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Dear Reader,

We are delighted to welcome you to the inaugural issue of The Canadian Journal of Science Communication, a new platform celebrating the creativity and expertise of STEM+ graduate students across Canada. This journal was founded to amplify the voices of emerging science communicators and provide a space where research, creativity, and connection meet. Rooted in ComSciConCAN, a national science communication conference for Canadian graduate students, the journal grew from a shared passion for making science engaging and accessible. Each year, attendees come together to learn, create, and collaborate through science communication. The works in this issue were developed during the Create-A-Thon, ComSciConCAN's hallmark event, where attendees transform research ideas into innovative and compelling communication pieces. These multimodal creations reflect the diversity of voices, disciplines, and perspectives that define science communication in Canada.

Our first issue is a celebration of the community that made it possible: the authors who embraced the challenge of creating original works; the attendees who reviewed their peers' work; the science communication experts who offered generous mentorship; the ComSciConCAN 2025 organizing committee, who championed the journal's creation; the editors who shaped its vision; and the team at McMaster University Library, whose support made this launch possible. Together, we share a commitment to amplifying new voices and building a more inclusive, connected future for science and society. We invite you to explore, share, and engage with this issue. Listen to the stories being told and imagine your own voice among them. Science communication is, at its heart, an act of community building, and we are honoured to continue that work here, together, with all of you.

Cheers and thank you,
The CJSC Editorial Team

Alexander Hall
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Too Heavy to Move? The Real Weight of Bias: When Bias becomes a burden, physical activity feels impossible

Jazz Jabbar

Brock University

ABSTRACT

People in larger bodies often experience weight bias within physical activity settings, which significantly effects their relationship with physical activity. Weight bias refers to negative weight related judgements that are often made towards people living in larger bodies. People in larger bodies are often encouraged to exercise for weight management but are also consistently mistreated and judged in public physical activity spaces. This creates a lose-lose situation fostering fear of judgement, lower self-confidence and a greater tendency to avoid all forms of physical activity. Despite the known health benefits of physical activity, persistent bias undermines physical activity engagement and contributes to poor health outcomes. For fitness and health professionals, recognizing this dynamic is crucial. To foster truly inclusive physical activity environments, a weight inclusive approach is essential. This means prioritize movement for its diverse benefits like strength, stress relief, mobility, and mental well-being, rather than solely focusing on weight management. Practitioners must also reflect on their own biases, in order to create physical activity spaces that are accessible, safe, and respectful for all body sizes, emphasizing health and quality of life over, weight or size related outcomes.

KEYWORDS: Internalized weight bias, Physical activity, Weight stigma

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Too heavy to move? The real weight of Bias

JAZZ JABBAR

When Bias becomes a burden, physical activity feels impossible

What is weight bias ?

Negative beliefs about people in larger bodies
Example: believing people in larger bodies are lazy or unhealthy

What happens when people start applying these harmful beliefs to themselves?

How does Weight bias discourages physical activity?

- Fear of judgement
- Lower self-confidence
- Greater tendency to avoid all forms of movement

Physical activity becomes a lose-lose situation

People in larger bodies are told to exercise to lose weight, yet are consistently mistreated in physical activity settings

Movement is important at every size!

Avoid weight bias by creating size inclusive physical activity spaces

- Recognize that **shame does not change behaviour**; instead, it leads to unhealthy coping mechanisms and avoidance.
- Embrace a **weight inclusive lens,** focus on health and encourage movement for strength, mobility, and mental health.
- **Don't assume** that larger bodies are inherently **unhealthy.**

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Biologging: Bringing the Lab into the Field

Jared Shaftoe
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ABSTRACT

Comparative physiology as a field investigates how animals function within their environments at different levels of biological organization. Central to this goal is understanding how internal systems relate to the external context animals inhabit. An important tool for characterizing the function of physiological systems in environmental context is biologging. Biologging is a technique that uses either transmitted or stored radio signals to record physiological measurements, such as heart rate, activity, or oxygen concentration, and environmental characteristics, such as geographical location, depth/altitude, and temperature. In this infographic, the uses and considerations for using biologgers in the field are presented in a concise way to introduce high school or undergraduate students to this field of research and application.

KEYWORDS: Biology, Conservation, Technology, Biologging

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Biologging: Bringing the Lab into the Field

"Biologging tags" allow researchers to take sophisticated lab equipment into the field, using an array of sensors to better understand how animals survive in their environment. Whether, mapping the course of a diving turtle, tracking the energy for a salmon swimming upriver, biologging can bring science to new frontiers.

What is biologging?

Placement


External or Internal

Measurement


Physiology or Environmental Conditions

Retrieval


Onboard Storage or Radio Transmission

Variables biologging can measure:

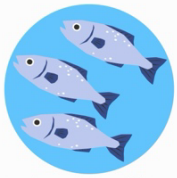





Location Depth Temperature Oxygen Heart Rate Activity

Many types of sensors can be installed. Some record where the animal has gone, others measure aspects of the environment, like temperature or depth, more recently, tags measure physiological parameters like blood oxygen or heart rate, as well as behaviour such as activity, which shows researchers how hard an animal works.

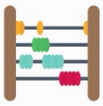
Applications for biologging:




Animal Welfare Migrations Hunting Behaviour Cryptic Species

There are a wide variety of fields where biologging is useful. For example, biologging tags can be used by researchers to track the health of fish in aquaculture pens, to investigate the energetic consequences of upriver migrations, to characterize hunting patterns in diving animals, or to study the behaviour of animals that cannot be held in a lab.

Some considerations before using biologging:




Onboard Memory Tag vs. Animal Size Length of Study Environmental Exposure

Biologging devices are tiny computers with sensors that take measurements of the things around them. They have limited memory so scientists have to decide how frequently they record information. the size of the tag must also be matched to the animal so they are not over-encumbered. Battery life must be rationed for the duration of the study. The tag must be able to withstand the environmental conditions where the animal lives.

Biologging gives researchers a window into the hidden lives of animals—without removing them from their habitat!

For more information, visit:https://www.star-oddi.com/news/case-studies

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How Artificial Intelligence is Revolutionizing Crop Yield Prediction

Faith Akinyemi
University of Winnipeg

ABSTRACT

As the world's population grows, producing enough food is essential. New technology is helping farmers make this happen. I am focusing on using computers to predict how much crops will grow. I am working with images of pea plants when they are still young and use them to figure out how much food will be harvested in the future from the field. One way to do this is to have the computer look at how green the crops are in each image, which shows how healthy they are. Other visual clues our model can look at are how many flowers or how many pods the plants have, or the size of their leaves. The computer learns from these clues and compares what it has learned. This tool can help farmers to make decisions on how to grow their food better and plan for the future which leads to better use of their resources and higher crop production.

KEYWORDS: prediction, artificial intelligence, RGB images, yield, Explainable AI (XAI)

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How Artificial Intelligence is Revolutionizing Crop Yield Prediction

Imagine a camera placed on a tractor, just watching the plants grow quietly and taking a picture every week. The camera can tell farmers, "Your field is doing great here, but that other part needs some extra care!" That's Artificial Intelligence (AI) helping farmers predict how much crops will yield before harvest season even comes. Having exact crop yields every year helps farmers make smarter choices like choosing the best variety and this offers more food for everyone.

How Farmers Predict Yield Today

Traditionally, farmers predict crop yields by intermittently surveying their fields, counting plants, or simply guessing based on previous years' methods. This is tiring, and occasionally inaccurate. If they're unsure, they can hire specialists or use expensive satellite images to have a better sense of things, but this is costly and time-consuming.

