Applicant: **Lassiter, Daniel**
Organisation: **University of Edinburgh**
Funding Sought: **£9,708.74**

SRG23\231535

Pragmatic effects on truth and probability judgment

Research in experimental pragmatics and psychology of reasoning relies heavily on judgments of truth and probability. While it is traditionally assumed that these judgments reflect the literal, "at-issue" meaning of statements, there is evidence that "not-at-issue" meanings (e.g., conversational implicature) may influence truth-value judgments, especially when conversationally relevant. This project is the first to investigate the extent to which various types of non-at-issue meaning affect both truth and probability evaluations, and how relevance affects each. In two experiments, we will compare classic pragmatic meaning types such as presupposition and implicature to coherence relations, a pervasive type of discourse-level pragmatics whose importance has only recently been widely recognized. We will also draw out theoretical and methodological implications of these findings for current debates in both experimental pragmatics and the psychology of reasoning.

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SRG23\231535

Pragmatic effects on truth and probability judgment

Section 1 - Research Proposal

Subject Area

Linguistics

Subject Area Detail - Linguistics

Please select the detail(s) of your Subject Area:

- ☑ Psycholinguistics and Cognitive Science
- ☑ Semantics

Title of Research Proposal

Please state the title of your proposed research:

Pragmatic effects on truth and probability judgment

Abstract

Please provide a short abstract summarising your proposed research in terms suitable for an informed general audience, not one specialised in your field:

Research in experimental pragmatics and psychology of reasoning relies heavily on judgments of truth and probability. While it is traditionally assumed that these judgments reflect the literal, "at-issue" meaning of statements, there is evidence that "not-at-issue" meanings (e.g., conversational implicature) may influence truth-value judgments, especially when conversationally relevant. This project is the first to investigate the extent to which various types of non-at-issue meaning affect both truth and probability evaluations, and how relevance affects each. In two experiments, we will compare classic pragmatic meaning types such as presupposition and implicature to coherence relations, a pervasive type of discourse-level pragmatics whose importance has only recently been widely recognized. We will also draw out theoretical and methodological implications of these findings for current debates in both experimental pragmatics and the psychology of reasoning.

Project Start Date

01 January 2024

Project End Date

30 June 2025

Proposed Programme

Whenever we speak, language users have to make choices among a variety of ways to "package" their message. Linguists have developed a complex taxonomy of such devices, including among others entailments, conversational implicatures, presuppositions, and "conventional implicatures" (e.g., appositives). This taxonomy is of interest to linguists because the various information-packaging devices interact with linguistic and conversational context in different ways. For instance, the ordinary entailment of "I have a dog" - namely, my dog-ownership - is cancelled by negation ("I do not have a dog"). Conversational implicatures also tend to vanish under negation, while presuppositions ("My dog is brown")

and conventional implicatures ("The dog, which is mine, ...") do not (Grice 1989; Potts 2005).

Discourse coherence relations provide a further type of meaning that is of particular interest here. Coherence relations are aspects of meaning that must be supplied in order to provide a coherent interpretation of a multi-clausal text. While they may be signalled overtly, they are frequently not given explicit signal and left for a listener to infer. For instance, if I say "Mary left early. Sue was angry.", a listener will typically understand this text as conveying that Sue was annoyed because Mary left early, even though nothing in my utterance entails this. Indeed, the same text could in some context be read as indicating the opposite causal relationship, if we happen to know that Mary avoids being around an upset Sue. Both ways of constructing a coherent interpretation of the text involve pragmatic reasoning about why the speaker would have chosen to connect the clauses "Mary left early" and "Sue was annoyed" in this way (Hobbs 1979, Kehler 2002). There are numerous other ways to connect clauses via coherence relations. For instance, if I say "Mary left early, and Sue left late", the clauses are connected by parallelism rather than a cause-effect relation.

