Dalhousie Writing Centre

Abstracts and Grant Proposals

Janice MacDonald Eddington
Abstracts:

With the **title***, the abstract is the gateway to your document:

- Research and other papers
- Grant proposals
- Progress reports
- Conference submissions and proceedings

If your reader (including conference referees, journal editors, funding agencies, etc.) don’t get past the gate, they won’t get to your ideas/research.
Key elements

The abstract

- stands alone;
- is placed at the beginning of a report, but is *almost always* the last part written;
- is found, read, and evaluated first;
  - fairly, or unfairly, the merit of the work can sometimes be judged on this element alone.
- includes only information from the paper;
- contains (or accompanies) key words and has strict word count and format requirements;
- usually aims for a non-specialist audience;

Types differ*, but usually is a comprehensive but concise summary of the paper.
What kind of abstracts are you expected to write?

Pre-draft exercise
Common Types

Descriptive/Indicative
- Often one short paragraph
- Describes or indicates type of information in the work
- Not summative (Tanko, 2016)

Informative
- Often one non-indented paragraph
- Mirrors structure of paper (e.g., IMRaD)

Extended
- Several paragraphs to multiple pages
- Can resemble a short paper (includes references)

Conference
- Similar format to other abstracts, but longer and contains references
Informative abstracts

Follow course or journal guidelines, but research papers usually require an informative abstract.

- Usually, one non-indented paragraph of 200-300 words
- Frequently, an IMRaD format- mirroring the structure of the paper
IMRaD

- Introduction
- Methods
- Results
- Discussion (conclusions/synthesis)
From Lambregts et al. (2017)

ABSTRACT

Background: 10–20% of children and youth with mild traumatic brain injury (mTBI) suffer from long-term cognitive impairments with, supposedly, a negative impact on most domains of functioning.

Objectives: To describe cognitive functioning and participation in children and youth two-years post-mTBI and to determine associated risk factors.

Methods: Cross-sectional study among 73 patients (aged 6–22 years), hospital diagnosed with mTBI. Linear regression modelling was used to investigate the effect of potential predictors on cognitive functioning as measured with a neuropsychological assessment (NPA), two-years post-injury. Extent of participation was assessed using the Child and Adolescent Scale of Participation and correlation analysis was conducted to examine its association with level of cognitive functioning.

Results: 7–15% of all participants had impaired cognitive functions, especially in the domains of processing speed, inhibitory control, cognitive flexibility, visuospatial constructional ability and visuospatial memory. Lower level of education and pre-injury cognitive problems were predictive for a lower level of long-term cognitive functioning. Slower inhibition speed, impaired visuospatial and verbal working memory were associated with reduced participation.

Discussion and conclusions: Persisting cognitive problems two years after mTBI were mostly related to the lower level of education and to pre-injury cognitive problems. Although participation of the patients was reported by parents to be relatively high, slower inhibition speed, impaired visuospatial and verbal working memory were associated with reduced participation.

KEYWORDS: Acquired Brain Injury, adolescents, young adults, long-term
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KEYWORDS: Acquired Brain Injury, adolescents, young adults, long-term
From Goutte et al. (2018)

Abstract

Long-distance acoustic signals are widely used in animal communication systems and, in many cases, are essential for reproduction. The acoustic adaptation hypothesis (AAH) implies that acoustic signals should be selected for further transmission and better content integrity under the acoustic constraints of the habitat in which they are produced. In this study, we test predictions derived from the AAH in frogs. Specifically, we focus on the difference between torrent frogs and frogs calling in less noisy habitats. Torrents produce sounds that can mask frog vocalizations and constitute a major acoustic constraint on call evolution. We combine data collected in the field, material from scientific collections and the literature for a total of 79 primarily Asian species, of the families Ranidae, Rhacophoridae, Dicroglossidae and Microhylid. Using phylogenetic comparative methods and including morphological and environmental potential confounding factors, we investigate putatively adaptive call features in torrent frogs. We use broad habitat categories as well as fine-scale habitat measurements and test their correlation with six call characteristics. We find mixed support for the AAH. Spectral features of torrent frog calls are different from those of frogs calling in other habitats and are related to ambient noise levels, as predicted by the AAH. However, temporal call features do not seem to be shaped by the frogs’ calling habitats. Our results underline both the complexity of call evolution and the need to consider multiple factors when investigating this issue.
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Long-distance acoustic signals are widely used in animal communication systems and, in many cases, are essential for reproduction. The acoustic adaptation hypothesis (AAH) implies that acoustic signals should be selected for further transmission and better content integrity under the acoustic constraints of the habitat in which they are produced. In this study, we test predictions derived from the AAH in frogs. Specifically, we focus on the difference between torrent frogs and frogs calling in less noisy habitats. Torrents produce sounds that can mask frog vocalizations and constitute a major acoustic constraint on call evolution. We combine data collected in the field, material from scientific collections and the literature for a total of 79 primarily Asian species, of the families Ranidae, Rhacophoridae, Dicroglossidae, and Microhylidae. Using phylogenetic comparative methods and including morphological and environmental potential confounding factors, we investigate putatively adaptive call features in torrent frogs. We use broad habitat categories as well as fine-scale habitat measurements and test their correlation with six call characteristics. We find mixed support for the AAH. Spectral features of torrent frog calls are different from those of frogs calling in other habitats and are related to ambient noise levels, as predicted by the AAH. However, temporal call features do not seem to be shaped by the frogs’ calling habitats. Our results underline both the complexity of call evolution and the need to consider multiple factors when investigating this issue.
Strategies for Writing