The problem is that traditional methods might miss subtle clues, and predictions may vary vastly from farmer to farmer. One

Credit: The Spruce / K. Dave

missed sign translates into fewer harvests in the crop, leading to food shortages and financial losses.

How AI Sees More Clearly

AI is trained by looking at thousands of pictures taken throughout the growing season. It start with simple photos called RGB images (like the photos on your phone). These photos are transformed into a vegetation index called Green Leaf Index (GLI). Think of GLI as a filter that makes healthy green plants stand out so they are easily seen, and the AI can very easily pick them out.

A branch of AI, called deep learning, is used in this research; imagine a smart detective that has all it has learned from previous photographs. By looking at photographs taken every week, the AI model learns how plants develop and predicts whether they will yield a high or low harvest when picked. It reminds the plant's growth week by week, just like we remember stories chapter by chapter.

But how does it remember week to week? The model uses a process called time-series analysis. It's a type of timeline for growth in plants, where the AI looks at photos in sequence, and it learns how each plant grows and changes over time. As it watches the plant closely for several weeks, the AI can spot patterns that humans may miss.

The Magic of AI Prediction

Deep-learning algorithms are made up of layers that examine each bit of information in each image. Imagine building with a puzzle: each layer of the AI decides different bits of the puzzle, including color, shape, and texture. By the final layer, it combines all these hints and makes a prediction.

Tracking Growth Stages with AI

This AI does not take random shots. Instead, it follows the most important stages of plant growth from the moment vulnerable seedlings poke their head out of the soil until they are mature.

Each stage indicates something interesting about how healthy they are and how much they will yield. This AI closely monitors during vulnerable growth stages, when signs of probable future crop prosperity are evident.

There is something called Explainable AI (XAI), which tells what the AI model was searching for when it was making this prediction, so it can tell what stage of growth is affecting the prediction, and precisely at what moment a test can be carried out to know how much yield can be gotten from the crop.

Why AI Matters

A farmer spends days looking over crops, yet this AI model can examine fields in minutes. With precise yield prediction, farmers will be able to maximize their resources, save water, fertilizers, and labor. Yet another exciting benefit is that AI helps farmers with planning. Knowing an estimate of the future yield, the farmer can arrange for storage, transport, and selling ahead of time. This can also reduce loss and put fresh food on people's plates.

AI gives farmers an incredible advantage in being able to know exactly what their crops will do. It's like granting farmers superpowers so that they can look into the future of their crops. With AI, we can end food shortages, stop climate change, and build a better, safer future for farming. We can be part of the AI revolution and transform farming for generations to come!

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Challenging the Myths: How Media Normalizes Space Colonization

Zara Zaman
McMaster University

ABSTRACT

The advancement of space technology has sparked excitement from the public about space travel. Revisiting the moon, colonizing mars, and even taking casual trips to the upper atmosphere of Earth have gained traction. Despite the rise in scientific skepticism and overall public mistrust, space tourism is largely accepted as a norm, with little discussion on ethics or sustainability. Awareness of the negative aspects of space travel is well-studied, and change starts from mass mobilization but glorification of space in media prevents such action. Sci-fi movies and books contain a constant theme that the Earth is dying, and outer space is the only option. Repeated exposure to media ultimately normalizes the audience to such concepts. To shift audience's perspectives on space travel to sustainability, storytellers can romanticize Earth as a worthy cause of saving.

KEYWORDS: Astrotourism, Astroethics, Science-fiction, Extinction, Normalization

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Challenging the Myths: How Media Normalizes Space Colonization

The commercialization, industrialization and colonization of space introduce ethical dilemmas and takes the focus away from the current problems we face on Earth. The space industry has been growing at an exponential rate since the 20th century, and the next phase is to bring more humans to space. In May 2019, NASA, along with the Canadian Space Agency (CSA), announced their plan to return to the moon under the Artemis campaign to understand the moon's geology [1]. The campaign launched its first rover in 2022 and will launch its second rover in April 2026, while the third aircraft is being prepared to carry astronauts in 2027 [2]. The regolith of the moon contains rare earth elements that will become useful in industrializing space [3]. Additionally, NASA is interested in collaborating with SpaceX to establish a small colony on Mars by early 2030 [4] whereas billionaire CEOs such as Jeff Bezos and Richard Branson are expanding space tourism to Low-Earth Orbit (LEO) to those who can afford it [5, 6].

The Outer Space Treaty, signed in 1967, was a preventative measure against nations with developed space agencies from colonization [7]. However, private citizens are not bound to this treaty and diminish confidence that corporations will be discouraged from claiming territories on other planetary bodies [8]. Additionally, the treaty does not address the ethics around space tourism or who benefits from space industrialization. Lessons on the long-lasting effects of colonization act as a cautionary tale to what exploitation can do to landscape and local communities. The privatization of space has left the public and the academics questioning the ethics around cosmic settlements [9].

One way to mitigate exploitation of outer space is demanding stricter policies from governments which requires collective action and mass mobilization, but divisive views halt such action. Research shows that 72% of Americans support the US

government being a leader in the space industry, while 33% of the population believe private space companies, like SpaceX, Blue Orion or Virgin Galactic, do not need the support of NASA to achieve their goals [10]. At a time when science skepticism is increasing, there is a large population that supports denationalizing space industries, further preventing any governance [11].

A prime example is the people of Brownsville, Texas. Some residents have filed a lawsuit against SpaceX for destroying the habitat of wildlife species from their failed test launches while others disagree with the lawsuit and think it is a small price to pay for innovation [12]. After their move from Florida in 2014, SpaceX started practicing launches on the beaches of Brownsville which not only shakes the nearby infrastructure but also creates noise pollution and disrupts the lives of the residents and local species [13, 14]. Yet, a lot of the residents are hesitant to criticize the company and are even willing to tolerate the negative impacts to witness these rocket launches [13, 15]. Technology to make Mars travel feasible is still in development and even when it does happen, the people who will be sent are professional astronauts that go through extensive physical and science training [16]. Although these residents recognize that they will not reap the benefits of these accomplishments, they retain their steadfast loyalty to the company under the guise that it is the greater good for humanity [14].

This unwavering allegiance is driven by the fear that Earth may not be a viable home one day and treat space colonization as humanity's only saving grace [17] which are stereotypes reinforced in most sci-fi media. This notion is perpetuated in book series such as the Martian Chronicles, as well as popular movies like Interstellar, Passengers, and Don't Look Up. Although some of these media pieces explore various ethical and moral issues surrounding space travel, they don't offer a different solution to humanity's existential crisis [18].

People's views are shaped from consuming media. In an interview with Vanity Fair, Raphael Bob-Waksberg, the creator of

the series Bojack Horseman on Netflix, argued that anything portrayed in media is inherently normalized to the audience even if the creator is depicting negative aspects of such ideas [19]. For instance, sociologists have argued that the consumption of true crime podcasts desensitize and romanticise people to violence and crime [20]. Normalization occurs from the repeated consumption of media that shifts people's views over time and blurs the lines between acceptable and familiarity [21]. If media familiarizes their audience with ideas, then those same mediums can also be used to shift perspectives on colonization and inspire mobilization for better space governance.

Stories around space travel can still be written without romanticising it. A piece of fiction that portrays this well is the Pixar movie, Wall-E. It is another movie about the Earth becoming an inhabitable place but does not glorify space travel. Aesthetics in media are a deliberate tool used to shape audience's experiences and influence their attitudes towards the subject [22]. Similarly, anti-aesthetics are successful in disrupting passive consumption by invoking jarring experiences [23]. The creators of Wall-E show that the spaceship humans are living on is far from utopian by visually showing that they are suffering from over-consumption and passive living. This further emphasizes the movie's message that rather than escaping problems, the focus should pivot to rehabilitating Earth.