The importance of coherence relations for discourse understanding is well-established in computational linguistics. However, the relevance of this obligatory feature of textual interpretation to linguistic pragmatics has only recently begun to be appreciated, and coherence theory is virtually unknown in neighboring fields such as psychology of reasoning (Lassiter 2022). The current project will be the first to investigate how coherence relations compare empirically to other information-packaging devices in terms of pragmatic intrusion, and to explore implications for the psychology of reasoning.

In psychological work on reasoning, questions and answers are typically phrased in some natural language. An experimenter may instruct participants to assume that some sentence is true - say, "Mammals have enzyme B-32" - and then ask one of a variety of follow-up questions about the truth, probability, or acceptability of some other sentence, such as "Platypuses have enzyme B-32" (e.g., Heit and Rotello 2010, Lassiter and Goodman 2015). To interpret experimental results generated in this way, we need a detailed understanding of the semantics and pragmatics of the language employed. A recognition of this fact has led to a long and productive interaction between linguistic semantics and pragmatics and the field of psychology of reasoning. However, there is a crucial issue that has received surprisingly little attention in psychology. The same information can be expressed linguistically with various information-packaging devices. Are they all equally relevant to judgments of truth, probability, and/or acceptability?

Surprisingly, work in the psychology of reasoning has not addressed this key interpretive issue face-on. In general, it is assumed, following the tradition in linguistic and philosophical semantics, that the "literal" meaning of a statement - its direct entailments - are primary. As a result, there has been a tendency to assume that, if some piece of information affects participants' judgments of truth/falsity or probability, then this information must belong to the literal meaning of the statement. However, this reasoning is questionable because it does not yet take into account the rich taxonomy of other ways to package information that has been provided by work in linguistic pragmatics.

The status of non-entailed meanings is of considerable methodological importance for the psychology of reasoning because judgments of truth, entailment, and probability play a key role in the design of experiments that are used to evaluate theoretical claims. Indeed, there is by now considerable evidence that judgments of truth and falsity are influenced by non-entailed aspects of meaning, including context-sensitive conversational inferences. Several decades of research shows that truth-value judgments regarding a sentence are sensitive to several ways of packaging information in addition to entailed (at-issue) meaning, including conversational implicature, conventional implicature, and presupposition. Research in experimental pragmatics, for instance, has shown that participants frequently judge sentences like "Some elephants are mammals" as false, even though they are literally true, because they tend to generate the false implicature that not all elephants are mammals (Bott and Noveck 2004 and many following). Such evidence suggests that truth-value judgments are less sensitive to the type of information

packaging than traditionally assumed, and so challenges the assumption that truth-value judgments can be used to diagnose entailment vs. other types of meaning.

Even more surprisingly, there is recent evidence that even entailed meaning can be ignored when it is judged irrelevant to the conversation. Kroll and Ryslin (2019) found that around 50% of participants judged sentences of the form "A and B" as "true" when "B" was false, but irrelevant to the main point of the immediate conversation. In their experiments, participants treated entailments and conventional implicatures identically when both were relevant or irrelevant to the point of the conversation. This finding is surprising in light of a large literature inspired by Potts 2005, which argues that the relevance of information for truth and falsity depends on how it is packaged linguistically, with entailed meaning bearing primary weight in true/false judgments. Kroll and Rysling's experiment indicates that ordinary language users do not use the terms "true" and "false" in this way.

This finding raises a profound question for experiments that make use of truth-value judgments. Is the apparent importance of entailed meaning due simply to the fact that this type of information packaging is usually used for information that is directly relevant to the conversation? If so, it may turn out that conversational relevance, rather than information packaging per se, is the primary determinant of which information participants consider in their truth-value judgments. Research in both psychology of reasoning and experimental pragmatics would benefit from a systematic experimental investigation that manipulates a wider variety of information packaging types separately from conversational relevance, in order to consider whether they make a separate contribution to patterns of truth-value judgments.

