EXPLORING THRIVING OF INUIT YOUTH THROUGH AN ENGAGEMENT LENS: A STRENGTH-BASED FOCUS ON FACTORS RELATED TO INUIT YOUTH'S PARTICIPATION IN A PSYCHO-EDUCATIONAL MENTAL HEALTH PROJECT

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Abstract

Few studies have investigated strategies to support Inuit youth engagement in *mental wellness* using a strengths-based, culturally grounded approach. Existing literature primarily focuses on environmental science and addresses solely physical and educational barriers. The current study aimed to identify multi-systemic factors that may directly or indirectly *support* Inuit youth leaders and participants engagement in two mental wellness research initiatives: the *Making I-SPARX Fly in Nunavut [I-SPARX]* and the *Virtual Qaggiq* projects. For Inuit youth leaders/ research assistants, this was explored through semi-structured interviews. For Inuit youth testers in the I-SPARX game evaluation trial, demographics and response patterns on a pre/post intervention wellness questionnaires were analyzed. Thematic analysis identified common themes in the qualitative data, while multiple linear regression and an adaptive lasso analysis extracted key factors from the quantitative data. The findings revealed multiple interrelated individual, contextual, relational, and cultural influences on youth's engagement. Clinical and research implications are discussed.

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Positionality Statement

I am a 27 year old Qallunaat, the Inuit term for white person. I was born and raised in an upper-middle class neighbourhood in Tkaronto (Toronto). My mother is of Scottish and Irish settler ancestry, my father is of English and Danish settler ancestry. His adoptive father (Wesley Thomas), whom I consider my grandfather, is Métis from Pine Falls, Treaty 1 territory (Manitoba).

I have had the immense privilege of working and learning alongside Inuit communities in Nunavut for the past four years as a research assistant on the I-SPARX project. The conversations I've had with Inuit youth and community members have taught me about the beauty, wisdom, kindness, and strength that is Inuit culture. They have also opened my eyes to the ongoing colonial atrocities and injustices that are perpetuated in this country. Through these experiences, I have come to believe that Inuit are among the most resilient people in the world.

My background, along with the perspectives, privileges, and biases that I hold have shaped how I work and see as a researcher, and thus affect the way I present the following masters thesis.

Exploring Thriving of Inuit Youth Through an Engagement Lens: A Strengths-Based Focus on Factors Related to Nunavummiut Youth's Participation in a Psycho-Educational Mental Health Project

In November 2021, a powerful display of youth-led activism took place in Iqaluit, Nunavut, as over 100 Inuit high-school students marched through the streets, chanting "we want change" - a protest of the territory's chronic lack of mental wellness support (CBC News, 2021; Ritchot, 2021). Mental health is one of the most urgent challenges facing Inuit today, and youth are demanding immediate action. Historical and ongoing colonial harms have resulted in Inuit suicide rates nine times greater than those of non-Indigenous peoples in Canada (Kumar & Tjepkema, 2019). According to Grade 12 Inuk activist and protester, Minnie Akeeagok, "*if you go to any person and ask if they know anyone who died from suicide, they will surely have at least two to 10…it's to the point where we're wondering who's next*" (CBC News, 2021; Ritchot, 2021). Indeed, during the two wellness projects our team has been involved in, many of the Inuit community collaborators and researchers have suffered repeated losses of this nature. Despite the need for greater support, culturally sensitive mental health/wellness services remain limited in Nunavut. In a territory where 85% of the population is Inuit, Psychiatry, Psychology, and Mental Health Nursing, are almost exclusively provided by non-Inuit southerners who do not speak Inuktitut and/or Inuinnaqtun (the official Indigenous languages of Nunavut), and are often employed on short-term contracts (Grant, 2022).

Nevertheless, Nunavummiut (the people of Nunavut) have long persisted to address mental health/wellness inequities in their own way, demonstrating extraordinary resilience. In addition to youth protests, locally driven supports have emerged, such as the establishment of youth centres, cultural crisis helplines, Elder-counselling groups, as well as land and arts-

based activities aimed at engaging and empowering youth (Kral, 2019; Our life's journey, 2023; *Young hunters program* https://www.aqqiumavvik.com/young-hunters-program). On a territorial-scale, advocacy organizations such as Embrace Life Council and Inuit Tapiriit Kanatami (i.e., ITK; the national representational organization for Inuit in Canada) have placed suicide prevention at the forefront of their priorities (Embrace Life Council, 2022; Inuit Tapiriit Kanatami, 2016). In 2010, Nunavut was one of the first regions in Canada to release its own Suicide Prevention & Action Strategy, paving the way for other territories and provinces (Olson, 2017). Nunavummiut have shown themselves to be leaders in suicide prevention with strategies that epitomize initiative, perseverance, and a strong belief in the importance of culture and community in fostering wellbeing.

To effect meaningful change, Inuit are advocating for additional research and wellness supports that are grounded in culture and empower Inuit self-determination and capacity building by involving youth in their design and implementation (Inuit Tapiriit Kanatami, 2018). In alignment with this call, the current study sought to explore multisystemic factors and pathways that support Inuit youth's engagement - as both leaders and participants - in mental wellness research initiatives. Individuals under the age of 25 make up more than half of the Inuit population in Nunavut (Statistics Canada, 2017); empowering Inuit youth to become involved in research initiatives lays the pathway for a future of self-determined, stronger, and healthy Nunavut communities.

Sustained participation of Inuit youth in community-based research can nevertheless be challenging (Anang, 2018; Bohr et al., 2023; Kral, 2019; Litwin et al., 2022; Ljubicic et al., 2021**;** Sadowsky, 2019;). Few studies have investigated strategies to enhance Inuit youth engagement, with existing research limited to environmental science and focusing mainly on physical and educational barriers to participation (Sadowsky, 2022a; Sadowsky, 2022b). As of the present, no published literature has focused on Inuit youth engagement in mental health

and wellness research. This study focused on Inuit youth's engagement in two specific projects: *Making I-SPARX Fly in Nunavut* and *The Virtual Qaggiq Project.* The former is a five-year (2017-2022) community- and youth-directed mental wellness project in which members of five Nunavut hamlets, together with three organizations in Nunavut (Embrace Life Council, Pinnguaq, Nunabox) and mental wellness researchers from York University, adapted a CBT computer game to support stress, resilience, and low mood in Inuit youth. The latter project was designed to further integrate Inuit culture into a new resilience-enhancing mobile psycho-educational game, with support from established Inuit youth leaders, Elders, and community members.

Through interviews and analysis of survey data from a group of highly engaged Inuit youth involved in these projects, I identified the factors and pathways that have contributed to their active and sustained involvement. Emphasizing Inuit community's call for resilience and strengths-based research (Hudson et al., 2020; Kelvin et al., 2020), I recognize engagement as an indicator of *thriving*—a demonstration of doing well despite experiences of trauma and adversity (Masten, 2007). I argue that for Inuit youths to have the emotional and physical capacity to voluntarily and consistently participate in research, despite systemic barriers, suggests that they are doing relatively well.

I begin by describing the past and ongoing colonial harms that Inuit communities have experienced to contextualize the current state of youth mental wellness in Nunavut. I then shift my focus to the topic of resilience and thriving, providing a brief overview of this research field in general and then review research specifically pertaining to Inuit communities. Finally, I summarize the current state of literature on youth engagement in Inuit Nunangat. Here, I explore the connection between resilience, thriving, and youth engagement and highlight the existing research gaps.

Background

Mental Health and Wellness in Inuit Communities

Pre-Colonization

Inuit, meaning "the people" in Inuktitut, are the Indigenous peoples of the circumpolar North. For over 5,000 years, Inuit have survived, thrived, and cared for the lands stretching the coast of the Chukotka Peninsula in Russia to the southeastern shores of Kalaallit Nunaat (colonially known as Greenland) (Canadian Geographic, 2018). In the country known as Canada, Inuit have lived off the land, ice, and sea of four primary regions; Inuvialuit Settlement Region (northern Northwest Territories), Nunavut, Nunavik (northern Quebec) and Nunatsiavut (northern Labrador), collectively known as *Inuit Nunangat*.

Inuit were traditionally semi-nomadic peoples, travelling in small, family groups, based on the migration patterns of the animals they hunted (Tester & Irniq, 2008; Pauktuutit Inuit Women of Canada, 2006). Inuit maintained a rich and connected way of life while navigating one of the harshest climates in the world. Their survival has been attributed to the ancestral knowledge and values of *Inuit Qaujimajatuqangit* (IQ). IQ is a complete body of knowledge and living philosophy that emphasizes cultural unity, kinship, sharing knowledge, resilience, and having respect for and living in harmony with all beings (Karetak et al., 2017). IQ is made up of eight core principles; (1) *Inuuqatigiitsiarniq*: respecting and caring for others, (2) *Tunnganarniq*: being open and fostering good spirit, (3) *Pijitsirniq*: serving and providing for family and/or community, (4) *Aajiiqatigiinniq*: decision making through discussion and consensus, (5) *Pilimmaksarniq*: developing skills through mentorship and practice, (6) *Ikajuqtigiinniq*: working together for a common cause, (7) *Qanuqtuurniq*: being innovative and resourceful, and (8) A*vatittinnik Kamatsiarniq*; respecting and caring for the land, animals and the environment (Government of Nunavut, n.d). Upholding IQ principles

was a responsibility that fell upon the entire circle of kin.