Space exploration and utilization are inevitable, but stricter policies are needed, even for private citizens. Perspectives around space colonization need to change to motivate action and bring the focus from space back to Earth. Climate change is a concern, but we are far from becoming inhabitable and desolate, so the focal point should be making Earth sustainable rather than escaping it. There are many organizations and companies looking to build sustainable societies on Earth and even Mother Earth is fighting back by adapting bacteria to consume micro-plastics [24]. Media can be used to disrupt problematic narratives in sci-fi and inspire calls to action. In attempts to decenter ideas around space colonization, media

and literature can normalize and romanticize Earth as a habitable place.

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Reshaping Self-Identity Through Memory Replay

Aidan Steeves
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ABSTRACT

Autobiographical episodic memory plays a crucial role in shaping our self-identity. By recalling personally experienced events, especially those that are emotionally significant, we construct a narrative about who we are. For individuals with social anxiety, this narrative often becomes skewed, as they are more likely to ruminate over negative social memories, like instances of embarrassment or perceived rejection. Over time, this biased pattern of memory recall strengthens maladaptive self-beliefs, like "I'm awkward" or "People dislike me", which perpetuate feelings of social anxiety. Fortunately, research suggests that intentionally recalling memories of successful or affirming social interactions may help us to see ourselves in a more adaptive, confident way. To test this, we will use HippoCamera, a validated smartphone app designed to strengthen memory recall through brief, personalized video recordings. Our study will examine whether using HippoCamera to record and replay positive social events can improve self-identity and reduce social anxiety.

KEYWORDS: Autobiographical episodic memory, self-identity, social anxiety, HippoCamera

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Reshaping Self-Identity Through Memory Replay

Aidan Steeves

Memory Builds Identity

Each time we **remember** something, like a time we felt **embarrassed**, it **shapes** our **identity**

Memory Bias in Social Anxiety

People with **social anxiety** focus on **negative memories** of **rejection** and **awkwardness**

This **reshapes identity** in **harmful ways**

Positive Recall Benefits

Focusing on **positive social memories** shifts how you see yourself and **reduces anxiety**

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How rare earths metals power our future - and the risks we must consider

Valentina Mazzotti
McGill University

ABSTRACT

Rare earth elements (REEs) are indispensable to modern technology, driving advances in renewable energy, consumer electronics, and medical imaging through their unique magnetic, light-emitting, and catalytic properties. From the rare earths in wind turbine magnets to those in the phosphors that give LED displays their vivid colors, these 17 metals underpin critical sectors of the global economy. You might never notice them, yet they are present in almost every device around you. Their story, however, is not without complications: extraction and processing can cause deforestation, soil and water contamination, and in some regions are tied to human rights abuses. Meeting these challenges will require better recycling, greener processing, and alternative materials, which is a task that grows more urgent as demand soars. Ultimately, understanding the science, applications, and policy of REEs is key to ensuring a sustainable and equitable supply for the technological transition of the 21st century.

KEYWORDS: Rare Earth Elements, Renewable Energy Technologies, Sustainability, Materials, Technology

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How rare earths metals power our future — and the risks we must consider

There is something incredibly small inside your laptop, your smartphone, and even the MRI machine at your local hospital that makes it all work. It's not just silicon or iron, but the rare earth elements. These metals, with bizarre names such as gadolinium (Gd), dysprosium (Dy), lanthanum (La), and lutetium (Lu), unknown to most people, are behind the operation of modern digital technologies and at the core of the renewable energy transition. From the magnets in wind turbines and electric vehicles to battery materials made with lanthanum, rare earth elements (REEs) are essential to many technologies we rely on every day.

But what exactly are rare earth elements, and why are they considered so essential to the scientific and economic landscape of the 21st century? Rare earth elements (REEs) are a group of 17 chemically similar metals: the 15 lanthanides, plus scandium and yttrium [1]. Despite their name, most are relatively abundant in Earth's crust [2]. For instance, cerium, the most abundant rare earth element, is more common than copper. They are called 'rare' because they are rarely found in concentrated deposits. Instead, they occur in small amounts around the world, mixed with other minerals, and must be chemically separated before they can be of any technological use.

From the powerful magnets in wind turbines and electric car motors to the glowing red phosphors in LED screens, rare earth elements can be combined with other materials to create compounds with magnetic, light-emitting, and catalytic properties (which help chemical reactions happen faster) that are extremely hard to reproduce [3]. Because of these unique properties, REEs have become critical components in high-performance materials used across a wide range of industries, enabling improvements in efficiency, durability, and the miniaturization of electronic components.

Most rare earth elements possess electronic properties that make them excellent candidates for strong, permanent magnets. For instance, neodymium (Nd), dysprosium (Dy), and praseodymium (Pr) are commonly used to create high-performance magnets [4,5,6], which are essential in wind turbines, electric vehicle motors, computer hard drives, and even in the tiny speakers of your earbuds [7]. Among them, neodymium is perhaps the best known due to its role in the strongest commercial magnets available today. While pure neodymium is only magnetic at very low temperatures it becomes technologically useful when combined with iron and boron to form the compound Nd2Fe14B. This material exhibits the highest known magnetic energy density, with neodymium magnets storing up to 18 times more magnetic energy than iron magnets of the same volume [8].

This remarkable performance illustrates a key point: it is not rare earth elements alone that give rise to desirable properties, but rather their combination in small, tailored amounts with other elements. When engineered into compounds like Nd2Fe14B, rare earths unlock entirely new functionalities making them indispensable to modern technology. The applications of these “super magnets” are broad, spanning industries from automotive, where they enable smaller and lighter motors, to clean energy, where wind turbines use them to generate a magnetic field without an external power source. Although rare earth materials make up only a small fraction of a device’s weight or volume, they are often essential to its function. For instance, rare earth-based magnets may constitute only a minor fraction of a laptop’s total mass, but they are critical for components such as the spindle of a disk drive, which is necessary for data storage. Without them, many core components of modern electronics would be significantly bulkier, less efficient, or simply not work at all.

Beyond magnetism, other rare earth elements play crucial roles in optical components and in catalytic applications, where they help chemical reactions occur faster or more efficiently.

Europium (Eu), terbium (Tb), and yttrium (Y) are used in phosphors that produce the vivid colors seen in LED displays and energy-efficient lighting [9]. Cerium (Ce) is essential in catalytic converters for reducing vehicle emissions and in high-efficiency glass polishing [10, 11]. The list could go on, making it clear how these elements are ubiquitous in today's technology: from the screens we look at, to the cars we drive, to the tools we use to make science.

