**HOW TO WRITE A RESEARCH PROPOSAL**

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| **Introduction** |

 To complete the confirmation of candidature, research candidates need to write and to submit a research proposal. In general, this research proposal will comprise

* a comprehensive literature review to justify the research question and project
* a detailed outline of the methodology and methods that will be implemented, and
* information about the feasibility of this project, such as timelines, resource costs, and ethical concerns

The precise contents, format, and length of this research proposal varies considerably across candidates. Nevertheless, in general

* for the PhD, the research proposal usually includes between 7000 and 10 000 words
* for the Masters by Research, the proposal usually includes between 5000 and 7000 words

This document will help you prepare the research proposal. In particular, this document specifies the sections or topics you should usually include. Furthermore, this document illustrates this advice with an example. However, if you plan to utilise a methodology in which the methods evolve over time—such as grounded theory or participatory action research—the research proposal will not be as detailed as this example suggests.

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| **Contents of a Research Proposal** |

 The first column in this table specifies the main sections or subsections to include. The second column presents a fictional example of each section or subsection. However, in contrast to this example, your research proposal should

* be longer
* be written in complete paragraphs rather than only bullet points; this example was written in bullet points to help you follow the arguments
* not necessarily include these sections in the same order.

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| Review of the literature |
| **1 Overview**  |  |
| Briefly describe the problem in society, controversy in the literature, or both that your research is designed to address | **Overview of the issues*** As universities become increasingly competitive in a landscape of diminishing government funding, these institutions impose greater pressure on research students to complete their thesis on time (Adams, 2015)
* This pressure might amplify the motivation of students to complete their research swiftly but tends to impede mental health (Barker, 2017)
* Indeed, in one study, over 30% of research students indicated they had been prescribed medication to alleviate anxiety, depression, or both during their candidature (Canon, 2016)
* Mental health problems, from burnout to suicide, are prevalent in this cohort relative to the general population (Zhou & Young, 2017)
* To manage these concerns, researchers need to clarify the reason that mental health problems are particularly rife in research students
* Two main theories have been proposed.
* The first theory revolves around the fluency bias (Davies & Eddy, 2016)
* According to this model, research students cannot readily envisage the range of activities they need to undertake to complete their thesis
* They are not always sure how they will proceed in the future
* Activities that cannot be imagined vividly tend to be perceived as improbable
* Consequently, research students may not feel confident they can complete their thesis (Davies & Eddy, 2016).
* As this confidence diminishes, their motivation decreases (Vroom, 1964)—a decrease that tends to diminish the hallmarks of wellbeing, such as positive emotions and life satisfaction (White, 2015).
* .
* The second theory revolves around the notion of future clarity (McGee, 2017)
* Many research students are unsure of the jobs they are likely to pursue after they complete their thesis
* Therefore, their future often seems hazy and vague
* In this state, students are not as willing to sacrifice their pleasure now to benefit a future they cannot envisage (Flowers, 2018)
* They are not as willing to delay gratification.
* They perceive challenges as threats to their happiness now rather than opportunities that could benefit their future, diminishing their resilience (Gallows & Hart, 2016)
* As this resilience subsides, they become more susceptible to anxiety and similar concerns.
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| Clarify how your study is designed to resolve this problem or controversy | * The aim of this research is to uncover initiatives that could be implemented to alleviate mental health concerns in PhD and Masters by Research students
* Specifically, this research will investigate whether problems in mental health can be ascribed to the fluency bias or limitations in future clarity
* Once the source of these mental health concerns in research students are clarified, this research will uncover and substantiate initiatives that redress these causes.
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| Clarify the unique features of this research—to clarify how your research, unlike past research, may resolve this problem in society or controversy in the literature. That is, demonstrate the impact of your researchs | * Although many studies have explored mental health problems in research students, this research has not explored how perceptions about the research activities or future are related to these problems
* In addition, research has not explored whether interventions that redress these causes may resolve these mental health problems in research students
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| **2. Literature review** |  |
| Summarize the research that highlights the prevalence or significance of this problem | * Over the last decade, many studies have explored the mental health concerns of research students.
* Many studies have explored the prevalence of psychotropic medication in this cohort
* In America, for example, an estimated 27% of PhD candidates sought prescriptions of antidepressants during their candidature; 59% of these individuals had never consumed antidepressants previously (Idles, 2018)
* Similar patterns of antidepressant use has been reported in Canada (Johns, 2015), the UK (Johns, 2016), and Australia (Kates, 2017).
* These rates have not been found to differ significantly across genders, ages, or disciplines (Idles, 2018; Johns, 2016).
* Other studies have explored diagnoses of mental disorders in this population
* In Germany and France, rates of clinical depression are 40% higher in PhD students than other students and 35% higher in PhD students than non-students after controlling gender, age, and income (Taylor, 2014; Utah, 2017).
* Finally, some of this research involves large surveys of many university students
* One survey, conducted in the US, showed that over 10% of PhD and Masters by Research students reported suicidal ideation during their candidature (Sweet, 2016)