In the traditional Inuit family unit, there was a cohesive structure comprising a father, mother, children, grandparents, and sometimes an unmarried uncle or aunt (Pauktuutit Inuit Women of Canada, 2006). Each member had a distinct role, mutually depending on one another for survival. Respected leadership in Inuit society entailed leading by example and taking initiative rather than delegating . Generally, adults who sought to exert individual authority by imposing their opinions on others or who tried to lead without consent were socially ostracized. Among all family members, Elders were especially revered for their extensive knowledge of survival techniques and raising capable children, and thus played an important role in child rearing. From an early age, children were taught to value Elders, and attend to their needs. This emphasis on intergenerational respect and cooperation contributed to a strong familial bond and stability within the community. Suicide was extremely rare pre-colonization. It typically only occurred among Elders who were ill or who wanted to maximize survival for others during times of famine (Tester & McNicoll, 2004).

Post-Settler Contact & the Onset of Colonization

Contact with Qallunaat (White, European colonizers and settlers) marked the beginning of a profound social transformation in Inuit culture. While colonialism in Inuit Nunangat took root in the early 1500's, Inuit recall the most significant impacts occurring relatively recently, between 1950 and 1970 (Olson, 2017). This period, referred to as the "Government Era," witnessed the arrival of large numbers of Qallunaat, increased government control, forced relocations and "resettlement" of communities, slaughtering of family-owned sled dogs, the intentional separations of children from their families and removal from their community through residential schools and the 60's scoop, the introduction of disease, and the enforcement of laws which prohibited the practice of Inuit culture and way of life (Karetak et al., 2017).

In 1953, the Canadian government established the Department of Northern Affairs and Natural Resources with the intention of gaining control over Inuit lands (Kral, 2019). Inuit were coerced into relocating to permanent settlements, many of which were situated in unfamiliar, barren regions of the Arctic. The land is a vital part of Inuit identity, representing a connection to ancestors, culture, and sustenance. Settlement was a violent separation from these lands which uprooted their identity and caused widespread starvation and death (Tassinari, 1995; Tester & Irniq, 2008). As a way to further dispossess Inuit from their culture and lands, the RCMP initiated a mass slaughter of Qimmiit, sled dogs, following the creation of settlements. Qimmiit were viewed as members of the family and their deaths were felt as a community massacre (Qikiqtani Inuit Association, 2014b). Without their dogs, Inuit families were no longer able to travel nomadically and survive independently on food.

Around the same time, Inuit children were being forcibly separated from their families and sent to day and residential schools, a process that destroyed deep attachment bonds to community and culture (Qikiqtani Inuit Association (2014a). By 1964, 75% of Inuit aged six to 15 were enrolled in residential schooling (King, 2006). The goal of these schools was to assimilate Indigenous people into white society, and systematically eradicate Indigenous culture. Children were forbidden to practice cultural or spiritual traditions, prohibited from speaking their native language, often separated from their siblings, and subjected to physical, sexual, and spiritual abuse (TRC, 2015). The loss of language and cultural traditions caused an intergenerational gap between children, their parents, and Elders, making it increasingly difficult to communicate with one another (Cardinal & Pepler, 2021; Qikiqtani Inuit Association, 2014a). Family separation and assimilation continued throughout the 1960's, through the mass removal of children from their communities and placing them into the child welfare system to be adopted by predominantly non-Indigenous families (the so-called sixties scoop) (Wright Cardinal, 2017). Notably, these atrocities took place in the

context of a long-standing tuberculosis epidemic that led to upwards of 20% of Inuit being removed from their communities, many of whom lost their lives (Grygier, 1994; Kral, 2019).

Ongoing Colonization

Intergenerational trauma from the Government era persists in Inuit communities today. Separation during formative childhood developmental periods, coupled with exposure to traumatic experiences has fractured attachment relationships between children and their caregivers (Litwin et al., 2022 Qikiqtani Inuit Association, 2014). Many children have grown up deprived of the traditional knowledge on how to form bonds, trust, and resolve inner and interpersonal conflict, resulting in the transmission of trauma across generations (Cardinal & Pepler, 2021; Qikiqtani Inuit Association, 2014). This historical trauma is sustained and compounded by ongoing colonial inequities such as unaffordable food prices, overcrowded housing, lack of access to health care services, and discriminatory, culture-negating economic policies (i.e., prosecution of seal hunting in Canada) (Cardinal & Pepler, 2021; Arnaquq-Baril, 2016; Inuit Tapiriit Kanatami, 2018; Leblanc-Laurendeau, 2020; Olson, 2017). As a result, Inuit youth endure higher rates of depression, anxiety, substance abuse, and physical and sexual abuse compared to non-Indigenous peoples (Kral, 2016).

Depression, a significant risk factor leading to suicidal behaviour, is related to poor emotion regulation strategies such as rumination, catastrophization, and hopelessness about oneself and the world (Bohr et al., 2023). Depression in Indigenous populations specifically, is linked to systemic and structural inequities such as food insecurity, and unemployment, as well as other cultural and relational risk factors (i.e., exposure to childhood trauma, separation from community and family (Chandler & Proulx, 2006); lack of interpersonal support (Richmond, 2009); disengagement from cultural and spiritual knowledge, (Kirmayer et al., 2009), and boredom (Jervis et al., 2003). The historical and contemporary injustices detailed above have resulted in suicide rates that are nine times higher compared to the rest of

Canada and 40 times higher among Inuit males aged 15 to 29 in certain communities (Affleck et al., 2020; Statistics Canada, 2019).

Resilience

Resilience is broadly defined as a "positive way of coping or adapting when faced with adversity" (Ungar, 2013). Historically, resilience was seen as a developmental *outcome* determined by inherent traits (e.g. agreeableness, conscientiousness, adaptability, self-efficaciousness, and possessing a positive life outlook and strong self-regulatory skills) (Hamel, 2023; Masten 2007). Today, resilience is also recognized as a *developmental process* - one that involves the acquisition of resilient qualities and strategies in response to adverse experiences. As a non-fixed, dynamic process, resilient development can transform over time based on an interplay between risk and protective factors (Hamel & Bohr, 2023; Luthar et al., 2014). These factors encompass both those at the individual level as well as those within the external environment, such as the familial, socio-cultural, and environmental conditions, in which youth are raised (Luthar et al., 2014).

Resiliency is thus both a process and outcome, developed over time through a multitude of factors that interact in relation to each other, the individual, and the broader context (Luthar et al. 2014; Rutter,1993; Kirmayer et al. 2009). The specificity and uniqueness of resilient development has also been increasingly acknowledged - that is, specific characteristics of individuals interact differently with specific aspects of developmental contexts (Bornstein, 2017; Bornstein, 2019; Lerner & Bornstein, 2021). Accordingly, individuals may demonstrate resilient development in certain contexts and periods of their life, but not others (Lerner & Bornstein, 2021; Luthar et al., 2014).

Despite the complex and individual nature of resilient development, researchers have identified three overarching response patterns that a 'resilient individual' might demonstrate in

the face of adversity: (1) *coping*, or maintaining healthy development in the face of adversity, (2) *post-traumatic growth*, improvement in functioning after a traumatic event, and (3) *thriving*, doing well and/or flourishing in the presence of adversity (Hamel & Bohr, 2023; Masten, 2007).

Inuit Resilience

Resilience is exemplified by Inuit in many ways; namely through their survival for thousands of years in freezing Arctic environments, and their perseverance through genocide. Resilience is also deeply embedded in modern Inuit life, and manifests in unique ways. For example, following the decades of the Government Era, Inuit in Nunavut have been making efforts to return to an era of self-reliance and self-determination, with Inuit traditional knowledge (IQ) at the center of this movement **(**Tester & Irniq, 2008). One of the most notable examples of this was the signing of the Nunavut Lands Claim agreement in 1993, following nearly 20 years of negotiations with the Canadian Government. This agreement designated Nunavut as its own, distinct territory and marked a significant step towards Inuit self-governance **(**Hicks & White, 2015; Tester & Irniq, 2008). Since then, Nunavummiut have pushed to reincorporate culture, language revitalization, and traditional ways of life into territorial operations.

In 1999, the Government of Nunavut declared that future decision making across all departments (education, health, justice, etc.) would be based on Inuit Qaujimajatuqangit (Tester & Irniq, 2008) and a formal department of Culture and Heritage was created to promote and implement Inuit language, culture, and history throughout Nunavut communities. The push towards self-governance also appears in Nunavut Research Institute's stringent, community-focused protocols to ensure that Nunavummiut are consulted and engaged in research. On a community level, Inuit are challenging restrictions on traditional lands and promoting the teaching of the Inuktitut language in schools (Freeman, 2010). All

these initiatives demonstrate an immense adaptability and persistence to overcome ongoing struggles.