Two further features of the dialectic to date make the present research particularly timely. First, there is increasing consensus around the importance and ubiquity of coherence relations in natural language interpretation. However, there has been no systematic investigation to date of whether and how coherence relations influence participants' judgments of truth and falsity. Consider again the example "Mary left early. Sue was angry." Suppose that a participant reads this text and infers a causal relation, but subsequently learns that Sue was angry for some unrelated reason. Will the participant judge the text true (because both statements are literally true) or false (because it conveys false causal information)? At present, we have no way to know whether coherence relations show pragmatic intrusion. This issue is particularly crucial because many key issues in the psychology of reasoning involve multi-clause texts such as conjunctions (A and B), disjunctions (A or B), and conditionals (if A, B). Coherence-derived interpretations deeply infuse our understanding of these sentence types (Kehler 2002), yet experimentalists have no way at present to know when discourse coherence has influenced our results and how to design materials that factor out its effects. This unclarity is of particular importance for a prominent current debate around "Inferentialism" in conditional semantics and reasoning (Douven et al. 2018). As Lassiter (2022) shows in detail, the interpretation of a large body of experimental research motivating this revisionist approach to conditional meaning depends crucially on the question of whether coherence relations intrude on truth and probability judgments.

The present project is also timely because it will explicitly compare judgments of truth and probability. In recent years, with the rise of the "New paradigm" in the psychology of reasoning (Over, 2009), researchers have come to rely increasingly on judgments of probability to adjudicate among theories of human reasoning. However, there has been very little investigation of the extent to which pragmatics influences probability judgment, and none at all targeting discourse coherence specifically. Fugard et al. (2010) found that participants tended to assign probability 0 to conditionals that are true but pragmatically defective, such as "If the number is 2, then it is 2 or 4". In the most extensive investigation to date, Cremers et al. (2014) found that scalar implicatures, presuppositions, and vagueness modulate probability judgment in different ways. While both experiments provide reason to expect pragmatic intrusion in some cases, neither investigated the full range of information packaging devices, and neither compared probability judgments to truth-value judgments.

We therefore propose a large-scale online experiment systematically investigating the extent of pragmatic intrusion on truth and probability judgments, with special attention to multi-clausal sentences and discourse coherence relations.

The PI has extensive previous experience in building and conducting online experiments, and will provide needed training to the RA. Experiments will be built in JavaScript using the _Magpie infrastructure (https://magpie-ea.github.io/magpie-site/). Because of the large number of conditions and the number of data points required to get quantitative resolution especially on binary judgments, the experiment will require a fairly large number of participants (estimate: 150 for pilots, 600 for the main experiment, and 250 for the norming study). We will recruit participants using Prolific (https://www.prolific.co/), the current standard platform for conducting online experiments.

The experiment will investigate pragmatic effects on truth and probability judgment for a wide range of information packaging devices, while also manipulating the conversational relevance of each piece of information. Adapting design concepts from Cremers et al. (2014) and Kroll and Rysling (2019), participants will evaluate a series of statements paired with visual images of geometric shapes of different colours. Each participant will be randomly assigned to evaluate either the statement's truth/falsity, probability, or (as a pragmatically loaded control) acceptability.

Participants will be presented with a number of cards, each of which contains a scene with two shapes of different colours - for instance, a green circle (A) and a blue square (B). (The use of a slate of cards rather than a single card is needed in order to render judgments of probability and coherence relations sensible while maintaining uniformity across visual stimuli.) Following Kroll and Rysling (2019), we will manipulate relevance by casting the sentence as a response to an overt question that targets one shape or both, randomly selected from A-targeting ("What can you tell me about the circle?"), B-targeting ("What can you tell me about the square?"), or relation-targeting ("What can you tell me about the relation between the two shapes?"). Target sentences will be paired randomly with visual scenes, and will encode information about both shapes. Depending on condition, participants will be asked either to evaluate the target sentence for a highlighted card, or to assume that a card has been randomly selected from the slate that they see and evaluate the probability that the sentence is true of the selected card. This method of probability judgment has been employed successfully by Cremers et al. (2014) and in previous work by the PI (Nadathur and Lassiter 2015). Participants in the truth condition will provide binary true/false judgments. Judgments of acceptability and probability will be collected on a 7-point Likert scale.

