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Report in Focus

HONESTY, ACCOUNTABILITY AND TRUST: FOSTERING RESEARCH INTEGRITY IN CANADA

Research plays a key role in shaping the world. Through research, we gain a better understanding of today's most pressing and complex social and scientific issues such as cultural diversity, human rights, disease prevention, and climate change. Decision makers, the public, and even researchers themselves, must have confidence in how research is conducted, and the subsequent findings. The benefits of the research enterprise cannot be realized unless the knowledge generated is both accurate and trustworthy.

THE CANADIAN RESEARCH INTEGRITY SYSTEM

Within Canada, the current research integrity system is non-legislated and decentralized. Individual institutions are responsible for promoting research integrity practices and monitoring infractions. This means that the interpretation of guidelines and policies differs from institution to institution and across disciplines.

In 2008, following several high-profile cases of research misconduct by publically-funded researchers, the Minister of Industry called on the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC), along with the Association of Universities and Colleges of Canada (AUCC), to review the existing policy framework for scholarly research and financial misconduct. While the review found the research integrity system in Canada to be essentially sound, Canada's three federal granting agencies, (NSERC, SSHRC, and the Canadian Institutes of Health Research) also referred to as the Tri-Council, committed to reviewing and strengthening their framework for research integrity and research misconduct.

The importance of high-quality research cannot be overstated. Research plays a key role in shaping the world in which we live and as such, the integrity of research is vital.

RESEARCH: WHAT'S ACCEPTABLE AND WHAT'S NOT?

Consider the following:

- A researcher uses unpublished work without permission.
- A private funder unduly delays the publication of research findings.
- A research team is asked to give up its moral rights in a copyright assignment.
- A university research office is tardy in addressing the reports and grievances of its student researchers.

Do these cases affect the integrity of research? Perhaps, but in some instances there may not always be a definitive answer.

While the falsification and fabrication of data, the misuse of research funds, and plagiarism may be clear examples of research misconduct, not all cases are straightforward. Many researchers, students, institutions, and funders have difficulty determining exactly what constitutes research misconduct. Why? One challenge may stem from the fact that researchers across disciplines and around the globe do not necessarily share the same paradigms, cultures, and values. Another reason may be because research integrity practices and policies differ across disciplines and among institutions. Understanding these challenges is essential to strengthening Canada's research integrity enterprise.

As part of this review, in 2009 the Minister of Industry posed the following question to the Council of Canadian Academies:

What are the key research integrity principles, procedural mechanisms, and practices, appropriate in the Canadian context, that could be applied across research disciplines at institutions receiving funds from the federal granting [agencies]?

The Council appointed the Expert Panel on Research Integrity (the Panel) in October 2009, with the objective of preparing a comprehensive, evidence-based report on research integrity. The 14-member panel included both senior administrators responsible for the implementation and execution of research ethics and misconduct polices, as well as individual researchers.

" While a common definition of research integrity is important, it is only one component of fostering an environment of high ethical standards and public trust. Promoting research integrity in Canada requires a concerted effort by all of the major actors: individual researchers, academic institutions, the Tri-Council, other public funders, and private sector funders."

Paul Davenport, Chair, Expert Panel on Research Integrity

Examining Research Integrity

While the charge focused primarily on institutions funded through the Tri-Council, the Panel also took into consideration today's complex, multidisciplinary research environment. After considering various forms of evidence, such as the research integrity approaches by leading countries, existing policies and frameworks within Canada, scholarly literature, and testimony from relevant experts, the Panel identified a number of gaps within the current research integrity policy framework.

Four Key Gaps in Canada's Policy Framework

The Panel identified four gaps:
- Lack of a system-wide approach;
- No centralized function for information management and research;
- Shortage of education and training programs and materials, and absence of an independent source of advice; and
- No centralized approach to dealing with issues related to conflict of interest, incentives, and privacy/transparency.

Addressing the Gaps

In order to address the gaps in the current system, the Panel suggested a more comprehensive, multifaceted approach to research integrity, which features the following characteristics:
- A system-wide approach that encompasses all disciplines;
- A common set of definitions, values, and principles that are accepted and implemented by all actors in the research enterprise;
- A fair and timely process for managing allegations of misconduct;
- A centralized mechanism for information management and research on issues related to research integrity; and
- A strong focus on proactive and preventative measures by way of education, training, and advice.

DEFINING RESEARCH INTEGRITY

The Panel defined *research integrity* as the coherent and consistent application of values and principles essential to encouraging and achieving excellence in the search for, and dissemination of, knowledge. These values include **honesty, fairness, trust, accountability,** and **openness**.
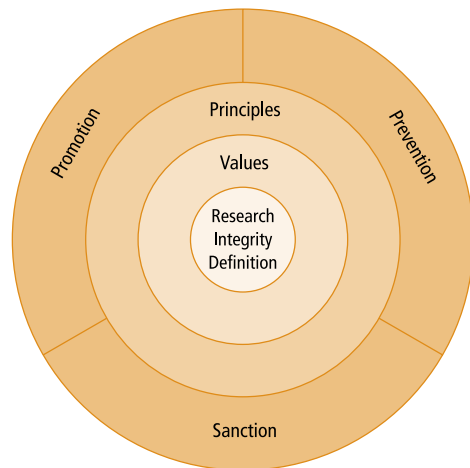
Elements for a Positive Research Integrity Environment:
a common definition of research integrity, a set of core values, and fundamental principles. In order to effectively implement these key elements, the following three components are needed: promotion, prevention, and sanction.