Within Inuit culture, factors that promote resilience are rooted in relationships and nature. Communication with friends and family, being on the land, forging strong communities, connecting to culture, good role models, and keeping busy have all been noted as having a role in resilient functioning (Kirmayer et al., 2011; Thomas et al., 2021). For research to effectively support resilience in Nunavut, community members and Elders have emphasized that programs be strengths based and grounded in culture (Hudson et al., 2020; Kelvin et al., 2020). That is, programs should be guided by IQ, encourage intergenerational knowledge-building, focus on highlighting a person's strengths in the face of hardship, and overall, give youth positive experiences of life (Brooker, 2018; Waddell et al., 2017).

It is important to note that in recent years, "resilience" has become a controversial term for many Indigenous communities. While Indigenous and other minoritized communities indisputably possess deeper "reservoirs" of resilience (Singh, 2023), there is growing discourse on the harmful impacts that arise from inappropriate use of the term. Some communities argue that resilience can put an onus on the individual to "overcome" a problem rather than acknowledging the structural nature of the problem itself. For example, resilience may influence a person to question adverse experiences like racism and other forms of injustice and instead redirect to "positive thinking" and self-actualization (Singh, 2023). There is also a relative perversion in how societies perpetuate difficult or oppressive conditions that require Indigenous peoples to be resilient, and then praise their communities for their ability to endure the challenges that society itself imposed. Resilience has the tendency to imply that adaptation under stress is the ideal outcome. Thus, when a person is unable to adapt they may be left feeling "not resilient enough".

In a circumpolar-based study of resilience (Cueva et al., 2019), seven life-long Arctic residents (from Alaska, Sapmi, Nunavut, Denmark, northern Russia, and northern Finland), articulated similar critiques of the term. All participants agreed that the term “resilience” did not resonate within their communities. Some likened it to an “outside lens” used by non-Arctic researchers to glare into and study the lives of Arctic peoples. Participants also expressed that the notion of 'adversity necessitating resilience' can glorify painful and difficult situations. Indeed, many Indigenous communities have urged that they “shouldn’t always need to be resilient,” especially in the context of community suicide, racism, and persistent social and economic inequities. Participants proposed “thriving communities” as a more appropriate term. Although theoretically connected to resilience, “thriving” goes beyond merely “surviving” or “enduring” adversity. It rather emphasizes growing and flourishing, despite, or even because of challenges (Singh, 2023).

The Importance of Inuit Youth Engagement in Mental Wellness Research

Defining and Measuring Engagement

There is currently little consensus on how to systematically define, conceptualize, and measure engagement. The Centre for Excellence on Youth Engagement (CEYE) defines *youth engagement* as “meaningful participation and sustained involvement of a young person in an activity, with a focus outside of [themselves]” (CYE, 2003) – however, definitions and modes of measurement vary, partly because engagement encompasses multifaceted behavioural, cognitive, and/or affective dimensions (Archambault et al., 2007; CYE 2003; Luyre, 2019; O’Brian et al., 2022). *Behavioural indicators* represent the extent to which a person actively participates in the program through regular attendance, cooperation, and discussion. *Cognitive indicators* of engagement refer to a psychological investment and commitment to an activity, including a willingness to initiate and expend effort on tasks,

perceptions of competency and a belief that the activity is important and worthwhile. Lastly, *affective indicators* are characterized by feelings, perceptions, and attitudes towards the activity, such as a sense of belonging, a feeling of connection to the people involved, and enjoyment from participating (Archambault et al., 2007; CYE 2003; Luyre, 2019; O'Brian et al., 2022). Previous literature indicates that measures of engagement should ideally factor in both quantity (e.g., attendance) and quality (depth of participation; e.g. amount of information provided during project discussions) (Luyre, 2019). Factors that predict engagement (or a lack thereof) typically cluster around the individual, family or community, and contextual levels, and may vary across cultures and circumstances (Yohalem & Martin, 2007).

Engagement and Inuit Self-Determination

Youth engagement in research is a vital step towards Inuit self-determination and has been deemed a top priority by community leaders. However, for many Inuit, *research* is associated with a colonial legacy of exploitation, misrepresentation, and a lack of meaningful involvement of Inuit in the research process (Kral, 2019). In Inuit Nunangat, a negative reputation for research arose out of painful, non-consensual skin grafting experiments conducted on Inuit in the 1960's and 1970's (Kral, 2019). This legacy has been carried forward by other non-Inuit researchers who "fly in and out" of communities, fail to establish meaningful connections with Inuit, disregard their priorities, and neglect to share the results of their work (Pfeifer, 2018; Qikiqtani Inuit Association, 2013a).

Understanding that research was not serving or benefiting Inuit, Inuit Tapiriit Kanatami released the National Inuit Strategy on Research (NISR), with the goal of improving the way research is conducted in Inuit Nunangat. The strategy emphasizes five priority areas, all revolving around greater community collaboration and involvement of Inuit in the research process: (1) advancement of Inuit governance in research, (2) enhancement of

the ethical conduct of research, (3) alignment of funding with Inuit research priorities, (4) advancement of Inuit access, ownership, and control over data, and (5) enhancement of capacity-building in Inuit Nunangat research (Inuit Tapiriit Kanatami, 2018). In mental wellness research, these goals may be achieved, at least in part, through collaborative participatory action research (PAR) (Sadowsky et al., 2022b). Participatory action research involves engaging local communities as partners and leaders in every phase of the research, from design and execution to sharing findings. With the goal of reconciling historical inequalities in research, PAR emphasizes shared control, recognition, and integration of both Indigenous and Western knowledge, and strives for community members to feel a sense of ownership over the research process (Castleden et al., 2012; Sadowsky et al., 2022b).

Engagement, Mental Wellness, and Resilience

To support Inuit self-determination in research and beyond, the engagement of Inuit community members, and most importantly youth, is crucial. The importance of Inuit engagement in local and collaborative research extends beyond community self-determination however, with benefits that enhance research efficacy, foster individual skill-building, and promote wellness. Specifically, youth's participation in program design and delivery can fuel innovation, ownership, and pride and lead to more enduring program outcomes (CYE, 2003; International Youth Foundation, n.d). Furthermore, youth engagement creates opportunities for mentorship, contributing to research capacity and skill development of the next generation of Inuit researchers, academics, and leaders (Iwasaki, 2016; Mawn et al., 2015; McCabe et al., 2023). Engagement may also play a significant role in mental wellness and life promotion. Certain studies have classified youth engagement as a "non-specific protective factor" for its association with reduced rates of school failure and drop-out (Mahoney & Cairns 1997), decreased antisocial and criminal behaviours (Mahoney, 2000), as

well as its ability to support other youth and community protective factors, such as staying busy and having positive role models (MacDonald et al., 2015).

Engagement has been conceptualized by some scholars as a protective factor against suicide. Namely, Michael Kral - a clinical-community-cultural psychologist with decades-long experience conducting PAR with Inuit in Nunavut - argues that suicide prevention is rooted in community control which is achieved through long-term engagement in community-owned initiatives. In his book, "Return of the Sun; Suicide and Reclamation Among Inuit of Arctic Canada", Kral discussed his observations on how various Inuit-led activities and programs, none of which were explicitly labelled as "suicide prevention efforts," led to reduced suicide rates. The common thread between these activities was that they were community-born. These activities included community gatherings, land-based activities with Elders, Elder-facilitated "listening sessions," locally produced films, establishment of sports teams, and the creation of youth centres. While some western academics argue that a causal relationship between these actions and suicide reduction is implausible, community members insisted that such efforts saved lives.

To elaborate, I describe the process and outcome of one specific community-led endeavour in which Kral was extensively involved: the revitalization and reopening of a local youth centre This initiative was laborious, requiring monthly committee meetings, funding applications, and navigating challenges related to high turnover and declining engagement. However, through collaboration from several youth, Elders, and community members, the youth centre was eventually revamped, becoming a bustling space for youth to gather and socialize. Eight years following the reopening, the community experienced a 68% decrease in suicides which many Inuit attribute to the presence of the centre. According to youth, the main benefit of the centre was that it kept young people occupied. Some youth also stated that it was a place to visit when they needed to get out of their house, play games, have fun,

and that it helped build momentum for other initiatives. Indeed, dance clubs, church groups, and a hockey association were created shortly after the opening of the center. Kral described this as a "ripple effect" of community action.

There are various theories that may explain the link between suicide reduction and engagement in community initiatives. Some scholars have postulated a theory in which suicide prevention rests in creating more positive life options for youth to choose from, making suicide a less prominent choice (Kral, 2019; Shneidman, 1998). Participating in the development and maintenance of the youth centre is an example of this. Being a community-led initiative, it was a meaningful and stimulating way for youth to spend their time. It thus follows that the act of simply engaging youth in a community-owned activity may prevent suicide and support resilience because it offers another opportunity to keep busy. Another theory is that Inuit mental wellness is rooted in community control - or a community's ability to engage in self-determination - which necessitates community engagement (Kral, 2019) This connection is achieved through two processes. The first is the acquisition of *collective agency,* which refers to when community members participate in a positive initiative and come to regard it as 'their own'. The second process is the development of *collective efficacy*, which is the community's shared belief that they have the capabilities to develop the initiative. Through these social processes, self/community efficacy and ownership are realized, which in turn promotes community cohesion and wellness (Kral, 2019). Indeed, research on suicide patterns in 196 Northern Indigenous bands in Canada, revealed that those that reported greater decision making over cultural/community affairs experienced lower rates of youth depression and suicidality (Chandler and Lalonde, 1998). Community control also indirectly supports wellness through the creation of mental wellness tools/programs that emphasize local salience; Inuit tailor their resources to align with the aspects of life that hold significance to their culture and people (Kral, 2019).