The key manipulation involves whether the directly relevant information is presented as an entailment, presupposition, conventional implicature, or in terms of a coherence relation. For instance, an entailment-targeting prompt might read "What can you tell me about the circle? -The circle is green and the square is brown", with the crucial manipulation involving whether the square is brown or blue. A matched presupposition-targeting prompt would read "-The circle is green and is next to the brown square". Coherence-targeting prompts will be constructed using conditionals, conjunctions, and bare juxtapositions of sentences designed to evoke Kehler's (2002) cause-effect and parallel relations. A separate norming experiment will be used to check that the stimuli evoke the intended coherence relations, and we will include overtly signalled coherence relations (with e.g. "A. Therefore B" and "A. Similarly, B") as a manipulation check.

For each condition, we will compare response patterns to a fully literal baseline and compute the degree of deviation as a function of information packaging type, dependent measure and relevance. Our experimental hypothesis is that the effects of the relevance manipulation will interact with type of information packaging in all three judgment types, but to a greater extent for acceptability judgments. Crucial empirical questions include the relative extent of pragmatic intrusion depending on sentence type, and the extent to which overtly signalled and inferred coherence relations influence judgments of all types.

The results of this experimental investigation will be of considerable relevance for work in semantics, experimental pragmatics, and psychology of reasoning. We expect that it will generate a number of follow-up projects, and we plan to use this research to jumpstart a larger grant application that pursues these follow-up questions systematically. For instance, it would be desirable to adapt the experiments to use more naturalistic materials while maintaining tight controls. In addition, there is need for follow-up research that specifically addresses the debate around conditionals discussed briefly above, where the interpretation of a major body of research (e.g., Douven et al. 2018) depends crucially on the question of pragmatic intrusion involving discourse coherence effects (Lassiter 2022). This research will motivate these and further empirical and theoretical questions, allowing us to further pursue the important, but somewhat fragmented, tradition of theoretical engagement between linguistic pragmatics and the psychology of reasoning.

References

Bott, L., & Noveck, I. A. (2004). Some utterances are underinformative: The onset and time course of scalar inferences. Journal of memory and language, 51(3), 437–457.

Douven, I. et al. (2018). Conditionals and inferential connections: A hypothetical inferential theory. Cognitive Psychology 101.

Grice, H.P. (1989). Studies in the ways of words. Harvard University Press.

Heit, E., & Rotello, C. (2010). Relations between inductive reasoning and deductive reasoning. Journal of Experimental Psychology: Learning, Memory, and Cognition, 36(3).

Hobbs, J. (1979). Coherence and coreference. Cognitive Science 3.

Kehler, A. (2002). Coherence, reference, and the theory of grammar. CSLI Publications.

Kroll, M. and Ryslin, A. (2019). The search for truth: Appositives weigh in. Semantics and Linguistic Theory 29: 180-200.

Lassiter, D. (2022). Decomposing relevance in conditionals. Mind and Language.

Lassiter, D. and Goodman, N.D. (2015). How many kinds of reasoning? Inference, probability, and natural language semantics. Cognition 136.

Nadathur, P. and Lassiter, D. (2015). Unless: An experimental approach. Proceedings of Sinn und Bedeutung 19.

Over, D.E. (2009). New paradigm psychology of reasoning. Thinking and Reasoning 15(4).

Potts, C. (2005). The logic of conventional implicature. Oxford University Press.

Other Relevant Information Upload

If necessary, please upload any supplementary documents here:

No Response

Plan of Action

Please indicate here a clear timetable for your research programme:

Try to be as realistic as possible, but keep in mind that research programmes will develop over time and this plan of action is not something that is expected to account for every minute and is not unchangeable. But your chances of award will be affected by the assessors' perception of how viable and realistic this plan is.

