



What about the Land and the Water?

Yukon First Nations Worldviews and the Research Ethics Process



YUKON RESEARCH CENTRE
Yukon College

This research was conducted in the traditional territory of the Kwanlin Dün First Nation and the Ta'an Kwäch'än Council. We would like to acknowledge the contributions of all our participants, particularly the Yukon First Nations Elders that generously shared their wisdom.

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THE RESEARCH ETHICS PROCESS

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EXECUTIVE SUMMARY

The complex and diverse relationships humans maintain with nature are an ongoing and sustained multi-scalar conversation with roots in Indigenous perspectives around the world. The UN's *Harmony with Nature* forum is one example of an international forum for this discussion, while there are national-level examples of nature gaining rights status equivalent to humans and animals from New Zealand, Brazil, and India. Canada saw limited progress in this regard lead up to the Truth and Reconciliation Commission (TRC), who released their Calls to Action in 2015. The TRC specifically identified the post-secondary academy as a site for reconciliation and consideration of Indigenous worldviews (Call to Action #62 and #65), creating an arena and an impetus for the discussion of society's relationship with nature in the context of post-secondary research, Indigenous worldviews and reconciliation. Research ethics reviews in post-secondary institutions are designed to protect research subjects, specifically humans and animals. However, research ethics is also a potential site of reconciliation, if the research ethics review process expanded to consider the land and the water alongside humans and animals. This holistic consideration of ethics would align with broad Indigenous principals and promote a better understanding of Indigenous worldviews in the context of academic research.

We describe the potential for reconciliation through research and show the potential for a fundamental shift in how academia considers research ethics in Canada by examining how a small academic institution, such as Yukon College, could re-envision their approach the ethical review of research projects. Yukon College is committed to leading by example through our partnerships with Yukon First Nations, including the indigenization of research. Our Indigenous partners have highlighted research as a priority site during discussions of institutional indigenization. This position paper examines the potential for embedding respect for the land and the water alongside people and animals in a formalized, holistic ethical review of research projects that better reflects Yukon First Nations worldviews. Through interviews with a select group of Yukon First Nations Elders and Yukon College's primary engagement mechanism, the President's Advisory Committee for First Nations Initiatives (PACFNI), we establish the feasibility of using Yukon First Nations perspectives as the foundation for a spectrum of initiatives for altering the current research ethics review process.

We saw widespread support from interviewed Elders, PACFNI, and informal interactions with Yukon College research faculty and staff. Elders and PACFNI both underlined the Indigenous foundations seen in traditional First Nation laws, such as Dooli, that include connections to the Earth and to past and next generations. Both Elders and PACFNI also identified a need to establish a basic understanding of Indigenous worldviews in researchers of all disciplines. Based on these discussions and acknowledging that this conversation is in its infancy, the research team presented scenarios to Yukon College's Senior Executive Committee and gained internal approval to move forward with the smaller operational adjustments to support researchers as they move towards more holistic approaches to their projects, keeping in mind the current implementation of the Tri-Council Policy Statement-2 and the Canadian Council for Animal Care and the need for this conversation to continue for broader change to occur. Tangible initiatives being implemented in the short-term include: the review of Yukon College's Policies AR-02 and AR-03 (Research Integrity and Research Ethics, respectively); the development of a Yukon College ethics module that focuses on Yukon First Nations worldviews culture; and a commitment from the Research Services Office to explore future adjustments. Larger initiatives include the continuation of engagement with PACFNI, YC faculty and staff, and YC leadership about future modifications to the REB process, with an aim to fully re-imagine research ethics review processes.

INTRODUCTION

Internationally, the conversation around acknowledging the rights of nature in broader social processes is ongoing, ranging in scale from local and national jurisdictions, such as Brazil, to global forums, such as the UN's *Harmony with Nature*. In Canada, this discussion was limited until the Truth and Reconciliation Commission (TRC) released their Calls to Action in 2015 and space was created for a discussion of society's relationship with Nature in the context of Indigenous worldviews and reconciliation. The TRC specifically identified the post-secondary academy as a site for reconciliation and consideration of Indigenous worldviews (Call to Action # 62 and # 65). This research focuses on research ethics in the context of a post-secondary institution, Yukon College, as a potential site for reconciliation by expanding consideration of research ethics beyond humans and animals to incorporate the land and the water, in accordance with a holistic consideration of ethics held in Indigenous worldviews. By examining prospective changes to how a small academic institution could approach the ethical review of their internal research projects, we describe the potential for reconciliation through research elsewhere and show the potential for a shift in the broader approaches to research ethics in Canada.