* Almost half these individuals had formulated a detailed plan on how they might implement this suicide—a key determinant of suicidal behavior.
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| * Present the main arguments and theories that have been applied in the past to study or resolve this problem
* Many students like to organize these arguments and theories chronologically—but you might use another rationale to arrange these arguments and theories
* In this outline, integrate the evidence that supports or refutes these arguments or theories
 | * A variety of theories have been proposed to explain the elevated levels of mental health problems in research students
* Lester (1997) proposed one pioneering account.
* According to Lester, most research students prioritize the outcome—the submission and completion of their thesis—over more immediate goals, such as the submission of ethics applications
* Consequently, throughout their candidature, research students seldom experience feelings of reward
* Because a blend of stressful moments and subsequent rewards tend to promote resilience (Mann, 1996), research students are unlikely to develop resilience during their candidature.
* .
* However, some research counters this model.
* In particular, research shows that resilience does not mediate the association between whether or not people are completing PhD degrees and mental health (Noons, 2017)
* Consequently, limited levels of resilience are unlikely to explain the rampant levels of mental health problems in research students.
* .
* More recent accounts have been proposed to explain the mental health concerns of research students that are unrelated to resilience.
* Davies and Eddy (2016) argued that research students cannot readily envisage the various phases of their project
* They are not especially familiar with the research activities they need to complete
* Consistent with past research on the fluency bias (Ovens, 1998), because they cannot imagine these phases vividly, they become less confident they will complete these activities.
* That is, people tend to confound fluency with feasibility
* In support of this possibility, Davies and Eddy showed that students who are confident they will complete were not as likely to experience depression and anxiety
* In addition, as completion became imminent in these students and they could thus imagined these activities vividly, the likelihood of mental health problems dissipated.
* Nevertheless, as research shows, these mental health problems were still elevated even after research students submitted their thesis (Power, 2017).
* To explain this finding, McGee (2017) proposed that uncertainty about the future could explain these concerns
* At this time, few academic jobs are available in Europe, US, UK, and Australia (for a review, see Queens, 2016).
* Thus, individuals are not certain of their future.
* As research shows, this uncertainty diminishes the capacity of people to delay gratification: challenges are perceived as threats rather than as opportunities to learn and develop capabilities that could benefit their future (Rally, 2017)
* Some research has indeed shown that future clarity is low in PhD students (Somers, 2016)
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| * Outline limitations of past research—limitations that your research may partly or wholly resolve
* These limitations might be specified explicitly or embedded implicitly in the previous paragraphs
 | * Nevertheless, because of two main limitations, further research is warranted to clarify the causes and treatments of mental health problems in research students
* First, researchers have not conducted randomized control trials or experiments to ascertain whether improvements in clarity around research activities or future job opportunities are indeed beneficial
* Consequently, other accounts could explain the finding that mental health problems diminish, but do not vanish, after submission
* Second, research has not clarified which interventions could resolve these problems.
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| * Specify the aims of your research and, if applicable, the hypotheses
 | * This research was designed to overcome these limitations.
* In particular, this research was conducted to ascertain whether initiatives to enhance the clarity of research activities or future jobs improves wellbeing
* Hypothesis 1: Initiatives that are designed to enhance the clarity of research activities should improve wellbeing
* Hypothesis 1: Initiatives that are designed to enhance the clarity of likely jobs should improve wellbeing
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| Methods |  |
| Summarize the methodology and methods | * To explore these questions, this project will apply a mixed methods approach from a pragmatist perspective
* In particular, in the first two studies, an experimental design will be utilized to examine whether information that clarifies future research activities or jobs improves mood in research students
* That is, in Study, 1 half the participants will be exposed to videos that clarify subsequent research activities. The control participants will watch comparable activities that are unrelated to research.
* Psychological and physiological instruments will then be administered to measure mood
* Study 2 will be similar, except participants will be exposed to videos that depict feasible jobs in the future
* Next, I will conduct a textual analysis of wellbeing programs that are available to research students in other universities
* These data will be subjected to thematic analysis to uncover possible initiatives that could assist research students
* The final study will then integrate but adapt these initiatives to redress the main causes of mental health problems, as uncovered in Studies 1 and 2. This study will examine the mood of research students before and after this initiative
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| Outline the underlying theoretical perspective and methodology—especially relevant if the research is partly or wholly qualitative  | * For this project, I will adopt a pragmatist perspective and thus utilize any data that is readily available to resolve my research questions
* A pragmatist perspective is often applied to justify a mixed-model approach that blends quantitative and qualitative data
* For this study, an exploratory sequential mixed method approach will be utilized
* That is, the qualitative research will primarily be conducted to uncover insights that will guide the subsequent quantitative evaluation
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| * Specify the participants, materials, procedure, and data analysis for the first study.
* Occasionally, if relevant, include evidence to justify methods that are not prevalent, such as psychometric properties
 | * In Study 1, the participants will comprise 200 individuals, recruited from MTurk online as well as from relevant subreddits in Reddit about research degrees.