- Use headings – can omit later if necessary

- Compose a draft from memory, considering each section of the paper, not necessarily in final order.

- After initial capture, check for accuracy and revise for clarity and concision (perhaps multiple times)

- Can also use abstract writing as an organization strategy

- Re-check guidelines and look for examples
**Example guideline from the Journal of Ecology instructions to authors:**

*Summary.* This is called the Abstract on the web submission site. The Summary must not exceed 350 words and should list the main results and conclusions, using simple, factual, numbered statements. The final point of your Summary must be headed 'Synthesis', and must emphasize the key findings of the work and its general significance, indicating clearly how this study has advanced ecological understanding. This policy is intended to maximize the impact of your paper, by making it of as wide interest as possible. This final point should therefore explain the importance of your paper in a way that is accessible to non-specialists. We emphasize that the Journal is more likely to accept manuscripts that address important and topical questions and hypotheses, and deliver generic rather than specific messages.

http://www.journalofecology.org/view/0/authorGuideline.html
MINI-REVIEW: ECOLOGICAL SOLUTIONS TO GLOBAL FOOD SECURITY

Resilience and food security: rethinking an ecological concept

James M. Bullock*1, Kiran L. Dhanjal-Adams1, Alice Milne2, Tom H. Oliver3, Lindsay C. Todman2, Andrew P. Whitmore2 and Richard F. Pywell1

1NERC Centre for Ecology and Hydrology, Benson Lane, Wallingford OX10 8BB, UK; 2 Rothamsted Research, Harpenden AL5 2JQ, UK; and 3 School of Biological Sciences, University of Reading, Harborne Building, Whiteknights, Reading RG6 6AS, UK

Summary

1. Focusing on food production, in this paper we define resilience in the food security context as maintaining production of sufficient and nutritious food in the face of chronic and acute environmental perturbations. In agri-food systems, resilience is manifest over multiple spatial scales: field, farm, regional and global. Metrics comprise production and nutritional diversity as well as socio-economic stability of food supply.
Summary

1. Focusing on food production, in this paper we define resilience in the food security context as maintaining production of sufficient and nutritious food in the face of chronic and acute environmental perturbations. In agri-food systems, resilience is manifest over multiple spatial scales: field, farm, regional and global. Metrics comprise production and nutritional diversity as well as socio-economic stability of food supply.

2. Approaches to enhancing resilience show a progression from more ecologically based methods at small scales to more socially based interventions at larger scales. At the field scale, approaches include the use of mixtures of crop varieties, livestock breeds and forage species, polycultures and boosting ecosystem functions. Stress-tolerant crops, or with greater plasticity, provide technological solutions.

3. At the farm scale, resilience may be conferred by diversifying crops and livestock and by farmers implementing adaptive approaches in response to perturbations. Biodiverse landscapes may enhance resilience, but the evidence is weak. At regional to global scales, resilient food systems will be achieved by coordination and implementation of resilience approaches among farms, advice to farmers and targeted research.

4. Synthesis. Threats to food production are predicted to increase under climate change and land degradation. Holistic responses are needed that integrate across spatial scales. Ecological knowledge is critical, but should be implemented alongside agronomic solutions and socio-economic transformations.