The Challenges of Engaging Inuit youth

While research is becoming less stigmatized among Nunavummiut in large part due to Inuit Tapriit Kanatami's ethical research regulations, maintaining Inuit youth's engagement in research projects remains a challenge (Anang, 2018; Hackett, 2019; Kral, 2019; Litwin et al., 2022; Sadowsky et al., 2022a; Wattar et al., 2012). For example, although not a formal research project, the youth center described above closed down after several years of operation due to high turnover of committee members and the resulting disruptions in programming. The youth organization responsible for helping manage the center disbanded. Since its closure, the community experienced a significant increase in suicide, with over eight occurring in six years. Kral has noted that "the continuity of truly community-based actions and programs toward well-being/mental health is in need of serious attention….the needed community support at this time is for sustainability" (Kral, 2019, p.142). Similarly for Participatory Action Research (PAR) initiatives, attrition and inconsistent participation of Inuit youth research assistants, advisors, and participants is common (Anang, 2018; Hackett, 2019; Kral, 2019; Litwin et al., 2022; Sadowsky et al., 2022a; Wattar et al., 2012).

More broadly speaking, there is a problematic lack of youth engagement within the Nunavut school systems. A report from 2016-2017 indicated that less than 70% of Nunavut students attend school (George, 2019). Furthermore, statistics from 2019 showed that only 34% of Inuit individuals aged 25 to 64 possess a high school diploma compared to the 86% rate among non-Inuit Canadians within the same age range (Inuit Tapiriit Kanatami, 2018; Statistics Canada, 2019). Clearly, the challenge of sustainability is systemic, affecting various aspects of life in Nunavut.

Knowledge Gap

There is some guidance on how to support engagement of *Indigenous* youth in community-based programming. In a scoping review, Hackett (2019) identified common challenges and facilitators for engaging Indigenous youth as research partners and decision-makers in PAR. Firstly, a trusting relationship between the youth partners and the academic team is crucial. Researchers should dedicate time to "having fun" together outside the research context to nurture relationships with youth. Furthermore, the involvement of adult community members can aid in fostering trust, as they offer support and serve as role models. Mentorship models were also endorsed by various research teams (Genuis et al., 2015a; Genuis et al., 2015b; Kral, 2019). Notably, structural barriers imposed by remoteness affected communication between the youth and academic research teams. Although a few studies indicated that teleconferencing meetings helped bridge the communication gap, the importance of in-person meetings was emphasized (Fletcher & Mullett, 2016; Morris, 2016).

Secondly, when engaging Indigenous youth, it is important that youth feel that the initiative will be valuable to their community. The integration of Indigenous values into research activities, particularly by honouring the land, intergenerational relationships, and traditional knowledge, enhanced youth's interest in participation (Blangy et al., 2018; Gérin-Lajoie et al., 2018; Johnston GoodStar, 2009; Pollari, 2018). In general, youth were more interested when the research activities revolved around "learning by doing" rather than traditional academic formats (e.g., powerpoints) (Jensen, 2012; Riecken et al., 2005; Stewart et al., 2008). Other effective strategies involved integrating arts, technology, and storytelling into the project's framework.

Finally, Hackett (2019) noted that competing priorities interfered with regular youths' participation (e.g., school, responsibilities at home, work etc). Incorporating projects

activities into classrooms and after-school-clubs helped mitigate this challenge (Bradford et al., 2017; Genuis et al., 2015a; Genuis et al., 2015b; Jardine & James, 2012; Morris, 2016; Pollari, 2018; Riecken et al., 2005; Stewart et al., 2008).

While these studies provide valuable insights into best practices for involving Indigenous youth in Participatory Action Research (PAR) initiatives, there is a notable knowledge gap - up until 2018, only one of ten PAR initiatives involving Inuit youth was based in Nunavut (Hackett, 2019; Morris, 2016), and none focussed on engagement. As of 2023, only two articles have explicitly investigated strategies and challenges affecting youth engagement in Nunavut (Sadowsky et al., 2022a; Sadowsky et al. 2022b). In the first of these articles, Sadowsky et al. (2022a) gathered Inuit perspectives on barriers to participating in environmental research, which included lack of credentials (school, licenses), personal support (role models), and access to equipment; language barriers; inconveniences from seasonality of research and isolating nature of field camps; and fear that Inuit land-based skills and knowledge may be undervalued. In the second article, Sadowsky et al. (2022b) investigated ways to facilitate engagement and build capacity in Arctic environmental research. They determined that strong research partnerships rooted in trust and mentorship are needed and may contribute to meaningful knowledge transfer. Both of these studies are limited to environmental research and use a deficit model (i.e., focus on barriers that hinder engagement, or practices that are lacking/in need of more). There is a need for research that explores youth engagement within *mental wellness* research, using a *strengths*-based perspective.

The Current Study: A Strengths-based Approach to Researching Youth Engagement

In alignment with Indigenous communities' call for resilience and strengths-based research (Hudson et al., 2020; Inuit Tapriit Kanatami, 2018; Kelvin et al., 2020), the current

study aimed to identify the various factors that have contributed to the long-term engagement of a group of Inuit youth leaders involved in the I-SPARX and Virtual Qaggiq projects. Engagement in this context is construed as an expression of youth's resilience, or "thriving" - evidence of flourishing despite conditions of adversity. In accordance with contemporary theories of resilience, "thriving" is influenced by various levels of an individual's environment (e.g., family, community, socio-cultural). Furthermore, what promotes thriving is unique to each person, and can change overtime based on the interplay between the individual and their environment. In an effort to understand what promotes sustained engagement of Inuit youth in research or "thriving" the objectives of this thesis were:

1) To identify multi-systemic factors that may directly or indirectly support Inuit youth's sustained participation in project activities using quantitative and qualitative methods.
    a) For Inuit youth who were involved in a leadership capacity in the two projects (i.e. Inuit youth leaders/research assistants), this was explored through semi-structured interviews.
    b) For Inuit youth who participated as testers in an outcome trial to evaluate the effectiveness of an e-tool, this was explored through analysing their responses on a pre/post intervention wellness questionnaire and demographic information.
2) Qualitatively describe these factors through the lens of Inuit Qaujimajatuqangit, a system of beliefs and knowledge specific to Inuit culture.

Theoretical Frameworks

This study relied on three guiding frameworks: the Relational Developmental Systems (RDS) model (Lerner, 2011), Bornstein's (2017) specificity principle of development, and Inuit *Qaujimajatuqangit* (IQ) (Karetak et al., 2017).

According to RDS theory, positive youth development emerges from the dynamic interaction between individuals and contexts; while the individual is influenced by contextual factors (e.g., family, peers, schools, communities, and cultural contexts, institutions, environments), they are also seen as active agents in their development who influence the environment in which they are embedded. Individual factors (e.g., demographic, personality, cognitive, motivational, emotional, and behavioural characteristics) interact with context-specific variables (e.g., setting - family, peer group, neighbourhood, community, workplace; cultural, institutional and social-historical) to explain positive developmental outcomes (Bronfenbrenner, 1979; Gayman et al., 2017; Lerner et al., 2011).

Similarly, the Specificity Principle embraces the notion of mutually influential relations between environment and individual with an emphasis on the uniqueness of each person's development. This principle explains that specific outcomes in human development involve influences from specific people at specific times in specific places through specific processes (Lerner & Bornstein, 2021)

These models were chosen because of their congruence with developmental theories of resilience, as well as their compatibility with Inuit conceptualizations of resilience and thriving. These theories not only acknowledge the systemic and contextual nature of thriving, but they also place a strong emphasis on the role of relationships in shaping human development. As previously mentioned, Inuit understandings of resilience or thriving are grounded in relatedness - to friends, family, community, and the land - and is reflected in the

Inuit life philosophy, *Inuit Qaujimajatuqangit* (IQ) (see page 3) (Kral, et al., 2014). Finally, factors that are related to engagement will be explored through the lens of *Inuit Qaujimajatuqangit*, to ensure that the results are interpreted and described in a culturally meaningful way. Again, the purpose of these models was to ensure that multiple contextual, relational, and cultural layers of the participants' lives were described and evaluated as contributors to thriving.