Pre-project preparation (Autumn semester 2023-2024): I will teach an M.Sc. seminar on "Experimental pragmatics, reasoning, and probability judgment" at the University of Edinburgh, covering the main ground of the proposed research project. I will use the seminar to identify candidates for the research assistant position and introduce them to the core research areas and methods. If successful, this strategy will mean that the RA who is hired for a start on 1 January 2024 will already have substantial background knowledge of the research area in time for the project to begin in earnest.

Spring/summer semester 2023-2024: The project will begin officially at this time, with the RA having been hired for a January 1 start. The RA and I will design and pilot conduct the main experiment and norming study described in the "Proposed programme" section, manipulating within participants (1) the type of linguistic packaging that is used to convey a specific message and (2) the relevance of the message to an overtly expressed question. In addition, we will introduce a between-participants manipulation of (3) whether the dependent measure involves a judgment of truth, probability, or acceptability.

Autumn semester 2024-2025: Based on results of pilots, we will refine the experimental design and conduct the full experiment and analyze the data. We will begin to write up the results as initial short reports for conference presentation (see below).

Spring semester 2024-2025: We will present results from both experiments at international conferences (see below) and expand the short write-ups into a full-length journal paper.

Planned Research Outputs

Please indicate here what the expected output(s) from your research programme might be.

As appropriate, please indicate as follows: monograph, journal article(s), book chapter(s), digital resources, other (please specify).

Please outline your plans for publication under Plans for publication/dissemination below:

We will write initial reports for submission to major international conferences in relevant areas (described below). Based on feedback from presentations and additional feedback solicited from relevant colleagues in linguistics and psychology, we will expand the conference papers into a full-length journal paper in the final phase of the project.

Plans for Publication and Dissemination

Experimental results will initially be written up during the second phase of the project as short papers for major international conferences in Cognitive Science (the Annual Conference of the Cognitive Science Society), theoretical linguistics (Semantics and Linguistic Theory), and psycholinguistics (the Human Sentence Processing conference). We will then expand these papers into a full-length journal submission to Open Mind, the premier open-access journals in cognitive science. We plan to submit the full paper by the end of the grant period.

Digital Resource

If the primary product of the research will be a digital resource have you obtained guidance on appropriate standards and methods?

⦿ No

Deposit of Datasets

Please provide details of how and where any electronic or digital data (including datasets) developed during the project will be stored, along with details on the appropriate methods of access:

It is a condition of award that all data be freely accessible during, and beyond, the lifetime of the project.

Experimental methods and planned analyses for the main experiments and the norming study will be preregistered with the Open Science Framework (OSF: https://osf.io/). All data collected will then be made publicly available after collection in the relevant OSF project, after being scrubbed of identifiable information. We will also post full analysis scripts with detailed annotations in R Markdown, to ensure reproducibility of the entire analysis pipeline. To ensure public availability in case of any access issues with OSF, we will also make the same information available in a public GitHub repo (https://github.com/).

Overseas Travel - Country

If your research involves travel abroad, please select the relevant country/countries:

United States of America (the)

Overseas Travel - Country

If your research involves travel abroad, please select the relevant country/countries:

No Response

Overseas Travel - Country

If your research involves travel abroad, please select the relevant country/countries:

No Response

Overseas Travel Institution

Please indicate if your research involves working in a particular overseas institution, and/or add other countries to which you will travel in connection with this application:

As noted above we will submit papers for presentation at the 2025 iterations of the Annual Conference of the Cognitive Science Society (CogSci), Human Sentence Processing (HSP), and Semantics and Linguistic Theory (SALT). The location of these conferences in 2025 has not yet been announced. HSP and SALT usually take place in North America, while CogSci can be anywhere in the world.