Here, we explore reconciliation through research via the research ethics review process at Yukon College from the perspectives of Yukon First Nations. First, we recognize progress made towards acknowledging the land and the water broadly, drawing on specific examples at multiple scales. We then turn to the research ethics context in Canada, outlining the current system required for holding federal research funding. Then, we engage Yukon College's strong relationships with Yukon First Nations (YFNs) to explore their perspectives on the interconnectedness of land, water, people, and animals. Building on this foundation, we examine the practical changes to the research ethics process at Yukon College necessary to operationalize these concepts internally. The guiding documents for current ethics reviews at Yukon College are also examined to see where and how YFNs' perspectives have and can be engaged. Results from this exploration are summarized in this position paper and were presented at a national roundtable in Ottawa as part of the national discourse on reconciliation through research. Recommendations were presented to the Senior Executive Committee of Yukon College to guide internal discussions of reconciliation through research and futures indigenization initiatives.

"My sister, she say the land is my store, my hospital. And I forget all she say... and my wealth. It's true. That's what it really is." (Hall, 2019)

BACKGROUND

Legal protection of nature

There is a growing movement towards recognizing the rights of the natural environment in social processes in a context of global development, originating in local jurisdictions. In 2006, municipalities in the United States began to issue ordinances to protect the right of natural ecosystems to flourish (Global Alliance for the Rights of Nature, 2018; United Nations, 2018). Comparable actions occurred internationally over subsequent years, including an amendment to the Ecuadorian constitution in 2008 that specified the protection of the environment as a matter of public interest; the Te Awa Tupua Act in New Zealand passed in 2017, grants the Whanganui River and ecosystem the legal status of a person; and the National River Ganga Bill passed in 2018, provides the Ganga River and ecosystem legal personhood (United Nations, 2018; Buchanan, 2017; Kothari et al., 2017). More recently in India, the

Himalayan Gangotri and Yamunotri glaciers were granted status of living entities (United Nations, 2018). These efforts have been visibly supported by international leaders, such as Pope Francis (United Nations, 2018), and public figures such as Leonardo DiCaprio and Al Gore (Watts, 2013).

The movement has gained considerable traction through the international forum of the United Nations General Assembly, which officially adopted the first resolution of *Harmony with Nature* in 2009, after declaring April 22 as International Mother Earth Day (United Nations, 2018). The General Assembly adopts a resolution in each year with a goal to “... define this newly found relationship based on a non-anthropocentric relationship with nature,” (United Nations, 2018). However, Canada has been slow to follow suit, with little significant policy development on the subject. This is an opportunity for Yukon College and its YFN partners to show international leadership, by supporting our researchers in the way they think about the connection between their research and the environment in which it occurs.

Yukon's First Nations

Yukon First Nations (YFNs) have been inhabiting the Yukon “since time immemorial” (Yukon Native Brotherhood, 1973). Yukon First Nations cultures, each with distinct values and ethical codes, were organized into 14 distinct YFNs in response to a suit of challenges, including the impacts of the residential school system and oppressive federal government policies and legislation (Yukon Native Brotherhood, 1973). The Council for Yukon Indians (CYI), now the Council for Yukon First nations (CYFN), negotiated the Umbrella Final Agreement (UFA) with federal and territorial governments to establish a modern-day treaty that outlines how individual YFNs could negotiate self-government agreements with the federal government. To date, 11 of the 14 First Nations have signed self-government agreements. Since the signing of the UFA in 1990, a unique governance landscape has evolved, creating space for YFN rights and worldviews in governance contexts, including the research that supports these processes.