Methods

Design

An exploratory, mixed-methods approach was taken in the current study. Mixed methods have been recognized as an important approach when conducting research that Indigenous and non-Indigenous partners engage in collaboratively (Chilisa & Tsheko, 2014). According to Chilisa & Tsheko (2014), a mixed methods approach in the context of research with Indigenous communities constitutes the "integration of multiple ways of knowing and seeing the world, multiple standpoints, and multiple values. It promotes a multidirectional lending and borrowing of knowledge systems" (pg. 224). Mixing of Indigenous and Western research methods took place in both the current sub-study as well as in the overarching I-SPARX and Virtual Qaggiq projects.

For this thesis, mixed methods were represented through the collection and analysis of qualitative and quantitative data to measure youth engagement. Qualitative data were gathered via interviews and focus groups with Inuit youth leaders (ages 17-22) who have actively collaborated with the York research team on both the I-SPARX and Virtual Qaggiq initiatives. Although appreciative of quantitative methodologies, the Inuit research partners have emphasized that qualitative inquiry is especially important for them, as it is rooted in

oral traditions. Furthermore, qualitative methods can be used to clarify and lend support to quantitative findings, which is particularly helpful when exploring under-researched concepts (Hamel, 2020), such as determinants of Inuit youth engagement. The qualitative analyses preceded the quantitative analyses to prevent researcher bias during the formation of codes and themes.

The quantitative data consisted of anonymized pre/post-intervention survey data completed by 117 Inuit *youth testers* (117, ages 13-24) during the evaluation phase of the I-SPARX project. Although quantitative methods are traditionally viewed as a "western approach," the research team aimed to incorporate Inuit knowledge into the quantitative planning as much as possible. The survey data were derived from an Inuit-adapted outcome measure on health and wellness and were collected across Nunavut based on the preferences of the Inuit research team (Padgett et al., 2024).

To shed light on the designs of the overarching projects in which the current study is embedded, I provide a brief overview of their development, evaluation, and knowledge mobilization phases. *Making I-SPARX Fly in Nunavut* was a 5-year (2017-2022), Canadian Institutes of Health Research funded project that involved adapting and evaluating a Maori-inspired CBT video game for Inuit culture. During the three years prior to the pandemic, York University researchers met several times with Inuit youth leaders along with Elders, project partners, and community facilitators during community visits and youth retreats across Nunavut to adapt the I-SPARX game and the project's outcome measure. The onset of the COVID-19 pandemic prohibited travel restrictions and further in-person plans, thus requiring the project to adapt to a hybrid/virtual model. From 2020-2022, meetings with youth leaders and community partners took place through Zoom, phone calls, or Facebook/email messages. For the game evaluation phase of the project, the team had to pivot from the original evaluation plan, which involved having youth test I-SPARX in schools and at community

gathering places with facilitator support, to making the game available for online download enabling youth to test it independently at home. In the final year of the project (August 2022), in-person meetings resumed, and the team hosted a knowledge mobilization retreat in Iqaluit with youth and community members.

The *Inuit Youth Design a Virtual Qaggi*q project is another 4-year CIHR-funded community-driven project that commenced in 2022. Building on the relationships and ideas established during the I-SPARX project, this initiative aims to develop a mental wellness video game for mobile phones from the ground up. Currently in the development phase, this game will integrate traditional Inuit teachings about wellness with CBT-based strategies that Inuit youth have previously endorsed as helpful. Similarly to I-SPARX, the development phase of this project involves numerous in-person and virtual meetings with existing Inuit youth leaders, Elders, cultural advisors and community members. The subsequent evaluation and knowledge mobilization phases will take place across Nunavut, adhering to procedures selected by the Inuit team members and their communities.

Participants

Two separate groups participated in the current study. The first set of participants consisted of eight Inuit youth leaders and one Inuit Elder, all of whom have been actively involved in both the I-SPARX and Virtual Qaggiq projects as cultural advisors and research assistants. These participants took part in interviews or focus groups with the first author and other members of the York research team. The youth leaders were between the ages 17 and 24 (M= 18, SD=1.94) at the time of data collection and came from six communities in Nunavut: Arctic Bay, Baker Lake, Pond Inlet, Kinngait, Pangnirtung, and Taloyoak. Two participants identified as female and six as male. The Inuit Elder was female and her age was unspecified.

This group of eight Inuit youth leaders were invited to participate in the current study for several reasons. Firstly, these youths were considered "highly engaged," having been consistently active in their research roles throughout *both* the I-SPARX and Virtual Qaggiq projects with participation spanning a minimum of 3 consecutive years. Additionally, each youth has assisted in multiple aspects of the research process including game content development, designing research protocol and questions, attending in-person and virtual events, providing feedback on the project elements (i.e., social media, website, papers), participating in project sub-studies, and supporting knowledge mobilization activities (e.g. putting up posters around their communities, informing community members about the project through word of mouth, attending and presenting at conferences, assisting in the publication of papers, etc.). In comparison, the other 21 Inuit youth leaders from the I-SPARX and/or Virtual Qaggiq projects exhibited more inconsistent participation. Specifically, these 21 youth leaders were involved in only one of the two game-based projects, and their communication with the broader research team was generally sporadic (e.g., times of active engagement followed by long intervals of inactivity).

Another reason the eight youths were asked to participate in the current study was because of their recent attendance at youth retreats in Ottawa and Yellowknife. Inuit youth leaders and community members have previously emphasized the importance of in-person data collection. Therefore, priority was given to conducting interviews and focus groups with participants available for in-person discussions. Some participants at the retreat were unable to partake in in-person interviews due to time constraints. In these two cases, virtual interviews were scheduled with the youths shortly after.

Given the importance of intergenerational perspectives in conducting community-based research, one female Elder from Pangnirtung participated in a focus group with the youth. This Elder was in attendance at the Ottawa youth retreat and provided valuable

insights into youth engagement in community-based research from a culturally enriched perspective.

The second set of participants consisted of 121 Inuit youth testers from the I-SPARX project (for demographic information, see Table 1). In the evaluation phase of the I-SPARX project, Inuit youth from across Nunavut signed up to test the adapted game and provided feedback. Youth tester engagement was quantified by summing the total number of survey questions and questionnaires the youth completed over the span of their participation, as well as the amount of time they spent completing the questionnaires. The greater number of questions and time spent on the surveys indicated higher and more meaningful levels of engagement. The reasoning for choosing these factors to represent engagement is elaborated in the following *Datasets* section. Youth testers were between the ages 13 and 24 at the time of testing and came from 16 communities in Nunavut (n=117) and Ottawa (=4). Details about the recruitment and consent process are outlined in the “Procedure" section.

Table 1

Demographic characteristics of full sample of I-SPARX participants (N = 121)

Baseline Characteristics	Individual Play		Group Play		Entire Sample	
	n	%	*n*	%	*N*	%
Registered Participants	56		65		121	
Completed All	35	62.50%	45	69.23%	80	66.12%
Levels & Surveys						
Play Now Completions	26	74.29%	45	100%	71	88.89%
Play Later Completions	9	25.71%	0	0.00%	9	11.11%
Incomplete Participation	21	37.50%	20	30.77%	41	33.88%

Self-identified Gender						
Female	28	50.00%	40	61.54%	68	56.20%
Male	24	42.86%	24	36.92%	48	39.67%
Transgender Male	2	3.57%	0	0.00%	2	1.65%
Missing	2	3.57%	1	1.54%	3	2.48%
Age of Participant						
12 or younger	1	1.79%	0	0.00%	1	0.83%
13	5	8.93%	2	3.08%	7	5.79%
14	3	5.36%	5	7.69%	8	6.61%
15	2	3.57%	4	6.15%	6	4.96%
16	3	5.36%	29	44.62%	32	26.45%
17	4	7.14%	16	24.62%	20	16.53%
18	4	7.14%	1	1.54%	5	4.13%
19	3	5.36%	4	6.15%	7	5.79%
20	8	14.29%	3	4.62%	11	9.09%
21	9	16.07%	0	0.00%	9	7.44%
22	5	8.93%	1	1.54%	6	4.96%
23	1	1.79%	0	0.00%	1	0.83%
24 or older	6	10.71%	0	0.00%	6	4.96%
Missing	2	3.57%	0	0.00%	2	1.65%
Community of Residence						
Ikpiarjuk (Arctic Bay)	5	8.93%	0	0.00%	5	4.13%
Qamani’tuaq (Baker Lake)	1	1.79%	0	0.00%	1	0.83%
Iqaluktuuttiaq (Cambridge Bay)	3	5.36%	10	15.38%	13	10.74%
Uqsuqtuuq (Gjoa Haven)	2	3.57%	9	13.85%	11	9.09%
Sanirajak (Hall Beach)	9	16.07%	0	0.00%	9	7.44%
Igloolik	8	14.29%	0	0.00%	8	6.61%
Iqaluit	11	19.64%	0	0.00%	11	9.09%
Kugaaruk (Arviligjuaq)	0	0.00%	15	23.08%	15	12.40%
Kugluktuk	0	0.00%	13	20.00%	13	10.74%
Naujaat (Repulse Bay)	2	3.57%	0	0.00%	2	1.65%