Research Leave Granted/Permission Obtained

Please indicate if you will need to be absent from your employing institution in order to undertake the proposed research, and if so, whether the necessary permission has been obtained:

N/A

Support of British International Research Institute Required/Granted

Will you require the (non-cash) support of a British International Research Institute abroad?

If your research will take you to a country or region in which one of the British International Research Institutes operates, you are strongly encouraged to make contact with it before completing this form so that you can take account of any relevant expertise, facilities and logistical advice: Details can be found on the Academy's website at https://www.thebritishacademy.ac.uk/international/research-institutes**.**

⦿ No

Language Competence

All experiments will be conducted in English, which is my primary language of research and my native language.

Other Participants

Please give the names, appointments and institutional affiliation of any other participants in the proposed research. If detail is not known yet, please indicate numbers and status of people who might be involved:

No Response

Role of Other Participants

Please describe the contribution to the project to be made by other participants, citing any particular specialisms and expertise:

No Response

Added Value of Collaboration

Please provide any comments you wish to make on the particular relevance, timeliness or other aspects of the collaboration, and the benefits envisaged:

No Response

Endangered or Emerging Subject Area

Applicants should be intending to pursue original, independent research in any field of study within the humanities or social sciences. There are no quotas for individual subject areas and no thematic priorities. The primary factor in assessing applications will remain the excellence of the proposal. The Academy will, however, where appropriate, take into account the aim of providing particular support for certain important fields, either emerging areas of scholarship or areas of research that are endangered or under threat.

No Response

Ethical Issues

Are there any special ethical issues arising from your proposal that are not covered by the relevant professional Code of Practice? You must answer yes or no:

⦿ No

Have you obtained, or will you obtain ethical approval from your employing institution or other relevant authority? You must answer yes or no:

⦿ Yes

If the answers are yes to special ethical issues and no to having obtained prior approval, please describe here the non-standard ethical issues arising from your research and how you will address them:

If the answer is no to special ethical issues please enter N/A

N/A

Source of Funding

Have you/any co-applicants made any other applications in connection with this project? If so, with what results?

No.

Section 2 - Eligibility

Primary Subject

Please indicate the subject most relevant to your research:

Linguistics

Primary Subject Detail - Linguistics

Please select the detail(s) of your primary subject:

- ☑ Psycholinguistics and Cognitive Science
- ☑ Semantics

Secondary Subject

If your application is more interdisciplinary, you may choose to indicate a secondary subject to which your application might also be relevant:

Psychology

Secondary Subject Detail - Psychology

Please select the detail(s) of your Secondary subject:

- ☑ Cognitive and Perceptual Psychology

Time Period

Please select your time period(s) from the list below:

- ☑ Contemporary

Regional Interests

Please select your regional interest(s) from the list below:

- ☑ Unspecified Region

Audiences

Please select your audience(s) from the list below:

- ☑ Other funding bodies in the UK (e.g. AHRC, Leverhulme)

GMS ORGANISATION

Type	University
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Type	University
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Email (Work)	contactus@durham.ac.uk
Address	University of Durham University Offices Durham Durham DH1 3HP United Kingdom of Great Britain and Northern Ireland (the)

Names of Co-Applicants on this application

Please state the names of any co-applicants on this application:

No Response

Section 3 - Lead Applicant Details

PRIMARY APPLICANT DETAILS

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CONTRIBUTOR DETAILS

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Role	Lead Applicant Referee
Title	Professor
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Surname	Over
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Address	University of Durham University Offices Durham Durham DH1 3HP United Kingdom of Great Britain and Northern Ireland (the)

Section 4 - Lead Applicant Career Summary

Statement of Qualifications and Career

Please give details of your academic qualifications and career.

Qualification:	Date:
Associate Professor of Linguistics, Stanford University	01 May 2021
International Chair, Labex Empirical Foundations of Linguistics, Universit'e de Paris 7	21 November 2019
Assistant Professor of Linguistics, Stanford University	01 September 2013
Postdoctoral Researcher in Psychology, Stanford University	15 June 2011

Present Appointment

Please state your present appointment.