Yukon College

Yukon College spent considerable time developing its institutional relationship with YFNs in 2008, the results of which were presented in the Sunrise Report and where Yukon College’s President’s Advisory Committee on First Nations Initiatives (PACFNI) and First Nations Initiatives (FNI) were established (Bosley and Reid, 2008). PACFNI includes representatives from all 14 YFNs and three bordering Nations and provides YC’s President high level advice on matters related to education. FNI facilitates First Nations representation in YC courses and daily functions (Bosley and Reid, 2008). This strong commitment to indigenization threads through current institutional values, strategic planning and all aspects of daily operations, including research. Research and scholarly activity were identified and emphasized in the current strategic directions of YC, making this one of the key areas of focus for institutional efforts towards reconciliation and indigenization. PACFNI and a team of YC faculty and staff described indigenization for YC as “grounded in the equal recognition, inclusion, integration of Indigenous values, cultures, languages, and ways of knowing and doing, into the fabric of YC’s programs, services, governance, policies, and space,” (Staples et al., 2018: 6). In addition, informal conversations with YFN Elders and YC faculty and staff identified research as a potential place to explore what true reconciliation and indigenization could look like in the post-secondary academic context.

Modern research ethics

Current research ethics processes in Canada are outlined by the Tri-Council¹ Policy Statement: *Ethical Conduct for Research Involving Humans* (TCPS2) and the Canadian Council for Animal Care (CCAC). These processes were developed in response to a period of scientific research that relied on questionable human and animal testing practices (McRae, 2018; Glass and Newman, 2015). Current research ethics reviews are meant to act as a safeguard for research participants and communities, human and animal, but lack an acknowledgement of fundamental environmental elements, such as land and water. The foundational understanding of what constitutes good research is shifting, and at the base of this shift is a discussion of ethics and how researchers approach their projects (Brunger and Russell, 2015; Castleden et al., 2017; Stiegman and Castleden, 2015). More recent versions of the TCPS2 engage more directly with concerns present in the independent concept of Ownership, Control, Access and Possession (OCAP; FNIGC, 2014) in relation to Indigenous communities engaged in research projects. Castleden et al. (2017) identifies “entrenched colonialism” in research processes, including research ethics, as a limitation to progress towards more inclusive forms of research practice. For example, the implementation of Article 9.2 *The nature and extent of community engagement* of the TCPS2 discusses the scope of Research Ethics Board (REB) reviews, which does not include non-human participants. Likewise, the CCAC guidelines are very specific about their scope addressing laboratory animal care, but similarly have no specifications for the natural environment in which animals may be located. These models of research ethics are well established but reflect the primarily anthropocentric approach to the ethical review of research projects that has been the norm to date. While there have been numerous guides dedicated to informing researchers on the ethical practice of research with Indigenous partners and participants (e.g., Van Bibber and George, 2012; Riddell et al., 2017; IARPC, 2018), these have little bearing on the formalized research ethics reviews at colleges and universities and rarely address interactions with the environments in which research takes place.

In order to comply with the Tri-Council¹ requirements, research ethics processes at Yukon College align with specifications outlined in the TCPS2 and the CCAC guidelines (TCPS 2; CIHR, NSERC, and SSHRC, 2014; CACC, 1993). These requirements are standard for Canadian academic institutions receiving and administering Tri-Council research funding (Stiegman and Castleden, 2015; Irving and English, 2008). In informal conversation, YFN partners and YC faculty and staff have expressed that the current research practice has left Indigenous researchers and staff feeling disconnected from the process, and non-Indigenous researchers and staff searching for support and guidance in balancing the indigenization of their research projects within the constraints of funding requirements. YC researchers and research administrators, faculty, and FNI staff broadly endorse an exploration of the inclusion of the land and water into research review processes as a way of uplifting indigenous ways of knowing and doing internally. Ideally, the discussion initiated by YC would extend to external processes, such as territorial research licensing which is administered by Yukon Government’s Scientist and Explorers Act. A major challenge will be balancing existing rigorous processes with proposed changes to avoid a perception of tokenistic consideration. Including land and water in research ethics reviews offers YC an internal pathway towards reconciliation through research, as long as adjustments are meaningful, and initiates similar conversations for external processes.

¹ The Tri-Council of Canada includes the Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC).

Approach

Primary data collection methods include drinking tea and learning from Elders in unstructured conversations, and a workshop with PACFNI, bringing together representatives from most YFNs to ensure that concerns and successes from across the territory are identified. These conversations were designed to keep discussions general, exploring broad visions and goals that could then be translated into tangible and actionable tasks.

Five Indigenous Elders were recruited for interviews based on their interest and availability, as well as recommendations from team members and YC faculty and staff, with an eye to gender and Yukon language group balance. The interviews with Elders were informal, unstructured one-on-one conversations using broad guiding questions to highlight features of their First Nation's relationship with the land and water, and their knowledge of and experience with research. The data collected here does not claim to be a full representation of all YFN perspectives, but rather is considered a starting point for larger conversations. The engagement of a group like the CYFN's Elder's Council would be beneficial to a full re-envisioning of YC's REB process.