Despite their critical role, rare earth elements are associated with several challenges, not least of which are environmental, geopolitical, and ethical concerns. In some countries, weak environmental regulations in mining practices have led to deforestation, pollution, and human rights abuses; mining and refining rare earths can produce radioactive waste and cause soil and water contamination if not properly managed. For example, in China's Jiangxi province, extraction has caused

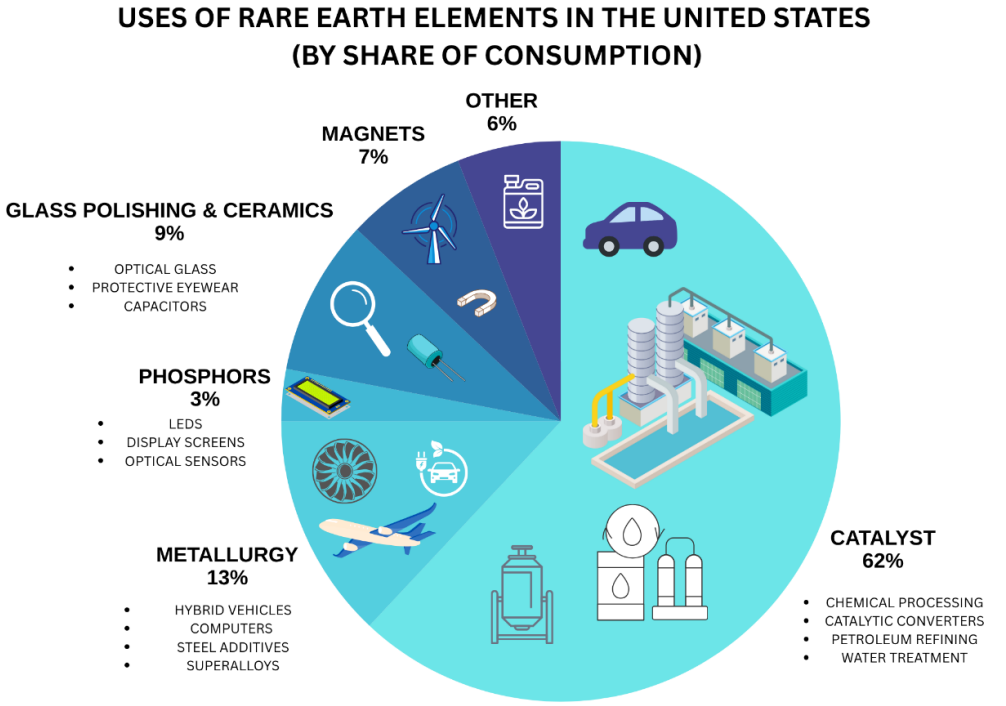

Figure 1: Distribution of rare earth element (REE) use in the United States by application, including catalysts, metallurgy, magnets, glass and ceramics, phosphors. Percentages are based on the 2022 U.S. Geological Survey data [22].

severe deforestation, with satellite images revealing vegetation loss over tens of square kilometers, and in some cases the release of thorium-containing waste into local waterways [12]. Chinese officials have reported excessive levels of ammonia and nitrogen compounds in groundwater near mining sites, while other pollutants such as cadmium and lead accumulate in soils [13], with long-term exposure to these metals being linked to kidney and neurological damage [14].

In Myanmar, unregulated rare earth mining in Kachin State, often under militia control, has been associated with human rights abuses, including forced labor and displacement of local communities [15].

The global supply chain is also heavily concentrated: China accounts for over 70% of global annual rare earth mine production, estimated at 210,000 tonnes in 2022 [16], raising concerns about supply security, trade dependence, and potential market manipulation. This dominance has geopolitical implications, and these risks are not just abstract economic terms, but can directly affect the cost and availability of everyday products. In 2010, a dispute between Japan and China, triggered by a naval collision between a Chinese fishing boat and the Japanese coast guard, led China to halt rare earth exports to Japan [17]. The move sent the Japanese tech and automotive industries into panic, with the price of some elements surging more than tenfold in a matter of months. Trade dependence means that if one country dominates supply, others have little leverage to secure fair prices or stable deliveries. More recently, in the summer of 2023, China announced new controls on exports of germanium and gallium, two metals critical for semiconductor manufacturing [18]. This was widely seen as the latest act in an intensifying global contest over access to materials needed for high-tech microchips, showing us clearly how resource supply can quickly become a geopolitical weapon.

As technology advances, rare earth elements will continue to play a critical role, especially in sustainable energy and high-tech

devices. However, concerns about the availability and sustainable recovery of these materials have grown, leading to their classification by the European Commission as critical raw materials for the European Union due to their supply risk [19]. These concerns call for innovative solutions that reduce dependence on primary mining, such as improved recycling techniques and the development of alternative materials. Another promising area is improving environmentally friendly separation techniques of rare-earth metals, such as chemical leaching [20] and advanced solvent extraction [21], which could make their processing less harmful.

Rare earth elements might not be the first materials we think of when considering what our economies rely on, but they are central to many of the most critical technological transformations of our time. When studying these materials with an eye toward their industrial applications, understanding the science and policy behind rare earth elements must be seen as more than an academic exercise. It is a critical consideration, because ensuring a resilient, responsible, and equitable supply of these elements will be essential to advancing a more sustainable future.

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The Canadian Journal of Science Communication

Staying on TRACK in Family Partnership: Guiding Challenging Conversations Between Researchers and Family Partners

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ABSTRACT

Involving people with lived experience, those personally affected by a living condition, is increasingly common in research focused on their experience.[1] Families may participate through partnership, meaning their active, significant involvement as members of the core research team. In health research, this approach improves families' connection to care, increases participant retention, enhances outcomes, and produces more relevant research findings.[2,3,4,5] However, effective partnership requires time, resources, communication, and clearer role definitions.[6] **Staying on TRACK** is an infographic tool designed to guide difficult conversations in research projects where family partnership is central. Although partnerships often begin with a plan, communication can break down when unexpected challenges arise. **Staying on TRACK** includes an infographic and worksheet that can be used before or during tough conversations. It supports researchers and family partners already working together to pause, refocus their partnership, and plan next steps to keep their project on **TRACK.**

KEYWORDS: Lived Experience, Family Partnership, Communication, Team Building, Guideline

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TRACK

RareKids CAN

FAMILY ENGAGEMENT IN RESEARCH: STAYING ON **TRACK**

Communicating openly in your research team helps you stay on **TRACK**. Sometimes, research projects don't go as planned and it becomes difficult to communicate clearly, meet projected deadlines, or collaborate meaningfully. The **TRACK** approach helps family and research partners handle these 'bumps in the road' together.

TAKE A TIMEOUT

T

Meet as equal partners to **talk about the problem** and how it impacts the project and the team. This helps everyone **understand** what's going on and fosters a **collaborative space for problem solving**.

REINFORCE COMMUNICATION

R

Create a safe space for team members to openly share their thoughts and **ask questions**. Sharing builds trust and fosters collaboration, allowing your **diverse perspectives** to inform potential solutions.

ASSESS AND ACT

A

Pause and look closely at the problem. **Break it down into smaller parts** and begin to make a plan. This makes the problem less overwhelming and **provides clarity** on next steps.

CALL ON RESOURCES

C

Explore available resources—this could be **team knowledge or external support**, like funding, collaborations, or helpful literature. **Use the tools you've gathered** to keep moving forward.

KEEP A POSITIVE ATTITUDE

K

Talk with your team about the challenge and **remind everyone that it's a chance to learn and grow**. Staying positive helps people work together and come up with new ideas.

SCAN HERE FOR FRENCH, GREYSCALE, AND MORE INFORMATION:

TRACK

RareKids CAN

FAMILY ENGAGEMENT IN RESEARCH: STAYING ON **TRACK**

Use these key prompts to walk through challenging conversations that may arise during a research project and STAY ON TRACK. This sheet is designed to be used by **all partners.**

TAKE A TIMEOUT

Think about the problem and what might be causing it. What have you done so far, and what can you do next from your role? Take a step back to reflect before jumping into solutions.

REINFORCE COMMUNICATION

What do you need to share about the challenge? How can you say it in a clear and kind way that helps everyone feel safe to speak up? How else can you contribute to creating an open dialogue?

ASSESS AND ACT

Identify key areas where your knowledge, connections, and experiences can make a difference. Reflect on actionable steps you can take to help the team address the challenge and move forward effectively.

CALL ON RESOURCES

What similar situations have you seen before, for yourself or for others? What worked, and what didn't? Use past lessons and helpful ideas to guide your next steps.

KEEP A POSITIVE ATTITUDE

How can you help the team stay hopeful and focused? What do you need from your teammates moving forward? How can you celebrate your upcoming successes? Plan how to talk things through, keep communication open, and move ahead together.