Mittimatalik (Pond Inlet)	8	14.29%	0	0.00%	8	6.61%
Kangiqtiniq (Rankin Inlet)	3	5.36%	0	0.00%	3	2.48%
Taloyoak	3	5.36%	14	21.54%	17	14.05%
Tikirarjuaq (Whale Cove)	1	1.79%	0	0.00%	1	0.83%
Ottawa (originally from NU)	0	0.00%	4	6.15%	4	3.31%
Receiving Mental Health Treatment						
No	48	85.71%	57	87.69%	105	86.78%
Yes (Medication)	4	7.14%	5	7.69%	9	7.44%
Yes (Non-Medication)	2	3.57%	2	3.08%	4	3.31%
Missing	2	3.57%	1	1.54%	3	2.48%
Previous experience with I-SPARX?						
Yes	0	0.00%	3	4.62%	3	2.48%
No	54	96.43%	52	80.00%	106	87.60%
Missing	2	3.57%	10	15.38%	12	9.92%

Datasets

Transcripts from interviews and a focus group

Five semi-structured interviews and one focus group were conducted to explore Inuit youth leaders' perspectives and beliefs on the various factors that contributed to their active and sustained engagement in mental wellness research. Youths were asked six open-ended questions (see Appendix B for interview questions) designed to elicit insights into the reasons for their initial involvement in the I-SPARX and Virtual Qaggiq projects, the factors that contributed to their ongoing participation, the aspects of virtual engagement they found easy or challenging, and key considerations for engaging other Inuit youth in similar research initiatives. The Elder shared her thoughts and reflections on these questions from the

perspective of someone who was actively connected to the youth leaders on the two projects, as well as youth in her family and her community.

The six questions were formulated by the primary researcher (myself) and my supervisor based on previous research and insights gathered from informal conversations with Inuit research team members over the years. Due to the time constraints of a master's thesis, I was unable to design the questions in collaboration with community members, as is the standard in participatory-action research. To mitigate this limitation, I aimed to make the interviews and focus group conversational and flexible, so youth felt comfortable to lead the discussions and share what they perceived as relevant to the research topic. This approach involved using concise, open-ended questions and prompts that encouraged storytelling, welcoming youth to interrupt me and ask clarification whenever needed and drawing on rapport I had built with these leaders over four years.

I-SPARX Wellness Questionnaire

The pre and post-game survey (i.e., the I-SPARX project's outcome measures) completed by I-SPARX Inuit youth testers is a 39-item Likert-scale questionnaire modified from Wabano and Young's "Aboriginal Children's Health and Well-Being Measure" for Indigenous communities (Young & Wabano, 2013). Inuit youth leaders and community members, in collaboration with York researchers, adapted the measure to better reflect Inuit conceptualizations of wellness. The survey questions were organized into six domains: 1) Finding Hope 2) Being Active 3) Dealing with Emotions, 4) Overcoming Problems, 5) Recognizing Challenging and Unhelpful Thoughts, and 6) Overall Wellness. The questions provide insight into youth's cognitive, emotional, and behavioural states, as well as the resources and supports available to them at family, community, and socio-cultural levels. Nine additional questions were included that assessed youths' perceptions of their broader connection to culture and community. Reliability and internal validity of the measures are

currently being examined in a forthcoming paper (Padgett et al., 2024). A full list of the survey questions is found in Table 2. Together, the qualitative and quantitative data sets complement one another to provide a holistic and rich understanding of the factors that may affect youth engagement.

Table 2

Outcome Measures – Questionnaire items sorted by level:

Level	1 – *Finding Hope*	2 – *Being Active*	3 – *Dealing with Emotions*	4-7 - *Overcoming Problems, Recognizing & Challenging Unhelpful Thoughts*	Overall
Questions (Over the past week…)	I have hope for my future. Even when things aren't going well for me, I remind myself that things will get better.* I feel like good things will happen.	I am physically active (on the land, organized sports, playing with friends, etc.). I get so worried that I feel it in my body.* I have enough energy. I have activities that can help me when I'm feeling upset or stressed.* I have time on my own to relax with an activity I like (music, etc.). I miss doing things that used to be fun.	When I feel a bad mood coming on, I have tools I can use to make myself feel better.* When I get sad or upset, I get over it quickly.* I break things when I am upset or angry.* I hurt other people when I am upset or angry.* I get mad or cry when something small goes wrong. I feel like hurting myself when I'm upset or angry.*	Sometimes I feel like giving up. I feel overwhelmed by everything I have to do.* I can recognize when I'm having gloomy or negative thoughts. I have strategies I can use to help myself cope with gloomy or negative thoughts. I have strategies that help solve conflict with others. I am able to replace gloomy or negative thoughts with more positive ones.*	I appreciate what I have. I laugh and have fun. There are things in my life that make me happy. I make healthy choices that send me on a good path in life. I get a good night's sleep. I feel like my relationships at school are positive. I feel lonely.

		I often get in a bad mood.	I'm comfortable asking for support when I need it.
Additional questions	1. I feel loved by other people around me. 2. There is at least one really good person in my life who is there for me. 3. I feel like I matter in my community. 4. I feel safe in my community. 5. I think that knowing about cultural practices (storytelling, country food, craft making, traditional healing, spirituality, etc.) is important. 6. I spend time listening to and learning from elders. 7. I feel connected to the land. 8. Learning is hard for me. 9. I think that learning is an important part of my future.		

Procedure

The I-SPARX and ongoing Virtual Qaggiq projects in which the current study was embedded, received ethics certificates and research licenses from the Nunavut Research Institute (NRI). Ethics approval was also obtained through the York University's Human Participants Review Committee (HPRC), including the Indigenous Advisory Committee.

I led the semi-structured interviews and focus groups which took place between January, 2024 and May 2024. Prior to commencing, participants provided verbal consent to participate in the sub-study and were compensated $50 for their time. The discussions were conducted in English, lasting between 15 and 35 minutes. Audio-recordings were stored in a password protected folder on my computer. I transcribed the recordings verbatim. They were then double-checked by an undergraduate research team member. The transcriptions were stored on a password protected word document.

The *survey data* used for this study were collected to assess the effectiveness of the I-SPARX game. These data were collected during the pandemic and thus all communications with youth participants took place through email. Youths completed consent forms and filled out a baseline survey on Qualtrics before playing the I-SPARX game. After playing all seven

levels of the game, they filled out the same survey on Qualtrics. Consent from parents was obtained for any users under the age of 16. In compensation for completing all stages of the I-SPARX gameplay and completing the pre- and post- surveys, participants were given $150 gift cards for a local store in their community. The survey data were transferred into a password protected excel spreadsheet and stored on a private York Moodle page for members of the I-SPARX research team assistants.

Analytic Approach

Quantitative Analyses

Given the novelty of this research area and the relatively small sample size, the quantitative analyses were primarily exploratory in nature. Many of the variables considered were investigational, making it challenging to establish definitive causal mechanisms. As such, the purpose of these analyses was to identify potential patterns and associations rather than to draw firm conclusions about the factors influencing youth engagement. The aim was to generate questions about youth engagement that future research, with larger sample sizes and more comprehensive survey measures, could investigate in an inferential capacity. The quantitative data complemented and enriched the qualitative findings.

An exploratory multiple linear regression was conducted in R software to determine the relationship between levels of engagement, and the five domains of wellness from the baseline/pre-intervention survey (i.e., finding hope, being active, dealing with emotions, overcoming problems, and recognizing challenging unhelpful thoughts). The engagement variable is a behavioural engagement score determined by the number of survey questions completed over the course of their participation and adjusted for how long each participant spent on the survey(s). The adjustment for total survey completion time was applied based on the distribution of normed time scores. Specifically, corrections were more strongly applied

to extreme scores. This correction operates under the assumption that participants who completed the surveys very quickly were less “engaged”, and those who took more time with their responses were more “engaged.” The former participants’ engagement scores were adjusted downward to reflect lack of engagement, and the latter participants’ scores were adjusted upward. Survey completion time is a common cognitive evaluator of engagement (Couper et a., 2010; CYE 2007; Luyre, 2019; Suleymanov, 2024). Survey completion time was included for two reasons: firstly, to transform the engagement variable from discrete into continuous form, making it suitable for multiple linear regression. Secondly, because a strong linear relationship was observed between the number of survey questions completed and total completion time, suggesting that as the number of questions answered increased, so did total time. Thus, completion time was considered a relatively sound way of measuring participant engagement.

Simple linear regressions were conducted following the multiple regression analyses as an exploratory step to identify which questions within each domain demonstrated the strongest relationships with the outcome variables. Again, these analyses were intended to provide additional context and insight into unexpected or unusual relationships rather than to infer definitive conclusions.

To examine the relationship between the engagement variable and the nine additional questions that assessed youths’ perceptions of their connection to Inuit culture and community, an adaptive lasso analysis was employed. This approach extends the traditional lasso regression by applying variable-specific weights as penalties to the coefficient estimates. Unlike the standard lasso, where the same penalty is applied to all variables, adaptive lasso assigns different penalties to each variable based on their importance. Variables with smaller weights are penalized more, causing their coefficients to shrink towards zero at a faster rate. Those coefficients that are shrunk to zero are effectively

removed, leading to a more parsimonious model and helping to prevent overfitting while retaining key predictors. The adaptive lasso was primarily implemented for feature selection and a multiple regression analysis was conducted with the selected features to debias the estimates. Associations between demographic variables (age and gender) and engagement were explored descriptively.