These same guiding questions were posed to PACFNI in a two-hour workshop. Regular representatives were encouraged to invite members of their First Nation with perspectives on research, and land and water ethics. All First Nations participated, and many sent two participants: their regular PACFNI representative and their lands or heritage resource managers, as these are often the positions that directly interact with researchers and research activity in communities. The two-hour workshop with PACFNI included a brief summary and discussion of the project goals and objectives, followed by break-out groups to encourage discussion using the interview guide used in the Elder interviews. The group then came together to highlight the major points of the break-out discussions and brainstorm some potential initiatives that could be useful for supporting the various YFNs in their interactions with research. All interviews and the workshop break-out group discussions were recorded and transcribed for accuracy and review.

Data analysis included coding for key themes and a three-step analysis method. The first stage of coding included 'open coding' the data to create new thematic areas for further development (Onwuegbuzie & Combs, 2010). Thematic areas were identified by an 'inductive' reasoning process: beginning with a review of all interview data, identifying meaning, and creating associated themes. The second stage included 'axial coding' as a second pass through the data to garner further insight into the established themes and develop relationships between themes (Bradley, Curry, & Devers, 2007). This allowed further development of thematic areas as they relate to the larger context of the project. A final stage of 'selective coding' was necessary to draw out specific examples of the themes and sub-themes from the data, including direct quotes (Bradley et al., 2007; Gallicano, 2013; Miles et al., 2014).

This study is a first examination of the research ethics context as a site for reconciliation. As such, Elders were recruited based on their availability and willingness to participate within the confines of the scope and timing of this particular project. While we acknowledge the potential for regional bias, this was minimized by engaging with PACFNI, which is made up of representatives from across the territory, and then extending the invitation for YFNs to send the representative they thought best suited to contribute to the conversation. Engagement with PACFNI will continue as the project progresses to next phases. Any substantial changes to the REB processes would require a larger and deeper conversation that would have to include additional Elders, current REB members, and research administrators.

“The Creator’s first law is to respect the environment that was given to you to look after, so you have to be careful how you make your living off the land and care and respect that environment and also care for the environment, care for all life on the environment, because that’s what your life is, eh?” (Tetlichi, 2019)

Results

Fundamental to the perspectives shared by Elders and PACFNI are the traditional laws of Respect, Sharing, Caring, and Teaching. These principles are held by the Northern Tutchone people as Dooli (Hall, 2019), and similarly identified by members of other YFNs, including the Southern Tutchone and Tlingit peoples. These principles (Respect, Sharing, Caring, and Teaching) provide the foundation for other values identified by all interviewed, and provide a starting point for identifying tangible internal initiatives. The results here are a broad understanding of traditional laws, and do not fully represent the full breadth of the teachings shared by both the Elders and the PACFNI workshop.

“...Dooli simply is a set, it describes to us how we should conduct ourselves, so that we live in harmony with all the energies, and everything has energy.” (Adamson, 2019)

Table 1. Principle teachings of Dooli, according to the Northern Tutchone people

Respect	Acknowledges the interconnection of all aspects of the environment, including respect for people, animals, the land, and the water
Sharing	Resources should be distributed between all people, for the benefit of all aspects of the community
Caring	It is the responsibility of all members of the community to support one another when they see someone in need
Teaching	It is the responsibility of all members of the community to teach and support learning

Connection to the Earth

The Elders underlined the importance of respect for the environment that enables and facilitates research. Respect for all things, including the land and the water, was their foremost concern, emphasizing a deep connection to the Earth that is well-known and acknowledged in Indigenous cultures internationally (e.g., Armstrong, 1993; Bengston, 2004).

