if related to your research question, and so subsequently important to report in detail. If less important then do use your word count elsewhere.
- **Methods/Quality of study methodologies** – a brief overview of the methods can be useful, just as it was for the participants a carefully thought-out comparison and evaluation of the similarities and differences in study design, materials and procedure can be invaluable.

Beyond the above you should then dedicate the majority of your results/findings section to the reporting of the synthesis you have carried out use the different tools as highlighted by Popay et al., (2006) and Finlayson and Dixon (2008). To help you with the reporting of the synthesis process we will not be including tables or figures in the word count of the report, however, **you are restricted to a maximum of 5 in total e.g., 2 figures and 3 tables**. Please ensure all tables and figures are formatted to APA standards.

▪ **Discussion: (approximately 1,000 – 1,500 words).** Your discussion section will need to evaluate and review over the key findings of the synthesis results and findings. As for the Results/Findings section the main body of this section will vary for each of you dependent on your topic area, original research question and the findings you made. You will need to communicate the results in relation to your research questions/aims/objectives as given at the end of the introduction section. Summarise the main discussion points from the synthesis and ensure that you move beyond simple description with critical evaluation of what these points mean in relation to the topic area.

It is important that you evaluate the quality of the evidence and synthesis. The narrative synthesis guidance document from Ryan (2013), also suggests that it is essential to have evaluation of the synthesis process and

you may therefore have part of your discussion section dedicated to 'Overall completeness and applicability of evidence', 'Quality of the evidence' and 'Potential biases in the review process', please see guidance here for what each focuses on.

You may discuss as to what future studies may or will need to focus on going forwards based on the synthesis results that you found. You will also need to finish with a conclusion final paragraph that summarises the key take home points from your synthesis review.

Appendices

Appendix 1: APA Reporting

For the Independent Synoptic project, we would like you to follow this table for reporting your data. We are aware that different information is available and this can create confusion. For the purpose of your coursework please follow these examples given in the table below.

REPORTING STATISTICS USING THE APA FORMAT.

1. Please make sure to use the correct brackets.
    a. Square Brackets look like [this]
    b. Parentheses look like (this)

2. Be careful of decimal points. For reporting data, you will need to round decimals up to two decimal places, except for *p* values. **Please see table below for examples**.

3. For APA format, if you use a **table** to report results, you are not expected to duplicate the information in the text.

4. When reporting the results of statistical analyses, you need to include the name of the test (e.g., correlation), the value obtained, the degrees of freedom, the probability level, the effect size and the direction of the effect (i.e., there was a positive correlation between x and y).

		DO REPORT	DO NOT REPORT
Spacing	Make sure to **include spaces** after commas, variables and mathematical symbols. (Note one space is acceptable).	r(55) = .49, p < .001	r(55)=.49,p<.001. *(This is wrong because there are no spaces)*
Decimals	Please round decimals to two decimal places, **EXCEPT FOR p values.**	2 decimal places: **r(55) = .49** but 2 or 3 decimal places for p values i.e **p < .001.**	r(55) = .49125 *(This has not been rounded to two or three decimal points)* **p<.000** *(Please, please do not do this; p-value cannot be 0! You need an actual value or at least p < .001)*
0 before decimal point	**Use zero before decimal point if number can exceed one** (0.23 cm; 0.48 seconds; Cohen's d=0.70) **Do not use zero for correlations or p-values** since can't be larger than one (r= -.43, p = .028; Cronbach's α was .76).	(M = 7.30, SD = 0.45) Cohen's d=0.70 r(55) = .49 p = .034 p = .02 Cronbach's α was .76).	(M = 7.30, SD = .45) r(55) =0.49 p = 0.034. p = 0.02
Probability values (p-values)	In journal articles and tables, you will have noted that significant levels are often reported as either "p > .05," "p < .05," "p < .01,"	*For your sentence in the text you must report the exact p value.* All p-values must be reported to 2 or 3 decimal points EXCEPT p < .001	Do **not** report: "p > .05," "p < .05," "p < .01,"

			OR
			p=.000
	However, for APA style you need to report the exact *p* value within the text of a manuscript (unless the *p* value is less than .001).	*i.e.,* *p* = .034 *p* = .02. **p < .001.**	*You need to include the actual value.*
Subjects	Use an uppercase N for number in the total **sample** (*N* = 45) and a lowercase *n* for a fraction of the sample (*n* = 20).		
Confidence Intervals	For reporting confidence Intervals you need to use square brackets [ ]	95% CI [2.47, 2.99]	95% CI (2.47, 2.99) *(This has not used square brackets)*
Degrees of freedom	Use parentheses to enclose **degrees of freedom**.	*t*(10) = 2.16, *p* < .001.	t[10] = 2.16, *p* < .001. *(This has not used parentheses)*
Mean (M), **Standard Deviation** (SD)	(and similar single statistics): are presented using parentheses:	The mean score for the no treatment group (*M* = 19.22, *SD* = 3.45) indicated that … Or The mean score for the no treatment group was 19.22 (*SD* = 3.45).	