Qualitative Analyses

Inductive thematic analysis was used to analyse the transcriptions from the semi-structured interviews and focus group. Thematic analysis (TA) is a qualitative research method that involves labelling or 'coding' meaningful topics, ideas, and patterns that emerge repeatedly throughout the data. Codes, which represent a single segment of data, are examined and organized into broader themes and concepts based on whether they capture something important about the research question (Braun & Clarke, 2006). Thematic analysis is a flexible approach that captures intricate details from each participant about their individual lives while also allowing for the development of central themes across participants. The analysis for the current study took an inductive approach, meaning that themes were generated according to what was shared by participants rather than using participant data to fit the researcher's preconceptions of their experiences. The qualitative analysis software, *Dedoose*, was used to organize and code data. *Dedoose* allows researchers to highlight codes, group them into broader categories, and visually represent connective themes. The final themes were situated within the framework of Inuit Qaujimajatuqangit (IQ). The IQ framework was based on descriptions provided in Karetak et al.'s (2017) book, "Inuit Qaujimajatuqangit: What Inuit Have Always Known" - a compilation of ten Elders' depictions of Inuit traditional knowledge. The coding process was done in collaboration with a second I-SPARX researcher, who has long-established relationships with the youth

participants and is knowledgeable of IQ as a worldview, to ensure consensus. The final themes will also be shared with the Inuit youth participants and Elder.

Results

The results are organized into two sections. The first section provides a summary of the predictors of engagement across 117 Inuit youth testers as captured by the I-SPARX quantitative wellness measure. The second section focuses on the results of the qualitative data analysis, which are supplemented with quantitative findings where relevant.

Quantitative Results

Preliminary Analysis

Prior to the main analysis, the data were checked and cleaned (i.e. searching for duplicate entries, data from youth outside the inclusion criteria, participants with substantial missing data, and/or data with only post-intervention surveys completed) and quality-checked (i.e. identification of random responders and outliers). Reverse responses (Q5, Q9, Q12, Q13, Q14, Q16, Q15, Q17, Q18) were re-coded in R for uniformity and improved interpretability. One participant had missing baseline data and was thus removed from the analyses.

To assess for random responders four factual attention checks (e.g. “choose ‘Never’ for this question’) were inserted throughout the survey. Participants who incorrectly responded on at least three out of the four checks were removed from the analysis, amounting to three participants in total. Outliers for all variables were examined graphically following assumption checks and transformations; these were not identified as being influential. The final sample was reduced from 121 to 117 participants.

Assumptions Checks

Assumptions of normality, homogeneity of variance, and linearity were addressed using descriptive statistics (Table 1) and graphs. Residual distributions approximated normality for all variables, except for the *Being Active* variable which was heavily positively skewed. To remedy the assumption violations and outliers that were observed, *Being Active* was converted to a low and high dichotomous variable. The cut-off for the low and high categories was based on the distribution of scores, with 55% of the scores classifying as low (Being Active = 1, 2, or 3) and the remaining scores classifying as high (Being Active > 3). Although it is generally not recommended to dichotomize numeric variables due to potential loss of information, given the heavy skewness of the Being Active variable it was deemed appropriate to achieve a more statistically sound model.

Multiple linear regression and adaptive lasso regression analyses were conducted to determine which of the independent variables significantly predicted youth's testers engagement in the I-SPARX project. Table 3 reports the results of the regression model. Of the 5 conceptually established outcome variables analyzed, *Being Active, Dealing with Emotions,* and *Overcoming Problems* were statistically significant at alpha .05. For the dichotomous low-high variable, *Being Active*, the regression coefficient B = -1.12, ($t(109) = -6.87$, $p < 0.001$ represents the difference in the mean score of the dependent variable between the two groups. This means that, holding all other variables constant, individuals in the "low-active" group were on average 1.12 units lower on the engagement variable than individuals in the "high-active" group. In other words, low scores in the *Being Active* domain (compared to high scores) were associated with a decrease in engagement. For every one-unit increase in *Dealing with Emotions*, there was a 0.35 increase in engagement, $t(109) = 3.48$, $p < 0.001$. Thus, higher scores in the *Dealing with Emotions* domain were associated with an increase in engagement. Lastly, for every one-unit increase in *Overcoming Problems*, there was a 0.25

decrease in engagement, t(109) = -2.25, p = 0.03, indicating that higher scores in the *Overcoming Problems* domain were associated with a decrease in engagement.

An adaptive lasso regression was conducted to identify which of the remaining nine variables were significant predictors of engagement. The analysis showed that question 32 (*There is at least one really good person in my life who is there for me*) and question 35 (*I think that knowing about cultural practices is important*) were significant predictors of engagement. Specifically, for every one-unit increase on question 32 (*There is at least one really good person in my life who is there for me)* there was a -0.07 decrease in engagement, t(109) = -2.00, p = 0.05. Thus, high scores on question 32 were associated with a decrease in engagement. Conversely, for every one-unit increase on question 35 (*I think that knowing about cultural practices is important*), there was a 0.19 increase in engagement, t(109) = 2.29, p = 0.02, meaning that high scores on this question predicted high engagement.

Table 3

Results of Multiple Regression and Adaptive Lasso

Predictors	*B*	*SE*	*t*	*p*
Finding Hope	0.07	0.11	0.62	0.54
Being Active	-1.12	0.16	-6.87	0.00*
Dealing with Emotions	0.35	0.10	3.48	0.00*
Overcoming Problems	-0.25	0.11	-2.25	0.03*
Overall Wellness	-0.07	0.12	-0.60	0.55
Q32: There is at least one really good person in my life who is there for me	-0.20	0.10	-2.00	0.05*
Q35: I think that knowing about cultural practices (storytelling, country food, craft making, traditional healing, spirituality, etc.) is important	0.19	0.08	2.29	0.02*

Note: P-values less than or equal to .05 are indicated with an asterisk *.

Additional Exploratory Analyses

Simple Linear Regressions. Simple linear regressions were conducted to examine specific questions that might have influenced the significant effects observed across the three wellness domains: *Being Active, Dealing with Emotions,* and *Overcoming Problems.* The results from these regressions are available in Table 4. Four questions were statistically significant at alpha 0.05. Specifically, within the domain *Dealing with Emotions*, Question 12: *I break things when I'm upset or angry*, and Question 15: *I feel like hurting myself when I'm upset or angry*, were significant. For each one-unit increase in Question 12, engagement increased by 0.19 ($t(115) = 2.78$, $B = 0.19$, $p = 0.006$). Similarly, for each one-unit increase in Question 15, engagement increased by 0.27 ($t(115) = 3.63$, $B = 0.27$, $p < 0.001$). Within the domain *Overcoming Problems*, Question 21: *I have strategies that help solve problems with others*, and Question 22: *I am able to replace gloomy or negative thoughts with more positive ones*, were significant. For each one-unit increase in Question 21, engagement decreased by 0.25 ($t(115) = -2.89$, $B = -0.25$, $p = 0.005$). Likewise, for each one-unit increase in Question 22, engagement decreased by 0.25 ($t(115) = -2.83$, $B = -0.25$, $p = 0.006$).

Table 4

Results of Simple Linear Regressions on Question from the Being Active, Dealing with Emotions, and Overcoming Problems significant predictors

Question Number	Wellness Domain on I-SPARX Outcome Measure	*p*	*r*
	Being Active		
Q4	I am physically active (on the land, organized sports, playing with friends, etc.)	0.1952	-0.12

Q5	I get so worried that I feel it in my body	0.5399	0.06
Q6	I have enough energy	0.0764	-0.16
Q7	I have activities that can help me when I'm feeling upset or stressed	0.3069	-0.09
Q8	I have time on my own to relax with an activity I like (music, etc.)	0.9571	0.01
Q9	I miss doing things that used to be fun	0.8044	-0.02
	Dealing with emotions		
Q10	When I feel a bad mood coming on, I have tools I can use to make myself feel better	0.3161	0.1
Q11	When I get sad or upset, I get over it quickly	0.0849	0.15
Q12	I break things when I am upset or angry	0.0063*	0.24
Q13	I hurt other people when I am upset or angry	0.1909	0.12
Q14	I get mad or cry when something small goes wrong	0.8057	-0.03
Q15	I feel like hurting myself when I'm upset or angry	0.0004*	0.32
Q16	I often get in a bad mood	0.5152	0.06
	Overcoming Problems		
Q17	Sometimes I feel like giving up	0.2202	0.12
Q18	I feel overwhelmed by everything I have to do	0.3592	0.09
Q19	I can recognize when I'm having gloomy or negative thoughts	0.3182	-0.09
Q20	I have strategies I can use to help myself cope with gloomy or negative thoughts	0.1301	-0.14
Q21	I have strategies that help solve conflict with others	0.0046 *	-0.26
Q22	I am able to replace gloomy or negative thoughts with more positive ones	0.0055*	-0.25
Q23	I'm comfortable asking for support when I need it	0.0799	-0.16