“... we start to expand that teaching to how are we responsible for the water, for the insects, for the birds, for the plants, because, more importantly at that point in time, we were beginning to take that energy from the fish, from the water, from the air, from the trees, the plants, moose, anything that we ingested, we were taking that energy into us. And that was an acknowledgement.” (Adamson, 2019)

“You think about, you know, if you understand your relationship, if you thought the flower was your relative, same air, same earth, same everything, right, if you thought that flower, or, no, if you knew that flower was your relative, you wouldn’t pluck it out and give it to your girlfriend.” (Gatensby, 2019)

"That's what we are. Everything what you do is Dooli, what you can't do, even for animals. About animals, how we treat animals. How we eat them, how to respect animals, everything, the land too. Everything, water. You see the way they polluted things now? It's against Dooli." (Hall, 2019)

"We must remember, we're in the animals' territory, that's their habitat. We're the ones that's trespassing on their territory, it's not vice-versa." (Johnston, 2019)

"... disrespecting water is using it in an unhealthy way like an unhealthy way is some people make home-brew... you need to have more respect, eh? ... For water, and also the land, when we don't go out, so it disrespecting the land." (Tetlichi, 2019)

The current research ethics process, which consists of separate research ethics boards, does not consider the interconnectedness of people, animals, and the environment in which they live. The land and the water are only considered in the existing processes when attached to research projects involving humans and animals directly, and that consideration is rudimentary. The Elders identified that the Earth, including land and water, is the foundation, and an Indigenized research ethics process would recognize and foster these fundamental connections.

Connection with the past and next generations

The Elders spoke at length about passing values, principles and traditions on to the next generation and to others, like researchers, for the benefit of the community as a whole, while maintaining a grounding in the experiences of past generations. They described how their Elders taught them on the land and through experiences and highlighted the potential role of YFN ways in the training of a new generation of researchers.

"...more importantly I feel ... like it's really expanding and I'm seeing what our ancestors went through. And also, seeing the value of never letting go of that knowledge. Because, it's important." (Adamson, 2019)

"My uncle said to me once, we were doing stuff, and he said, yeah, Indian people, we learn really good with these [gestures to ears], and these [gestures to eyes], right? Not much with this [gestures to mouth]." (Gatensby, 2019)

"You see, all these things are in training and I'm not talking for nothing. I don't know how many people heard me there and they know what I'm saying exactly. Not to laugh at nobody. That's why in all the things that we see around us, it's all teaching, everything that we do. It's teaching." (Hall, 2019)

"You look after it, it'll keep replenishing itself. But if you don't, it's gonna... so that's why it's important to, try and pass this message onto our young people and other people. We don't mind you going out there but look after it." (Johnston, 2019)

"Yeah, but teaching and getting them out there on the land and teaching them, doing things with them, and if you teach them, they're going to understand, if you take them out there, they're going to understand, if you just talk to them, then they won't understand.

You have to experience something to understand it and if you never experience something then there's no use teaching on it." (Tetlichi, 2019)

Passing knowledge on to the next generation has multiple implications, including teaching of First Nations youth in traditional ways alongside fostering an understanding of worldviews in new and established researchers of all disciplines. Initiating discussions of research ethics early in the training of new researchers exposes them to an inclusive, ethical worldview prior to engaging in research and nurtures their ability to understand other worldviews early on in their careers.

PACFNI Workshop

Discussions in the workshop held with members of PACFNI led down many paths, some of which touched on the threads laid by the Elder interviews and others that led to overarching discussions of how research with Indigenous people is conducted in the Yukon. Reoccurring themes from the three breakout groups centered around promoting respect for different ways of knowing, managing community-researcher interactions, and administering the number and kinds of researchers wanting to do research with communities and on their traditional territories and settlement lands. Land-based interactions with the next generation were a key theme, where many discussed how they were taught from a young age about the connection with the land and water and the importance of that underlying connection in all other parts of their cultures. Frustration was an undercurrent for many of the workshop participants, expressed through examples of government, tourists, and researchers who did not show the respect for land and water in their traditional territories.

Solutions were also part of the discussion, underlined by the identification of opportunities to support one another. Participants representing Tr'ondëk Hwëch'in and Vuntut Gwitchin shared the successes and challenges they have had with researchers as they developed their own internal research review processes. Some successes and challenges include adding additional requirements through research agreements held with the First Nation and ensuring that reporting and dissemination activities are planned from the beginning of the project. Other First Nations representatives expressed a desire for similar processes to be developed in their respective governments and hoped that YC and this project could support these efforts moving forward. It was suggested that developing a YFN orientation course for researchers coming to the Yukon could be embedded in existing processes, like the Scientist and Explorers research licensing process. Participants suggested that the orientation could include an exploration of worldviews, which was identified as a tangible initiative that could support YFNs with limited capacity to engage with researchers but who are still wanting to ensure the safe and ethical practice of research on their lands.