Key-words: agro-ecology, diversity, food production, nutrition, perturbations, recovery, resistance, stability, transformation
Recalling Other Common Types

Descriptive/Indicative Abstracts
- Often one paragraph
- Short description of new findings
- Significance/implication

Extended Abstracts
- Several paragraphs to multiple pages
- Can resemble a short paper (includes references)

Conference Abstracts
- Similar format to other abstracts, but longer and contain references
Conference Abstracts

Follow specific conference guidelines carefully, but most contain:

- Background and context (including in-text citations*)
- Question/purpose
- Experimental approach (e.g., by doing x, we found y, which means z)
- Results
- Conclusion/implications
- References*

Hofmann (2016)
Extended Abstracts

- Several paragraphs to multiple pages
- Can resemble a short paper (includes references)
Extended abstracts

From the call for papers for The Annual Symposium on the Theory of Computing (2016)

“This [abstract] should be followed by an extended abstract of up to 10 pages, which consists of a scholarly exposition of the paper's main ideas, results, and techniques, including motivation and a clear comparison with related work.”
Common pitfalls

- Lack of context
- Lack of originality
- Omission of elements
- Excessive length – just too many words
- Wrong type
- Wrong format

Hofmann (2016)
Resources and References


The Dalhousie Writing Centre

http://writingcentre.dal.ca/

Visit us online
or in person:

Room G40 Killam Library,
6225 University Avenue
(902) 494-1963
Writing Grant Proposals
Questions to start with:

Why I am writing this document?

Who is the intended audience?

What does that audience need me to provide?
Experience: Proposals for Conference Presentations?

- Persuade the conference organizers that your paper should be included on the program
- Give a clear idea of what it is you are proposing to present
- Fit within the theme or focus of the conference
- Conform to the submission guidelines
Purpose of the Grant Proposal

- Persuade the funding agency that they should give you money
- Appeal to both experts and non-experts
- Provide evidence that your research is worthwhile and you and your team are capable of conducting the research
Preparation

- Identify your needs and determine what you are asking for
  - Stipend
  - Grant
  - Fellowship

- Define your focus
  - Topic
  - Research question and why it is an important question to answer
  - Hypotheses
  - Methodology

- Match your purpose and goals to the appropriate funding agency
Organization

- Title page
- Abstract
- Introduction
  - State the problem, purpose of the research, goals, and significance of the research
- Literature review***
  - Selective, current, and critical
- Project description
  - Methods, and expected outcomes
- People involved and their skillsets
- Budget and timeframe with justification
Criteria for Evaluation

*Persuading your audience means providing information and evidence to support your case*

- Well-formulated problem that requires research to answer
- Importance and usefulness of the outcomes
- Details provided to evaluate the methodology
- Awareness of other research in the field
- Track record of the researcher
- Cost effectiveness
Common Pitfalls

- Unclear research question/outcome/contribution
- Doesn’t propose anything new or unique
- Lack of evidence that this team will be successful
- Related work and rival solutions not discussed
- Proposal not realistic for the time and money
- Too expensive for the expected benefit

Quality of the proposal reflects the quality of the research. Funding agencies will not give you the benefit of the doubt.
Tips to Increase Success

- Begin early* and seek advice/feedback from multiple sources
- Don’t be discouraged by rejection – re-apply
- Follow the application guidelines – EXACTLY
- Be explicit and specific – try to anticipate questions and answer them
- Present a realistic research design
- Appeal to both experts and non-experts and consider perspective of the funding agency – important question, well-planned project, and qualified team
- Link all sections and tell a coherent story
Tri-Agency Harmonization of the Canada Graduate Scholarships

Welcome to the Tri-Agency Harmonization web page where you will find information, resources and updates that will assist with applying for and learning more about the newly harmonized master's component of the Canada Graduate Scholarships. This page will also include future updates on the harmonization of the Canada Graduate Scholarships and milestones for the doctoral program.