TRACK

RareKids CAN

FAMILY ENGAGEMENT IN RESEARCH: STAYING ON **TRACK**

Use this page to write out your thoughts based on the prompts listed on the previous worksheet. If you can't fit all your suggestions here, download extra pages.

TAKE A TIMEOUT

REINFORCE COMMUNICATION

ASSESS AND ACT

CALL ON RESOURCES

KEEP A POSITIVE ATTITUDE

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The Canadian Journal of Science Communication

Rester CALME en Partenariat: Orienter les Conversations Difficiles Entre Chercheurs et Partenaires Familiaux.

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CONTEXTE

Impliquer les personnes ayant une expérience vécue, celles directement touchées par une condition ou prenant soin d'une personne concernée, est de plus en plus courant dans les recherches axées sur leur expertise.[1] Les familles peuvent y participer par le biais d'un partenariat, ce qui signifie une implication active et importante en tant que membres de l'équipe de recherche. Dans la recherche en santé, cette approche renforce le lien des familles avec les soins, augmente la rétention des participants, améliore les résultats et génère des conclusions plus pertinentes.[2,3,4,5] Toutefois, un partenariat efficace exige du temps, des ressources, une bonne communication et une définition claire des rôles.[6] Rester CALME est un outil infographique conçu pour guider les conversations difficiles dans les projets de recherche où le partenariat avec les familles est central. Bien que les partenariats commencent souvent avec un plan, la communication peut se détériorer face à des défis inattendus. Rester CALME comprend une infographie et une fiche de travail qui peuvent être utilisées avant ou pendant des conversations difficiles. Cet outil aide les chercheurs et les partenaires familiaux déjà engagés à faire une pause, recentrer leur collaboration et planifier les prochaines étapes pour que l'équipe reste CALME.

MOT CLÉS: expérience vécue, partenaires familiaux, communication, renforcement d'équipe, guide

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CALME

RareKids CAN

IMPLICATION DES FAMILLES DANS LA RECHERCHE : RESTER **CALME**

Communiquer ouvertement au sein de votre équipe de recherche vous aide à rester CALME lorsque vous rencontrez des obstacles. Parfois, les projets de recherche ne se déroulent pas comme prévu, et il devient difficile de communiquer clairement, de respecter les échéances ou de collaborer de manière significative. L'approche CALME aide les partenaires familiaux et les chercheurs à surmonter ensemble ces « obstacles ».

C

Rencontrez-vous en tant que partenaires égaux pour discuter du problème et de son impact sur le projet et l'équipe. Cela permet à chacun de mieux comprendre la situation et favorise **un espace collaboratif pour résoudre les problèmes.**

A

Créez un espace dans lequel les membres de l'équipe peuvent partager librement leurs idées et poser des questions. Le partage renforce la confiance et favorise la collaboration, en permettant à vos **perspectives diverses d'alimenter des solutions possibles.**

L

Faites une pause pour examiner de près le problème. Décomposez-le en parties plus petites et commencez à élaborer un plan. Cela rend la situation moins accablante et apporte de la clarté quant aux prochaines étapes.

M

Explorez les ressources disponibles, cela peut être **les connaissances de l'équipe ou des soutiens externes** comme du financement, des collaborations, ou des lectures utiles. **Utilisez les outils réunis pour continuer à progresser.**

E

Discutez ensemble du défi rencontré et rappelez à l'équipe que c'est une opportunité d'apprentissage et de croissance. Rester positif **favorise la coopération et l'émergence de nouvelles idées.**

SCANNEZ ICI POUR ANGLAIS, NIVEAUX DE GRIS, AND PLUS D'INFORMATION:

CALME

RareKids CAN

IMPLICATION DES FAMILLES DANS LA RECHERCHE : RESTER **CALME**

Utilisez ces questions clés pour guider les conversations difficiles qui peuvent surgir lors d'un projet de recherche, et RESTEZ CALME. Cette fiche est conçue pour être utilisée par tous les partenaires.

COUPER LE RYTHME

Réfléchissez au problème et à ce qui pourrait en être la cause. Qu'avez-vous déjà fait, et que pouvez-vous faire ensuite dans votre rôle ? Prenez du recul pour réfléchir avant de vous lancer dans des solutions.

AMÉNAGER UN ESPACE SÛR

Que devez-vous partager à propos du défi ? Comment pouvez-vous l'exprimer de manière claire et bienveillante, pour que chacun se sente à l'aise de s'exprimer ? Que pouvez-vous faire d'autre pour encourager un dialogue ouvert ?

LANCER UN PLAN D'ACTION

Identifiez les domaines clés dans lesquels vos connaissances, vos connexions et vos expériences peuvent faire la différence. Réfléchissez aux actions concrètes que vous pouvez entreprendre pour aider l'équipe à relever le défi et à aller de l'avant efficacement.

MOBILISER DES RESSOURCES

Avez-vous déjà vécu des situations similaires, ou en avez-vous été témoin ? Qu'est-ce qui a fonctionné, et qu'est-ce qui n'a pas fonctionné ? Utilisez les leçons du passé et les idées utiles pour guider vos prochaines étapes.

ÊTRE POSITIF ET UNI

Comment pouvez-vous aider l'équipe à rester optimiste et concentrée ? De quoi avez-vous besoin de vos coéquipiers pour aller de l'avant ? Comment pouvez-vous célébrer vos succès à venir ? Planifiez comment discuter ensemble, maintenir une communication ouverte et avancer collectivement.

CALME

RareKids CAN

IMPLICATION DES FAMILLES DANS LA RECHERCHE : RESTER **CALME**

Utilisez cette page pour écrire vos réflexions en fonction des questions de la fiche précédente.
Si vous manquez d'espace, téléchargez des pages supplémentaires.

COUPER LE RYTHME

AMÉNAGER UN ESPACE SÛR

LANCER UN PLAN D'ACTION

MOBILISER DES RESSOURCES

ÊTRE POSITIF ET UNI

RÉFÉRENCES

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The Canadian Journal of Science Communication

What Happens When We Don't Count Women: The Hidden Hormonal Toll of the Modern Diet

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ABSTRACT

Ultra-processed foods (UPFs) now make up nearly half of the average Canadian diet. Cheap, convenient, and nutrient-poor, they not only displace whole foods but also deliver additives, preservatives, and packaging chemicals that disrupt hormones, especially in people with ovaries. These endocrine-disrupting compounds are linked to earlier puberty, menstrual irregularities, infertility, worsened menopause symptoms, and heightened risks of hormone-related diseases. Conditions like polycystic ovary syndrome and endometriosis, already affecting millions, may be exacerbated by UPF-driven inflammation and chemical exposures. Yet nutrition policy rarely addresses hormonal health, and research has long excluded women, leaving major knowledge gaps. Canada's limited measures contrast with stronger regulations abroad, while low- and middle-income countries face a double burden of chronic disease and weak protections. The article calls for inclusive research, stronger policies, practical hormone-supportive dietary advice, expanded education, and equitable access to whole foods. Food choices are a feminist health issue, and change is possible.

KEYWORDS: Ultra-processed foods, Endocrine-disrupting chemicals, Women's health, Hormonal health, Nutrition policy

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What Happens When We Don't Count Women: The Hidden Hormonal Toll of the Modern Diet

We're living through a food revolution, and not the good kind. Ultra-processed foods (UPFs) now make up nearly half of what the average Canadian eats. [1] Think packaged snacks, sugary drinks, and fast food engineered from food extracts and industrial additives, packed with sugar, salt, and fat, but stripped of fiber and essential nutrients. [1] They're cheap, convenient, and everywhere. [2] But they're quietly affecting our hormones, health, and futures, especially if you have ovaries.