Indigenizing research ethics at Yukon College

In examining the options for indigenizing Yukon College's research ethics processes, a spectrum of options for modification were identified. These options acknowledge concerns raised by existing research ethics administrators, as well as YC faculty and researchers. The various scenarios all attempt to address the desire for a holistic research ethics approach that reflects the principles of caring, sharing, teaching and respect, but are very different in terms of emphasis on changes to specific processes and degree of administrative oversight (Figure 1).

Scenarios

A scenarios framework was used to examine implementation approaches based on the spectrum of indigenization options that emerged through conversations with the YC community. The scenarios consider both the mechanism for approval of a land and water ethics application (horizontal axis), and the body doing the approval (vertical axis). For the former, a spectrum between formal approval and informal verification was identified, while for the latter, an approving body could range between an existing REB and a new or modified REB model. The four emerging scenarios, outlined in Figure 1, present an array of options, from a REB-based approval process with embedded compliance, enforcement and monitoring similar to current REB models (top left quadrant of Figure 1) to a self-study questionnaire completed by a researcher. The self-study would confirm that they are considering implications for land and water as part of their research project design and be verified for completion by a delegated review peripheral to the existing REB (bottom right quadrant of Figure 1). The two other scenarios (creating a new formal REB and approval process for land and water, or a committee review structure for a self-study questionnaire) present other options for land and water ethics review.

In terms of feasibility, small operational changes could fall towards the verification end of the spectrum (the right side of Figure 1), where initiatives like self-administered questionnaires or small internal reviews could promote researcher reflection around a holistic perspective towards ethics. These changes would focus on developing an expanded culture of ethics and inclusivity, which is discussed as a mechanism to change attitudes toward the responsible conduct of research elsewhere (Kalichman, 2015). Importantly, it was noted that changes to the research ethics process would have to account for researcher and REB workloads, so that these checks are not seen as overly burdensome to researchers and reviewers, while also not becoming another set of checkboxes with little substance or meaning. The tension between these two goals was highly discussed with the PACFNI workshop and internally within the research team.	Existing REB	Adjusted REB
	<p>Incorporate into existing REB structure and format</p> <p>Formal approval _____ (adjudication, compliance, enforcement, monitoring)</p> <p>Entirely new REB process</p>	<p>Small internal committee but separate from existing process</p> <p>Verification (researcher motivated, internal accountability)</p> <p>Self-study Questionnaire</p>

Figure 1. Options for the incorporation of First Nations worldviews in the research ethics process at YC.

Yukon College's Research Integrity AR-02 and Research Ethics policy AR-03 are already scheduled for review in the next year, which is an opportunity to include language around land and water in relation to research ethics and conduct. Including specific training on indigenized research ethics, including consideration for land and water, in courses at Yukon College would expose students to indigenized ethical perspectives early in their academic and research careers. Additionally, including a Yukon College-specific ethics certificate or module in the current REB process, similar to the TCPS 2 certificate, that would focus on Indigenous approaches to land/water/human interactions is a viable option for future consideration, requiring additional discussion.

Completely restructuring the existing REB is an initiative that requires further internal discussion to address the tension between established REB procedures and potential changes. Amalgamating the human and animal ethics processes to include consideration of land and water while fulfilling the requirements of funding agencies requires a re-envisioning of the entire structure. Clarity around the responsibilities of a new board (e.g., environmental protection vs. mitigation of risks vs. enforcement) would be key in determining the scope and effectiveness of a modified process, as would strategies for board member recruitment to ensure adequate technical coverage. Increases to the workloads of REB members and increased demands on researchers' time were notable concerns identified by faculty and staff during information sessions. A lengthy and complicated research ethics process can consume valuable research time and decrease the intended impact on researchers, becoming more of an annoyance or check box rather than a practice in reflection. Additionally, researchers in disciplines that have not typically had requirements for ethical reviews (e.g., the physical sciences) will need training and support for the indigenization of projects and the preparation of REB applications. Planning for a transition towards more reflexive research is in progress as part of Yukon College's institutional strategy for indigenizing research, including the provision of adequate support for researchers. Importantly, ongoing discussions will work towards re-imagining the existing REB into a review process that complies with federal funding agency requirements and certifications while expanding the processes into a holistic consideration of research projects. There is internal appetite from YC faculty, staff, leadership, and PACFNI for continuing and expanding the conversation beyond the current study towards these larger goals and YC's Research Services Office has committed to facilitating this on-going conversation.