* The participants will be students enrolled in a PhD or Masters by Research full time
* They will receive a link to a Qualtrics survey
* Participants will be randomly allocated to one of two conditions and paid $1 US to complete the study
* In one condition, embedded in the survey is a 15 minute video.
* This video demonstrates vividly the main phases that research students need to complete—and then presents some links that participants can explore to seek more information
* The control condition is the same except the video shows the main phases that undergraduate students need to complete
* Before and after watching the videos, participants will complete a measure called the IPANAT—a measure that measures the mood of people subtly rather than explicitly (Kuhl et al., 2015)
* Specifically, participants will be asked to indicate the extent to which a set of nonsense words, such as CAPOR elicit feelings of joy, agitation, sadness, or calmness respectively. The individuals are informed this task is designed to gauge their perceptions of potential brand names
* Research indicates that individuals tend to project their own feelings onto these purported brand names. Consequently, these ratings can be conceptualized as an indirect measure of mood
* As evidence of the reliability and validity of this approach, the IPANAT strongly predicts resilience, health, and levels of cortisol (Kuhl et al., 2015).
* A two-way ANOVA will be conducted to ascertain whether changes over time in the IPANAT are more pronounced in participants who watch the video about research activities.
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| * Specify the participants, materials, procedure, and data analysis for subsequent studies.
* These studies might be described in less detail, because they might depend on the results of previous studies
 | * Study 2 is similar to Study 1, except the videos revolve around jobs after completion rather than research activities before completion
* In particular, this video will depict jobs that many research students begin after they complete their thesis—such as a science writer.
* In the control condition, the video will depict jobs in which a research degree is not as useful
* During Study 3, I will attempt to collate information on wellbeing programs that are available to research students
* Specifically, I will contact the Dean of Graduate Studies of all Australian Universities and a random sample of 50 American or European universities, seeking access to any handbooks or materials they use to ameliorate mental health problems in research students
* I will then subject this material to a thematic analysis
* Finally, Study 4 will explore the impact of an intervention that is designed to improve the mental health of research students
* This intervention will be derived from the results of the three previous studies.
* Life satisfaction, explicit measures of mood, and implicit measures of mood will be administered before and after the intervention to gauge the wellbeing of participants.
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| Plans and resources |  |
| * Outline the schedule of research activities.
* You could include a GANTT chart or merely specify the likely dates
 | * Conduct a systematic literature review: March-June 2020
* Construct and submit an ethics application for Studies 1 and 2: July 2020
* Construct the videos and surveys for Studies 1 and 2: August-Sept 2020
* Administer Studies 1 and 2: November-December 2020
* Analyze data for Studies 1 & 2: January-February 2021
* Write reports of Studies 1 and 2: March-April 2021
* Collate existing programs for Study 3: May-June 2021
* Extract themes from existing programs for Study 3: June-July 2021
* Write reports of Study 3: August-Sept 2021
* Develop the intervention: Sept-Nov 2021
* Develop the survey for Study 4: Nov-Dec 2021
* Submit ethics application for Study 4: Dec 2021
* Administer intervention and surveys for Study 4: January-March 2022
* Analyze data for Study 4: April 2022
* Write report for Study 4: May-June 2022
* Write methodology chapter: July-August 2022
* Write literature review chapters: Sept 2022-Oct 2022
* Write draft of other chapters: Nov-Dec 2022
* Identify possible examiners Dec 2022
* Refine the drafts and submit: January-March 2023
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| Specify the ethical and legal clearances that have or need to be obtained. Discuss the main ethical or safety concerns as well as how you might manage these concerns. For example, you might consider whether* the research entails deception
* individuals might feel obliged to participate—because of previous relationships with the researcher
* the incentives to participate are proportionate
* participants, researchers, or anyone else might be exposed to physical, psychological, social, or legal risks
 | * We will need to submit 3 human ethics applications
* Studies 1 and 2 are similar and can be outlined in the same ethics application
* Study 3 is a qualitative study. Because the details might change after Studies 1 and 2, this ethics application will be deferred
* Study 4 also depends on the results of Study 3; and, hence, the ethics application will be deferred.
* None of the studies are likely to raise major ethical issues
* Some of the questions revolve around mood, but these questions do not tend to amplify unpleasant states
* The objective of one measure—the IPANAT—will be concealed; but participants are aware the survey explores determinants of wellbeing.
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| Identify any issues of intellectual ownership. For example* Are you collaborating with another organization
* If so, who will own the data
 | NA |
| Outline the resources that you need to complete this project  | To complete this project, we will need* funds to attract participants from MTurk: $500
* funds to employ someone to optimize the videos: $2500
* funds to publicize Study 4: $1400
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| Source of funds | * Less than $4500 will be needed to fund this project
* The College has agreed to offer $1800 per semester from their RTP funding—and this amount should readily cover the costs of this project
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| Communication plan | Consider* whether you can invite an end user to advice you on your project—an individual in government, industry, or an NGO who might be interested in your results
* the titles and outlets of publications—either during or after submission—especially publications in Q1 journals
* how you will translate the results into practice
* which conferences and networking events you could attend to communicate your results
* which social media outlets you will use to publicize your research and perspectives
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| Bibliography or references |  |