Promoting a Positive Research Integrity Environment

A positive research integrity environment is essential to help researchers adhere to honest research practices. It promotes exemplary behavior, fosters public trust and provides a means for developing best practices.

The Panel identified three key elements of research integrity: a common definition of research integrity, a set of core values, and 11 fundamental principles. The effective implementation of these elements requires three components: promotion, prevention, and sanction.

Since the existing Canadian system does not possess the cohesive force required to implement a proactive and common approach to research integrity in Canada, the Panel proposed the formation of a new central body, the Canadian Council for Research Integrity.

Fundamental Principles of Research Integrity

1. Conduct research in an honest search for knowledge.
   (Honesty; Fairness; Trust; Openness)

2. Foster an environment of research integrity, accountability and public trust.
   (Trust; Accountability)

3. Know your level of competence and your limitations; act accordingly.
   (Honesty; Trust; Accountability)

4. Avoid conflicts of interest, or if they cannot be avoided, address them in an ethical manner.
   (Trust; Accountability; Openness)

5. Use research funds responsibly.
   (Honesty; Accountability)

6. Review the work of others with integrity.
   (Fairness; Trust)

7. Report on research in a responsible and timely fashion.
   (Trust; Openness)

8. Treat data with scholarly rigour.
   (Honesty; Accountability)

9. Treat everyone involved with research fairly and with respect.
   (Fairness; Trust)

10. Acknowledge all contributors and contributions in research.
    (Fairness; Accountability; Openness)

11. Engage in the responsible training of researchers.
    (Fairness; Trust)

THE PANEL'S KEY FINDINGS

- Canada must address the gaps in the existing research system that are undermining the system's transparency and accountability.
- Canada needs a common, system-wide approach to research integrity that involves all actors.
- There is a need to foster a positive, values-based environment for research integrity in Canada.
- Canada needs a new entity – the Canadian Council for Research Integrity – to serve as a central educational and advisory arm on issues of research integrity.

"Actors" in the research integrity enterprise are those who do research, use research, and fund research. A system-wide approach to research integrity should involve all actors.

The Canadian Council for Research Integrity

After examining the options for Canada, which included the creation of a new legislated body as well as increasing the Tri-Council's educational and advisory role, the Panel proposed the formation of a new central body, the Canadian Council for Research Integrity (CCRI).

The CCRI would be an independent, non-adversarial body that assists all members of the research community. It would help address the four key gaps, while at the same time, conserving areas where the existing system is effective. The CCRI would be responsible for prevention and promotion but would not be involved in sanctioning or enforcement, as it should be seen as a trusted entity to which individuals or institutions could turn for advice.

The CCRI would also have an important advisory and educational role that would help enhance the transparency and accountability of the current system. Other key roles would ideally include: (i) the provision of confidential advice; (ii) information gathering, (iii) dissemination and reporting; and (iv) the development and promotion of best practices and standards with respect to education, training, and effective self-assessment policies and practices.

Inside the Full Report

- An examination of international and Canadian institutional approaches to research integrity.

- A proposed definition of research misconduct and an analysis of reportable types of misconduct.

- An examination of the options for Canada including possible models for a new entity to strengthen the current research integrity framework.

- Discussion of the proposed Canadian Council for Research Integrity (CCRI), its functions, logistical considerations, and its potential for improving the integrity of research in Canada.

The Panel's full report, *Honesty, Accountability and Trust: Fostering Research Integrity in Canada*, as well as a bibliography and other supplementary material are available for download in both official languages from the Council's website, **www.scienceadvice.ca**.
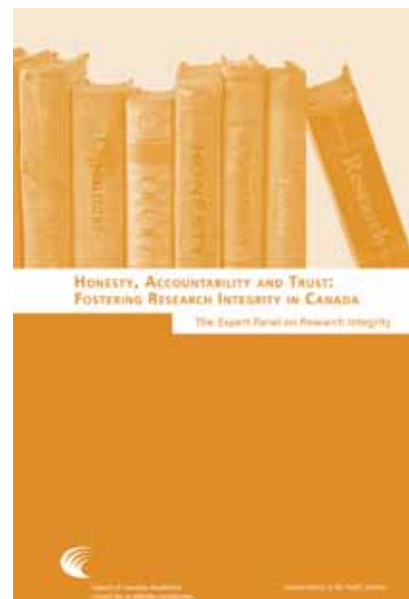
DID YOU KNOW?

Overall research expenditures in Canada are about $30 billion.

Universities' research activities are worth an estimated $10 billion.

About 55 to 60 per cent of research performed by universities is externally funded, with the federal government being the largest external funder.

The university sector is the second largest performer of research in Canada after the private sector.

Between 1998 and 2008, the number of degrees, diplomas, and certificates awarded at the university level increased by 48 per cent.

(Data source: Association of Universities and Colleges of Canada. Retrieved September 2010 from http://www.aucc.ca/policy/quick-facts_e.html)

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