"... there are only two degrees in life one should strive for, your CS degree, and BA. You know what these are? Common sense and being around." (Johnston, 2019)

Next steps

Based on the results of this study, the research team looked to identify tangible initiatives that could be implemented in the short-term, with the support of existing funding and staffing, while securing additional funding to support more complex, longer-term changes in the REB process that reflect the values identified in this work. The research team presented results and scenarios to YC's Senior Executive Committee and gained approval to move forward with initial, low-barrier changes to the college's consideration of research ethics while acknowledging limitations associated with TCPS-2 and CCAC compliance. These implementable, tangible initiatives are among first steps in the indigenization of research ethics and have opened a forum for YC faculty and staff to discuss more substantial modifications and their implications. Short-term (6-12 months) next steps include:

- *Research policy updates.* Yukon College's Research Integrity policy AR-02 and Research Ethics policy AR-03 are currently under review and the results of this study will inform new language in the policies to include a holistic worldview.
- *Indigenized research ethic module.* The research team has been approved to move forward with the development of a Yukon College ethics module, intended to dovetail with existing YFN 101 training, to encourage and support researchers to consider land and water in their own assessments of the ethical conduct of research.
- *Ongoing dialogue.* The Research Services Office is committed to ongoing engagement with research faculty, staff, PACFNI, and YRC to expand the conversation of indigenizing research ethics toward broader systemic modifications.

Additionally, the research team is developing a funding proposal that supports more systemic change oriented towards the indigenization of the research ethics process and builds on the work initiated through this Connection Grant. We anticipate submitting this proposal to SSHRC in the next 6-12 months.

Conclusion

The conversations initiated by this study exposed enthusiasm and appetite from YFNs and YC faculty, staff and researchers alike for the inclusion land and water in future research processes. The results of discussions with YFN Elders underline that the values accorded to land and water are not substantially removed from the TCPS2 principles of Respect, Justice, and Concern for Welfare. For example, Northern Tutchone Dooli, Southern Tutchone Traditional Laws and Tlingit traditional teachings share fundamental principles with other YFNs that include the themes of Respect, Sharing, Caring, and Teaching.

The inclusion of land and water in research ethics provides an additional pathway for uplifting Indigenous knowledge and values in the research process and reflects Yukon College's commitment to indigenization. Scenarios for future changes are considered on a spectrum between verification and enforcement, and between building a new ethics process or utilizing the existing one, each with associated advantages and challenges. Informational discussions with faculty have shown support for first developing the education and support aspects before undertaking larger changes to established formal systems. Taking advantage of existing processes, such as scheduled updates to YC's research integrity and ethics policies, begins embedding indigenization in the college's approach to research ethics. Meanwhile, larger initiatives, such as modifying the current REBs, are possible if the associated challenges, such as timelines and workload, are pre-emptively identified and addressed. Two initiatives currently being pursued are the review of the YC Research Integrity policy AR-02 and Research Ethics policy AR-03 and the development of an ethics module to complement the existing offering of YFN 101.

"She said, I have a fire, sometimes people call it my spirit, but it's a fire that burns inside of me, and it keeps my body warm all the time, even when it's 40 below, my body is still 98.6, right? And she said, because that fire is burning. And I know that if you ask science...all the suggestions will kind of suggest, or point to fire, right, they say, burn your calories, all of it points to fire, right? So, she said, my fire, and your fire are not different, it's just the fire, right?" (Gatensby, 2019)

Importantly, this project revealed that initiating the conversation of Indigenizing research ethics was met with widespread support for including YFN worldviews in current research ethics processes amongst YC faculty, researchers, and administration, Indigenous and non-Indigenous alike. There is also the opportunity for YC to support individual YFNs in the development of internal research administration processes to facilitate and monitor research on their traditional territories. Balancing what YC can directly influence through changing internal systems with how YC can promote this shift in the broader territorial research context will be a challenge. There is tension between the need for changes to be made in established systems and the existing constraints that currently make research possible, such as requirements around research funding. Luckily, these conversations have already begun delving into the more challenging aspects of moving research in the Yukon and in Canada towards a culture of inclusion and reconciliation.

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