To be clear: UPFs aren't great for anyone. Regardless of sex, they've been linked to inflammation, obesity, metabolic disorders, and more. [1] However, when it comes to hormonal health, the stakes can be uniquely high for people with ovaries. Why? Hormones like estrogen and progesterone swing through monthly cycles, surge in pregnancy, and plummet in menopause. Diet, stress, and environmental exposures can throw hormones off balance, triggering irregular cycles, fertility struggles, or other health issues. [3,4]

Food isn't just fuel. It sends signals that can either support or disrupt hormonal balance. In a food landscape dominated by UPFs, those signals can go haywire. [5-8]

The Hidden Ingredients Disrupting Our Hormones

UPFs aren't just low in nutrition; they crowd out the nutrient-dense foods that support our health, like fruits, vegetables, whole grains, and legumes. [9]

But it gets worse. Many UPFs contain additives and preservatives that can interfere with our hormones, called endocrine-disrupting chemicals (EDCs). Propyl paraben, for example, is a preservative found in baked goods and snacks. It has been detected in human urine and acts like estrogen in the body,

linked to menstrual changes, ovulation problems, and reduced fertility. [10,11]

Even the UPF packaging contains EDCs like phthalates and bisphenol A (BPA), which can leach from wrappers and containers into food. They mimic or block hormones and have been tied to earlier puberty, infertility, and more severe menopause symptoms. [12-17] These aren't far-off risks. They're happening in real time, and they're affecting our biology.

In Canada, companies don't have to tell you if their packaging contains EDCs. [18] Most people don't even know these risks exist.

The Real-Life Consequences

We're seeing concerning shifts in hormonal health that likely reflect a combination of factors, including diet, environmental exposures, stress, and more. People are getting their periods earlier, sometimes before age 10. [19] While it might seem harmless, more years of estrogen exposure raise lifetime risks for hormone-related cancers, reproductive challenges, and metabolic disorders. [20-22]

Polycystic ovary syndrome (PCOS) and endometriosis, each affecting about 10% of people with ovaries, are becoming more common. [23,24] PCOS involves irregular periods, excess androgens, and insulin resistance, raising risks for fertility issues and type 2 diabetes. [23] Endometriosis occurs when uterine-like tissue grows outside the uterus, causing chronic pain and sometimes infertility. [24] While causes are complex, growing evidence suggests that UPFs, through inflammation and hormone-disrupting ingredients, may play a contributing role. [25-28]

Then, as estrogen levels drop during menopause, symptoms like hot flashes, bone loss, and mood changes can worsen with poor diet quality, which is linked to inflammation, metabolic risk, and symptom severity. [29] However, nutrition often isn't part of the menopause conversation.

The Bigger Picture Problem

For decades, women were sidelined in research, not only due to gender bias, but because hormonal cycles were seen as 'too messy' for clean results. Instead, studies were done on males, and results were generalized to everyone. [30,31]

Even now, most public-facing nutrition discussions continue to focus on outcomes like weight, cholesterol, and blood sugar, and rarely on menstrual cycles, fertility, or menopause, which affect half the population. This leaves massive gaps in our understanding of how diet affects female hormonal health. [32,33] And when guidance does reach the public, it's often vague ("eat more veggies, cut back on junk") and fails to explain why hormone balance matters, which is crucial for turning generic tips into actionable health decisions.

The Policy Problem

Even as science uncovers the risks, policy lags behind. Canada recently introduced front-of-package labels for sugar, salt, and saturated fat, a step in the right direction, but there are still no rules about EDCs in food packaging or UPFs, apart from BPA being banned in baby bottles. [34,18,35]

In contrast, countries like Mexico, Chile, South Africa, and the UK have gone further and taxed UPFs like sugar-sweetened beverages to discourage consumption. The European Union has banned BPA in all materials that come into contact with food. [36-39]

This isn't just a Canadian problem. In many low- and middle-income countries, UPFs are rapidly replacing traditional diets. Without strong public health systems to address the hormonal and metabolic consequences, these countries face a double burden: rising rates of chronic disease alongside limited protections against harmful food systems. [40-44]

So, What Needs to Change?

To build a food system that works for everyone, we need to:

- **Prioritize inclusive, sex-specific research.** Fund studies that include females within areas like PCOS, menopause, fertility, and the hormonal effects of everyday diets.
- **Strengthen food policy and safety protections.** Go beyond nutrition labels to regulate EDCs in food and packaging, and ensure full transparency in production.
- **Translate science into practical, hormone-supportive guidance.** Move away from vague nutrition advice and toward clear, relevant, implementable messaging, while explaining the why behind advice.
- **Expand access to nutrition and hormone education.** Integrate menstrual health, hormone, and nutrition education into schools, provide up-to-date training to healthcare providers, and support community-led, accessible programs.
- **Address systemic and intersecting barriers to healthy eating.** Food access depends on geography, income, culture, and colonial history. Nutrition policy must centre equity and ensure affordable, culturally relevant, nutrient-rich foods for all.

A Tiny To-Do List for You with Big Impact

- Choose fresh or minimally processed foods when possible.
- Learn whole-food recipes you love.
- Store food in glass or stainless steel instead of plastic.
- Ask your doctor or dietitian about hormone-friendly meals, especially for PCOS, menopause, or irregular cycles.
- Stay curious—learn what's in your food and its packaging.

Conclusion: Food is a feminist issue

When women are excluded from nutrition research, their health is left to chance. The hormonal toll of our food system isn't inevitable; it's the cost of being overlooked. We can rewrite the system. It starts by putting women at the center.

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How publicly funded research preserves scientific integrity

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ABSTRACT

Government funding for science has been under threat. Corporations and private industries (who already make up the majority of research and development funding in Canada) are often the favourites to make up the deficit when public funding gets axed. However, private funding for science can introduce conflicts of interest, biases, and profit-motivated agendas, while public funding is proven to result in impartial, ethical, and people-first science full of long-term benefits. This article explores the implications of corporate funding on scientific integrity by examining the checks and balances of the public funding system, examples of funding bias, and the dangers of disinformation. It becomes clear that candid funding disclosures, transparency of research initiatives, and standards to regulate commercial-science interactions are needed to preserve scientific integrity, for our own good.

KEYWORDS: Government funding, Funding bias, Research & Development, Policy, Disinformation

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How publicly funded research preserves scientific integrity

Who foots the bill for science? In Canada, the two biggest funding sources for scientific studies (research and development (R&D)) are the public sector (government), and the private sector (industry and corporations). This funding leads to technological breakthroughs and a return-on-investment of around 450%.[1] Sustaining funding for R&D is profoundly important. Loss of funding, even for a single year, has devastating effects on the knowledgebase and output of the scientific community.[2] However, not all funding is made equal. While private funding boasts 59%[3] of Canadian R&D to the government's 5%, research shows there are risks when combining corporate interests with the scientific method: biases, lack of governance, absence of transparency, and an overall strategy of profit over people.