Senior Lecturer in Semantics

Present Employing Institution

Please state the institution at which you are currently employed.

University of Edinburgh

Present Department

Please indicate the Department or Faculty (or equivalent) in which you are based.

Linguistics and English Language, School of Philosophy, Psychology, and Language Sciences

PhD Confirmation

◉ Yes

Personal Statement

Please enter your personal statement:

No Response

Publications

Please list your principal and/or relevant publications in reverse chronological order, to a maximum of six:

M. Bourlier, B. Jacquet, D. Lassiter and J. Baratgin. Coherence, not conditional meaning, accounts for the relevance effect. Frontiers in Psychology 14, 2023.

D. Lassiter. Decomposing relevance in conditionals. Mind & Language, 2022.

B. Grusdt, D. Lassiter and M. Franke. Probabilistic modeling of rational communication with conditionals. Semantics & Pragmatics 15(13), 2022.

D. Lassiter. What we can learn from how trivalent conditionals avoid triviality. Inquiry 63(9-10), 2020.

D. Lassiter. Graded Modality: Qualitative and quantitative perspectives. Oxford University Press, 2017.

D. Lassiter and N. D. Goodman. How many kinds of reasoning? Inference, probability, and natural language semantics. Cognition 136: 123-134, 2015.

Unpublished Research

Please list any extant unpublished projects funded by the Academy or any other agency, and their expected publication date (or other explanation):

N/A

Previous Support Dates

Please give details of any research application submitted to the British Academy within the last five years:

Please note that only one British Academy research grant may be held, or applied for, at any one time.

N/A

Previous Support Description

Please give the title of any previous research application submitted to the British Academy within the last five years, and the amount awarded (if any):

Title	Amount Awarded
No Response	£0.00
No Response	£0.00
No Response	£0.00
No Response	£0.00
No Response	£0.00

Where did you hear of this scheme?

Please indicate where you heard about this scheme:

PPLS Research Office, University of Edinburgh

Section 5 - Co-Applicant Career Summary

Co-Applicant Contact Details

Please enter contact details below:

Title:	*No Response*

Forename(s):	*No Response*
Surname:	*No Response*
Correspondence Address:	*No Response*
Email Address:	*No Response*
Telephone Number:	*No Response*

Statement of Qualifications and Career

Please give details of your academic qualifications and career.

Qualification:	Date:
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*

Co-Applicant Present Appointment

No Response

Present Employing Institution

No Response

Co-Applicant Present Department

No Response

Co-Applicant Personal Statement

No Response

Co-Applicant Previous Support

Please give the dates and title of any previous research application submitted to the British Academy within the last five years, and the amount awarded (if any):

Title of Research:	Date:	Amount Awarded:
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00

No Response	*No Response*	£0.00

Co-Applicant Publications

No Response

Section 6 - Second Co-Applicant Career Summary

Co-Applicant Contact Details

Please enter contact details below:

Title:	*No Response*
Forename(s):	*No Response*
Surname:	*No Response*
Correspondence Address:	*No Response*
Email Address:	*No Response*
Telephone Number:	*No Response*

Statement of Qualifications and Career

Please give details of your academic qualifications and career.

Qualification:	**Date:**
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*
No Response	*No Response*

Co-Applicant Present Appointment

No Response

Present Employing Institution

No Response

Co-Applicant Present Department

No Response

Co-Applicant Personal Statement

No Response

Co-Applicant Previous Support

Please give the dates and title of any previous research application submitted to the British Academy within the last five years, and the amount awarded (if any):

Title of Research:	Date:	Amount Awarded:
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00
No Response	*No Response*	£0.00