- Canada Graduate Scholarships-Master's Program
- Canada Graduate Scholarships-Master's Program – Instructions for Completing an Application
- Canada Graduate Scholarships-Master's Program – Instructions for Completing a Reference Assessment Form
- Canada Graduate Scholarships Master's - Instructions for Completing the Reference Assessment Form (tutorial video)
- Canada Graduate Scholarships-Master's (CGS M) Award Holder's Guide
- Canada Graduate Scholarships-Master's Award Allocations
- Canadian Common CV (CCV) – How to Complete the Canada Graduate Scholarships-Master’s Version
Canada Graduate Scholarships-Master’s Program

Canadian Institutes of Health Research (CIHR) – Frederick Banting and Charles Best Canada Graduate Scholarships

Natural Sciences and Engineering Research Council of Canada (NSERC) – Alexander Graham Bell Canada Graduate Scholarships

Social Sciences and Humanities Research Council of Canada (SSHRC) – Joseph-Armand Bombardier Canada Graduate Scholarships

Overview

<table>
<thead>
<tr>
<th>Value</th>
<th>$17,500 for 12 months, non-renewable</th>
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<tbody>
<tr>
<td>Application Deadline</td>
<td>December 1</td>
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<tr>
<td>Application Procedures</td>
<td>See below</td>
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</tbody>
</table>

How to Apply

To create a Canadian Common CV, select [Canadian Common CV](#).

To create or access an application, select [Research Portal](#).

To view instructions, select [Instructions](#).
## Selection Criteria

The merit review of CGS M applications will be carried out by institutions with an allocation and will be based on the following evaluation criteria:

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<tr>
<th>Criteria</th>
<th>Description</th>
<th>Weight</th>
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<tr>
<td>Academic Excellence</td>
<td>As demonstrated by past academic results, transcripts, awards and distinctions.</td>
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<td>Indicators of Academic Excellence:</td>
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<td></td>
<td>- Academic record (first class average)</td>
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<td>- Scholarships and awards held</td>
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<td>- Duration of previous studies</td>
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<td>- Type of program and courses pursued</td>
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<td></td>
<td>- Course load</td>
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<td></td>
<td>- Relative standing (if available)</td>
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<td>Research Potential</td>
<td>As demonstrated by the applicant’s research history, his/her interest in discovery, the proposed research, its potential contribution to the advancement of knowledge in the field, and any anticipated outcomes.</td>
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<td>Indicators of Research Potential:</td>
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<td>- Quality and originality of contributions to research and development</td>
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<td>- Relevance of work experience and academic training to field of proposed research</td>
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<td></td>
<td>- Significance, feasibility and merit of proposed research</td>
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<td>- Judgment and ability to think critically</td>
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<td>- Ability to apply skills and knowledge</td>
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<td>- Initiative, autonomy and independence</td>
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<td>- Research experience and achievements relative to expectations of someone with the candidate’s academic experience</td>
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<td></td>
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<td>50%</td>
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<td>30%</td>
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<tr>
<td>Personal Characteristics and Interpersonal Skills</td>
<td>Indicators of Personal Characteristics and Interpersonal Skills:</td>
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<td>-------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
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<tr>
<td>As demonstrated by the applicant’s past professional and relevant extracurricular interactions and collaborations.</td>
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<td>Work experience</td>
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<td>Leadership experience</td>
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<td>Project management including organizing conferences and meetings</td>
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<td>The ability or potential to communicate theoretical, technical and/or scientific concepts clearly and logically in written and oral formats</td>
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<td>Involvement in academic life</td>
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<td>Volunteerism/community outreach</td>
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CCV at a glance

The Canadian Common CV (CCV) is a web-based application that provides researchers with a single, common approach to gathering CV information required by a network of federal, provincial and not-for-profit research funding organizations. The CCV’s processes, procedures and capabilities allow the input of CV information by researchers and the extraction of the CV data (with consent from the researcher) by member agencies to support their funding application process.

The vision and objectives for the CCV are to:

- Lighten the load on the research community when applying for funding, or for reporting purposes, on the principle that the CV data entered once by the researcher can be readily utilized in a manner that suits the requirements of any subscribing agency;
- Facilitate the collection of a common data set required by agencies; and
- Create a public repository which showcases Canadian researcher expertise

Launched in 2002, the CCV currently has more than 100,000 registered users and 22 members. In 2012 the CCV application was completely redesigned, based on the latest web technologies, to offer a better tool, with more capabilities, to suit the needs of the growing research community.
Resources and References


University of North Carolina Writing Center
http://writingcenter.unc.edu/handouts/grant-proposals-or-give-me-the-money/

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Tri-Agency Harmonization


CIHR http://www.cihr-irsc.gc.ca/e/193.html

NSERC http://www.nserc-crsng.gc.ca/Professors-Professeurs/Grants-Subs/index_eng.asp

The Dalhousie Writing Centre

http://writingcentre.dal.ca/

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Janice MacDonald Eddington and Allison Nicolle

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