Private studies preferentially emphasize "applied" research, that which relates directly to consumers, commercial products/techniques, and boundary-pushing initiatives.[4] Public science is more often "basic" research into fundamental principles and long-term discovery. Said "basic" endeavours, while not immediately profitable, are often curated to serve public interest and focus on preemptive actions - like decades of publicly funded development and clinical trials leading to millions of lives saved by Covid-19 vaccines.[5,6] Basic principles form the basis for all applied research. Fundamental research also results in benefits like establishing water, food, vehicular safety, and medical care standards.[7]

In Canada, publicly funded studies are rigorously reviewed and monitored for ethics and scientific integrity.[8] However, the Secretariat on the Responsible Conduct of Research (Canada's research ethics board) does not have jurisdiction to oversee

privately funded projects, even those involving human testing.[9,10] Private studies benefit from a lack of regulation, quality control, and responsible ethics monitoring, especially if their results are disseminated via the media rather than through scientific publications.[i] If misconduct, human rights violations, or other unethical activity is alleged in a privately-funded study, the options for those impacted to fight back are limited. Victims or claimants can only attempt to submit complaints or take court action, placing them at a significant disadvantage. These vulnerabilities were exposed[10] when a psychologist from Arizona tested controversial brainwave therapy on indigenous Canadian children, promising to make them smarter, happier, and claiming the therapy could make them "see angels" or "walk on water". The privately funded nature of the work meant that no government agency could step in to vindicate victimized patients, a risk the participants did not know they were taking.

The peer-review process is a pillar of publicly funded and published research in Canada and beyond. Peer review committees[11] are responsible for allocating funds through all the major government granting agencies. This means funding for scientific study is handed out equitably, based on the merit and importance of each potential program, determined by a committee of field-specific experts without conflicting financial motives. Private funding on the other hand, can be handed out at the whim of corporations and donors without public consultation or democracy, to whichever project is likely to be profitable. Private pharmacological research, for example, tends to focus on diseases prevalent in higher income countries, because privileged patients more often become paying customers.[12,4]

Interference from corporate interests exists in all stages of research.[12] The most straightforward manifestation of private funding bias is that companies are more likely to publish results showing their own product is best — even when publicly funded

studies have mixed (or even negative) results.[12] This is well-documented in pharmaceutical[13,12] and biomedical[14] fields; public research focuses more on health factors, while private emphasizes marketable products and processes.[12,15] Cutting public funding leads to a direct uptick in partnerships between academics and corporations.[16-18] This form of corporate interference creates rampant conflicts of interest, and aids in legitimizing industries among their potentially most damning critics: academics, policymakers, and the public.[19]

Research direction can also be swayed by profit interests.[20,21] Corporations can carefully evade responsibility and shift blame onto consumers for negative effects, as Coca-Cola did by funding studies on how health is related to physical activity, rather than how health is affected by consuming their products.[22,23] Organizations will hide their involvement to maintain an image of neutrality in the court of public opinion, while secretly churning out industry-supporting results that appear to come from a reliable source.[22-24] Industries are capable of reshaping entire research fields around their policies;[25,12] these are unethical strategies to control the narrative.

Private companies also hold the leash when it comes to publishing their study results: they can omit unfavourable results or deem entire studies unpublishable.[25] This constitutes a violation of research integrity (fraud) under the government of Canada's Responsible Conduct of Research[ii], which, of course, does not apply to private investors. Corporations have also used falsified and fraudulent studies to dissuade new safety or public health regulations.[26]

Disinformation brings science to its knees. Corporations with profit incentives *will* lie to promote their cause. The article *Science Has a Major Fraud Problem. Here's Why Government Funding Is the Likely Culprit* [27] by the Foundation for Economic Education, a free-market entrepreneurship organization, is a

prime example. Their article advertises that fraud exists in only publicly-funded science, but closer inspection of the evidence disproves their own point: fraud is *also* discovered in privately-funded trials.[28-30,iii] Misrepresenting the truth is a predatory media tactic to deceive readers. Be wary of where information is coming from — anti-government science "think tanks" likely do not have the population's best interests at heart, often opposing many institutions of public good, such as universal health care, labour unions, and child labour restrictions.[31-34]

So far in 2025, news headlines have been laden with announcements of diminishing government funding for science. While this is harrowing, especially for those of us watching our livelihoods and passions slip away, it presents an indispensable opportunity to re-affirm the benefits of public funding for research and development, and to raise awareness of the risks when corporations fill the funding gap, all in the name of scientific integrity.

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[i] Even in cases where companies running private studies are required to provide their own ethics board/product testing in order to bring a product to market or perform clinical trials, there are no enforceable government standards for these internal reviews in Canada, and recent reports[35] about the American FDA reveal the potential dangers of this loophole.

[ii] Subsections 2.1.2a,b

[iii] Examples include: Carlisle, J. B., 2017. Anaesthesia.[29] Appendix S1, NEJM: Trial 682, funded by pharmaceutical company Pfizer.

The Canadian Journal of Science Communication

"My TriFIT Journey": A study summary report for child and adolescent participants

Sarah da Silva
McMaster University

ABSTRACT

This report card was developed as part of the TriFIT study, which examines the effects of TRIKAFTA on health and well-being in children and adolescents with cystic fibrosis. It provides each participant with a personalized summary of measured outcomes, including body composition (muscle, bone, and fat), aerobic fitness, physical activity, and quality of life. The results are presented in a clear and accessible format for participants and their families, without comparison to other participants. The purpose is to support understanding of individual progress and highlight each participants contribution to the TriFIT study. Sharing results in this way helps make research findings meaningful to participants, turning study measurements into practical, easy-to-understand information about how they changed over a year.

KEYWORDS: cystic fibrosis, TRIKAFTA, pediatrics, personalized results, science communication

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About the TriFIT Study

The TriFIT Study is a research project designed to better understand how children and adolescents with cystic fibrosis (CF) grow, move, and feel now that they are taking a new CF treatment, TRIKAFTA®.

Understanding Cystic Fibrosis

Cystic fibrosis (CF) is a genetic disease that affects the lungs and digestive system. This causes thick mucus buildup, leading to difficulties with breathing and digestion. Daily treatments are required to help manage the disease.

In recent years, new medications known as highly effective modulators (like TRIKAFTA®) have revolutionized care. With TRIKAFTA®, many people with CF are living healthier lives. However, it is important to understand how these improvements affect other aspects of patients health and wellbeing.

Purpose of "My TriFIT Journey"

"My TriFIT Journey" was created as a personalized report card to share each TriFIT participant's study results in an accessible and engaging way. Rather than only focusing on numbers, this report card helps children, teens, and families see what their results mean. Highlighting both the participant's contribution to the larger study and their individual progress, makes findings meaningful to participants and allows them to see their impact.

While "My TriFIT Journey" was originally designed for study participants, it also offers a model for how research findings can be meaningfully communicated back to children and families. By combining scientific accuracy with visual storytelling and simple language, this approach demonstrates how participant-facing science communication can foster understanding, engagement, and trust in research.

Dear [name],

Thank you for helping me with the TriFIT study!

Because you took part in this study, me, other scientists, and doctors know more about how to care for kids and teens who have cystic fibrosis, like you!

Please enjoy this roadmap of your TriFIT journey. We hope you learned lots of exciting things along the way!

Best wishes,
Sarah

My TriFIT Journey

Study ID: TF-M/F#
Age: # years old

chemp

I helped scientists learn what life is like for kids and teens with cystic fibrosis while they take TRIKAFTA. How? Let's see! →

BODY COMPOSITION

I did a full body scan on a dual x-ray absorptiometry machine (some people call it DXA) to look at how much bone, muscle, and fat I have.