Co-Applicant Publications

No Response

Section 7 - Financial Details

Budget heading		Year 1	Year 2	Year 3	Total
Travel Costs					
Travel Costs	Proposed Cost	£0.00	£1,000.00	£0.00	£1,000.00
Travel Costs Total	***Proposed Cost***	***£0.00***	***£1,000.00***	***£0.00***	**£1,000.00**
Other Costs					
Other Costs	Proposed Cost	£4,000.00	£140.00	£0.00	£4,140.00
Other Costs Total	***Proposed Cost***	***£4,000.00***	***£140.00***	***£0.00***	**£4,140.00**
Accommodation					
Accomodation	Proposed Cost	£0.00	£400.00	£0.00	£400.00
Accommodation Total	***Proposed Cost***	***£0.00***	***£400.00***	***£0.00***	**£400.00**
Consumables					
Consumables	Proposed Cost	£0.00	£0.00	£0.00	£0.00
Consumables Total	***Proposed Cost***	***£0.00***	***£0.00***	***£0.00***	**£0.00**
Research/Clerical Assistance					
Research/Clerical Assistance	Proposed Cost	£2,288.74	£1,880.00	£0.00	£4,168.74

Budget heading		Year 1	Year 2	Year 3	Total
Research/Clerical Assistance Total	***Proposed Cost***	***£2,288.74***	***£1,880.00***	***£0.00***	**£4,168.74**
Grand Total	**Proposed Cost**	**£6,288.74**	**£3,420.00**	**£0.00**	**£9,708.74**

Justification

Please refer to the scheme guidance notes for full details of eligible costs.

Please provide details of funding related to the relevant fields set out in the financial details table above.

Applicants should prepare accurate costings for the proposed research expenses, and should be particularly careful not to overestimate the resources required. Costs should be clearly itemised and justified in terms of the research programme for this application.

Costs are divided into three categories: Research Assistant, participant costs, and conference travel.

The Research Assistant will be an invaluable member of the research team, working on the practical implementation of the experiment and data coding/analysis with training and close supervision from the PI. During Spring/Summer 2024 the RA will be involved in the implementation of the pilot experiments including JavaScript coding and design and coding of stimuli, and preliminary data analysis. During Autumn 2024, the RA will perform similar work in the implementation and analysis of the main experiment. Depending on interest and qualifications, the RA will also be invited to be a co-author in published output. Given the complxity of the work the RA has been graded as UoE06.24. The proposed research could not be carried out by the PI alone during the specified period, due to constraints of teaching, research, and administrative responsibilities.

Because of the broad empirical scope of the proposed research, we will need to conduct pilot experiments and to run a fairly large number of participants in the norming study and main experiment. Following Prolific's recommended best practices for ethical online research, we will pay the equivalent of £9 per hour. In addition, we must pay Prolific fees. We estimate that each experiment will last around 20 minutes, and that we will need 150 participants in pilot studies, 250 in the norming study, and 600 in the main experiment for a total of 1000 participants. At £9 per hour and 20 minutes per experiment, this makes a total of £3000 in payments to participants. For this number of participants at the academic/non-profit rate, Prolific will change £1000 in fees across the pilot, norming study, and main experiment. Therefore, the total estimated participant costs are £4,000.

Travel to relevant international conferences is vital for dissemination of results and getting feedback that will allow us to improve the eventual publication. While we hope to attend all three conferences mentioned in the application, we have included only one conference (The Annual Conference of the Cognitive Science Society) as a line item because of budget constraints. The estimated cost of this trip is £1000 for flights, £400 for accommodation and £140 for subsistence.

Name of Special Fund

If the scheme includes funding from more than one source, please indicate if your application is relevant to a particular special fund - details in scheme guidance notes

No Response

Section 8 - Equal Opportunities

Gender

Man

Gender

No Response

Age

Please indicate to which age group you belong.

40-44

Ethnic Origin

White - Other

Ethnic Origin

No Response

A person is disabled under the Equality Act 2010 if they have a physical or mental impairment that has a "substantial" and "long-term" (12 months or more) negative effect on their ability to do normal daily activities. Do you consider you are disabled under the Equality Act 2010?

No

If you wish to do so, please specify the nature of your disability:

No Response