Percentages	are presented using parentheses with **no decimal places**	Nearly half (49%) of the sample group were married.	Nearly half (49.567%) the sample group were married. *(Do not include decimal places for percentages)*
T tests	Report the *t* value and significance level. What you put in the wording will differ slightly depending on if you have a one sample t-test, or a t-test for groups.	$t(54) = 5.43$, $p < .001$. One sample t-test: Younger teens woke up earlier ($M = 7.30$, $SD = 0.45$) than teens in general, $t(33) = 2.10$, $p = .31$ Results of the independent sample t-tests indicated that there were not significant differences in job satisfaction between males and females, ($t(54) = 5.43$, $p < .001$).	
One-Way/Two Way ANOVA	State the between-groups degrees of freedom, then state the within-groups degrees of freedom (df), followed by the F statistic, followed by the significance level.	$F(1, 149) = 2.12$, $p = .02$. i.e.,§ Results of the ANOVA indicated that there were no significant differences in job satisfaction between ethnicities ($F(1, 149) = 2.12$, $p = .02$.)	

Post hoc analysis	If the result of the test is significant you need to report the post hoc analysis. Researchers will normally report only one post hoc analysis.	An one way analysis of variance showed that the effect of noise was significant, $F(3,27)$ = 5.94, p = .007. Post hoc analyses using the Scheffé post hoc criterion for significance indicated that the average number of errors was significantly lower in the white noise condition (M = 12.4, SD = 2.26) than in the other two noise conditions (traffic and industrial) combined (M = 13.62, SD = 5.56), F(3, 27) = 7.77, p = .042.	
Correlations	Report correlations with degrees of freedom (N-2) using parentheses, followed by the significance level. Don't forget to report positive or negative correlations.	$r(55)$ = .49, $p < .001$. i.e., *There was a strong positive correlation between sleep and green vegetables* $r(55)$ = .49, $p < .001$.	
Chi-Square test of Independence:	Report degrees of freedom and sample size in parentheses, then the chi-square value, followed by the significance level.	$X^2(1, N = 75)$ = 0.89, p = .25. i.e., *Animal response to the stimuli did not differ by species,* $X^2(1, N = 75)$ = 0.89, p = .25.	
Regressions	**For reporting your regression in the text:** Adjusted R2 is preferred for reporting	R^2 = .12, $F(1, 225)$ = 42.64, $p < .001$.	

	regression and multiple regression. So, you can report the R^2 with the F test and the p value.	i.e., *Results of the multiple linear regression indicated that there was a collective significant effect between the gender, age, and job satisfaction, R^2 = .12, F(1, 225) = 42.64, p < .001.*	
	For individual predictors you should at least present the unstandardized or standardized slope (beta), whichever is more interpretable given the data, along with the *t*-test and the corresponding significance level.	⬚⬚= -.34, *t*(225) = 6.53, *p* < .001 *When the individual variables entered into the model were considered, the sleep score was found to be a significant predictor of exercise* ⬚⬚= -.34, *t*(225) = 6.53, *p* < .001 ⬚⬚	
███████████	████████████████	████████████████	███████████
Italicise (put the symbol into Italics)	For each symbol, don't forget to *italicize* the symbol. i.e., instead of Cohen's d you need to use Cohen's *d*	Cohen's *d*	*d*
		Degree of freedom	*df*
		F statistic or *F* value	*F*
		mean	*M*
		Sample size (sub sample)	*n*
		Sample size full sample	*N*

	The 'd' has been changed to italics.	p value	p
		r value	r
		R^2 value	R^2
		Standard deviation	SD
		Standard error	SE
		t value	t
		z score	z
		Cronbach's alpha	Cronbach's α
		beta	β
		chi-square	χ^2
		delta	Δ

THIS TABLE SHOULD BE USED AS GUIDANCE FOR WRITING YOUR RESULTS IN YOUR COURSEWORK AND YOUR SYNOPTIC PROJECT. WE WILL USE THE TABLE INFORMATION PROVIDED AS AN INDICATOR OF THE APA STYLE THAT WILL BE MARK.

We have used various weblinks to provide you with these examples, however the presentation information may vary between websites so **please use the table above as your guidance when reporting your data for your CW2.** Sources of information:

https://www.statisticshowto.datasciencecentral.com/reporting-statistics-apa-style/
http://my.ilstu.edu/~jhkahn/apastats.html
https://www.statisticssolutions.com/reporting-statistics-in-apa-format/
https://blog.apastyle.org/apastyle/2011/08/the-grammar-of-mathematics-writing-about-variables.html
http://ich.vscht.cz/~svozil/lectures/vscht/2015_2016/sad/APA_style2.pdf