FITNESS & FUEL

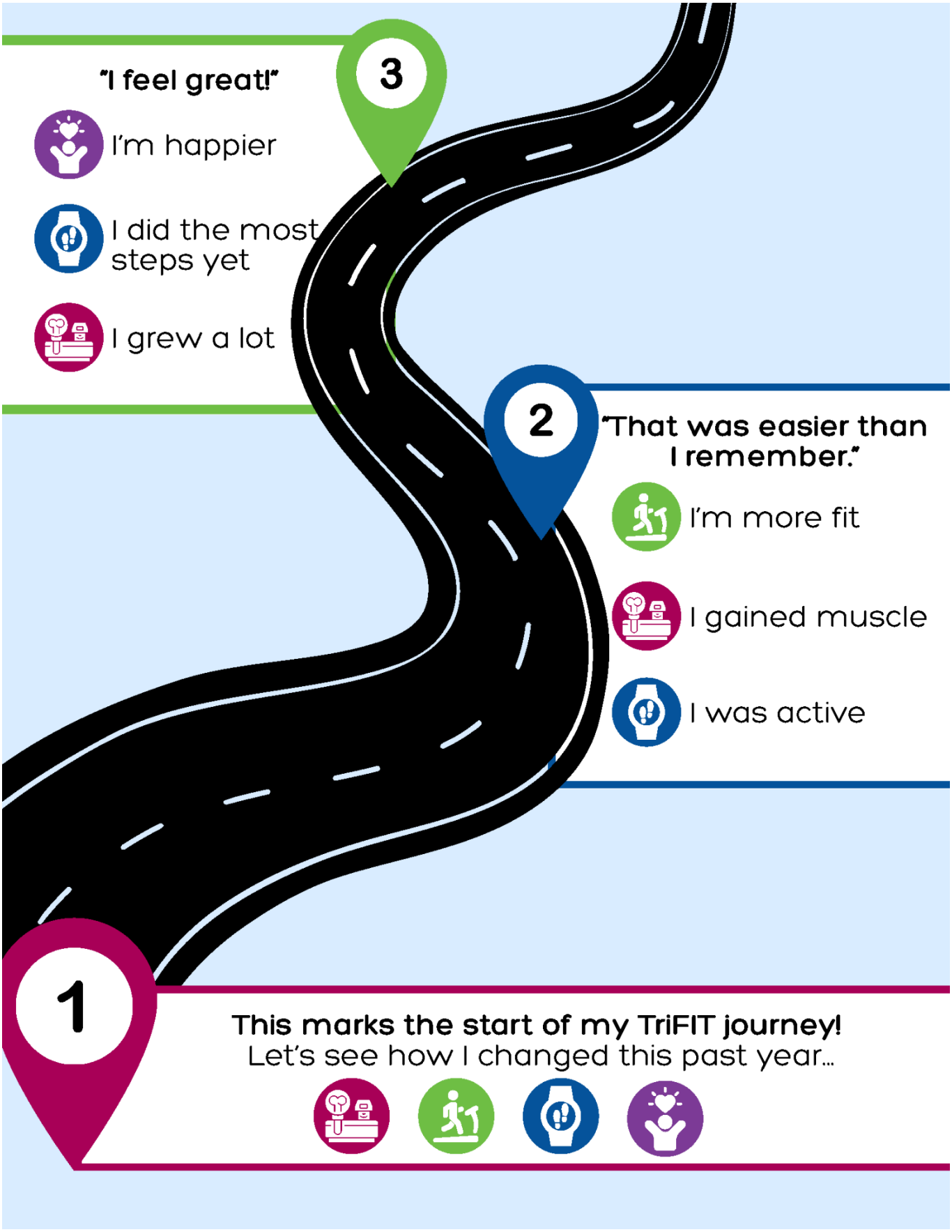
I did exercise tests on a treadmill to test my heart, lung, & muscle fitness and see how I use food as fuel during exercise.

PHYSICAL ACTIVITY

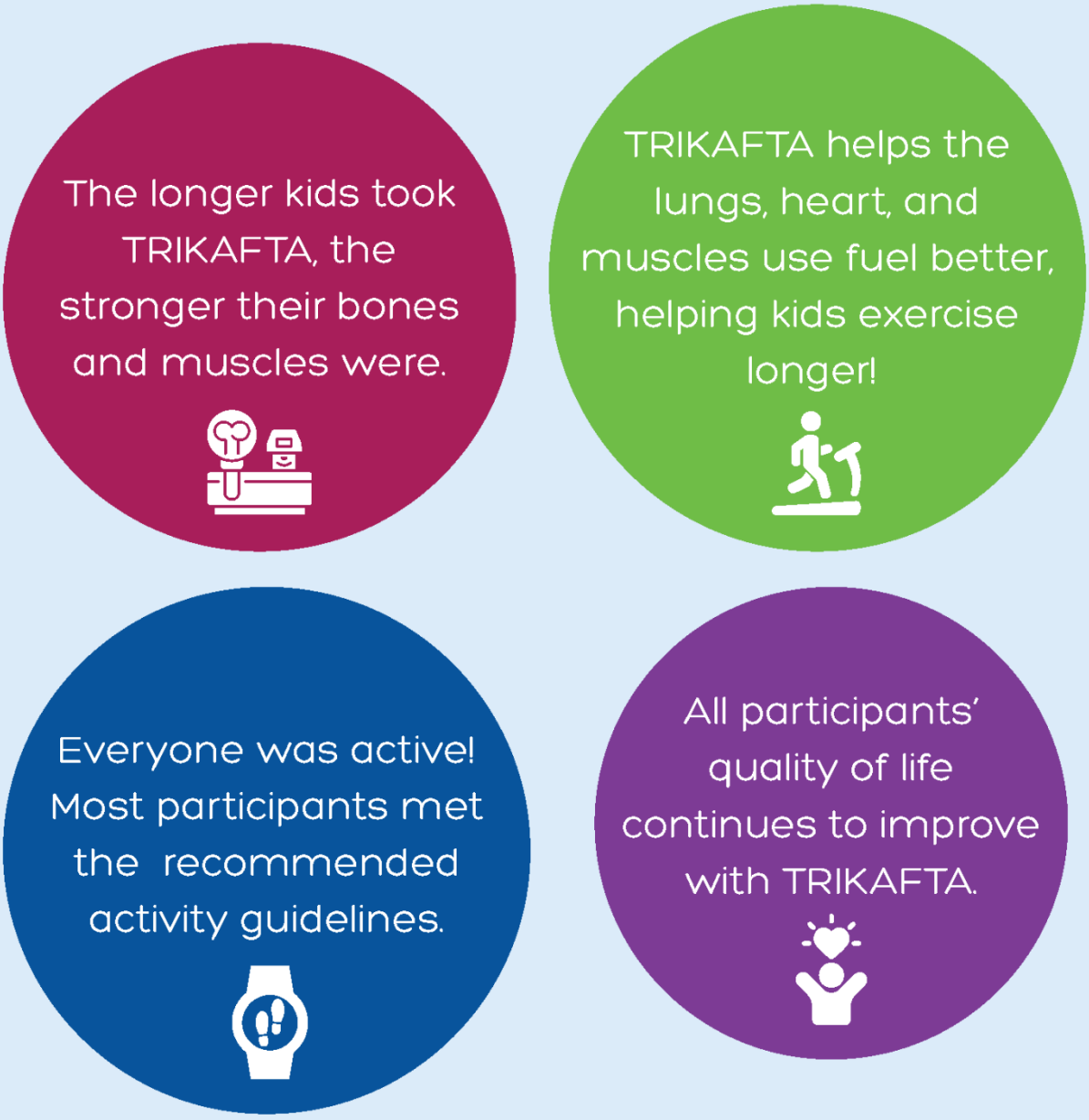
I wore a GARMIN watch every day for one year to monitor my physical activity.

QUALITY OF LIFE

My parents and I completed surveys asking about my quality of life and well-being.


3
"I feel great!"
I'm happier
I did the most steps yet
I grew a lot
2
"That was easier than I remember."
I'm more fit
I gained muscle
I was active
1
This marks the start of my TriFIT journey!
Let's see how I changed this past year...

XX other children with cystic fibrosis participated in this study with me! With everyone's help, the scientists learned that...



This means that TRIKAFTA may be helping kids and teens with cystic fibrosis live healthy, active lives!