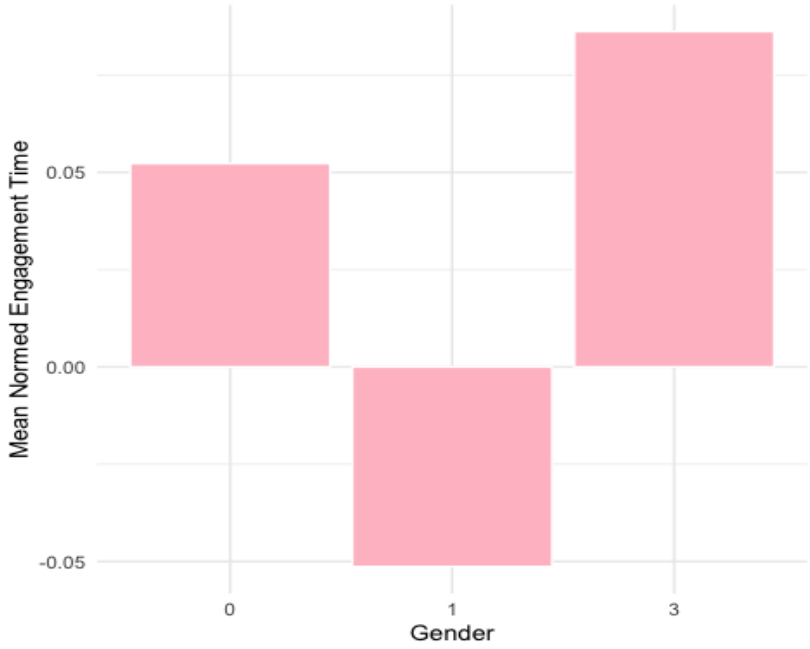
Note: P-values less than or equal to .05 are indicated with an asterisk *.

Age and Gender. Age and gender were not included in the multiple regression or adaptive lasso analyses. Rather their relationship with engagement was looked at retrospectively and descriptively for exploratory purposes. Excluding these demographic variables, the regression and adaptive lasso analyses emphasized the relationships between

the outcome measure predictors, allowing for a more specific examination of the core variables of interest. Participants who identified as male (n = 44) exhibited higher and less variable levels of engagement (M = 0.05, SD = 0.77) compared to those who identified as female (n = 68, M = -0.05, SD = 0.93). On average, males' engagement levels were 0.05 standard deviations above the mean, while females' were 0.05 standard deviations below the mean. Two participants identified as transgender males; their average engagement level was 0.09 standard deviations above the mean (M = 0.09, SD = 0.38).

Figure 1

Bar graph of Gender X Normed Engagement Time

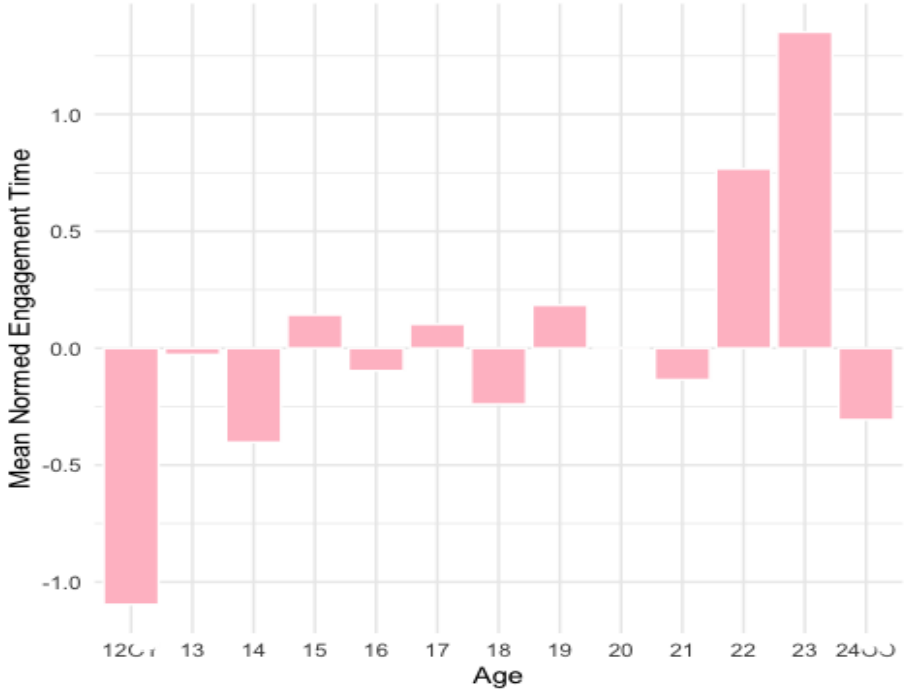


Age and engagement were also examined descriptively. In general, bar graphs (figure 2) showed an overall positive trend between the two variables, with older participants exhibiting higher levels of engagement than younger participants. Youths aged 22 to 23 (n = 7) displayed the highest levels of engagement, while the lowest level of engagement was observed among 12-year-olds (n = 1). However, these results should be interpreted with

caution due to the small and variable sample sizes across the age groups. A detailed breakdown of the age demographics is provided in Table 1.

Figure 2

Bar graph of Age X Normed Engagement Time



Qualitative Results

This section outlines the individual, relational, contextual, and cultural factors that Inuit youth perceived or experienced as contributing to their ongoing engagement in mental wellness research**.** Many of these factors are aligned with Inuit Qaujimajatuqangit - Inuit traditional knowledge and are also recognized as protective factors in the literature on Inuit resilience and child development. These variables were included in this analysis because they were described by participants as serving a role in igniting and maintaining their participation in the I-SPARX and Virtual Qaggiq projects.

Individual Characteristics

Based on interviews and one focus group, this group of 'highly engaged' youth exhibited six distinct characteristics; *Inuttiavak, Openness, A passion for (video) games, Motivation to stay active, Cultural identity and pride, A socio-political consciousness, and Determination.*

Inuttiavak, "someone who is always ready to help." *Inuttiavak* is an Inuktitut term that roughly translates to "a person who is always ready to help." This person embodies qualities of empathy, good-heartedness, and helpfulness (Karetak et al., 2017). When asked about their primary motivation for joining and remaining involved in the I-SPARX and Virtual Qaggiq projects, all participants cited their passion for supporting the mental wellness of others. In many instances, *Inuttiavak* was observed and described by youth as a desire to make a positive impact on the lives of others: "I have a genuine interest in mental health and passion for making a difference and motivating young people like me or younger generations or future generations. I want to motivate them." (Participant 7, interview). One youth described how this inclination came to them naturally, especially in the context of supporting their[1] friends.

> I didn't know what mental health was but it just naturally came to me. I was talking to my friends…"why are you feeling like this?" Simple questions, but still talking. They really - they need to talk, right? They can't just be quiet. So like, "are you OK?" or "did you eat?" or "did you sleep well?" or "what are you going to do after school? We could hang out. You wanna sleep over at my place tonight if your parents are drinking?"... just that kind of stuff...and that really got me into mental health, like want to be part of it. Just wanting to help. (Participant 9, interview)

Inuttiavak was also perceived as a disposition that strengthened over time through various experiences, including continued involvement in mental wellness initiatives, witnessing struggling youth within their communities, and exposure to suicide.

[1] They/their pronouns are used in lieu of she/her or he/him to maintain confidentiality.

Two participants shared how exposure to youth suicide deepened their commitment to mental wellness and served as a catalyst for becoming involved in the current projects. Youth's experiences of loss were described within the context of community; specifically, suicide was acknowledged not only as an individual loss, but one that was collectively felt. Furthermore, youth's efforts to address high rates of suicide were grounded in their desire to create more mental wellness resources for both the health of their communities and society at large. The quality of *Inuttiavak* is demonstrated through these youth's proactive efforts, and is further reflected in their nuanced, community-centred approach to discussing suicide prevention.

> When we were in high school, I lost – we, well we lost – our class lost a classmate to - who did suicide. And she was - this person, she was a big part of the class who was the entertainment in our class, which was a big loss to us so...and with this wellness program, I am hoping that we get to at least minimize the numbers with the suicides we have here in the country. (Participant 6, interview)

> I had a classmate before...he killed himself that - we weren't friends, but that really woke me up...there's nothing for these people. There's nothing for us to do up here. We need something to do. We need resources. That just woke me up...when he, you know, killed himself. (Participant 7, interview)

Inuttiavak also appeared through the youth's keen observations of others' struggles and their ability to respond with empathy. Youth expressed a sensitivity to watching young people endure challenging circumstances, such as bullying or turbulent home environments, and showed a desire to support them in these situations.

> I know these youth here in my hometown are struggling. They don't want to talk. They just - I seen them play outside but they don't want to talk cause they're away from that situation at home. That's when I step in and be like, "Hey, you wanna do something? Let's go to this place and let's hang out and do projects" or anything to get their mind off the situation they're in. (Participant 9, interview)

> Probably most of the kids gets bullied all the time and I don't really want to normalize it. But knowing that kids do get bullied and not knowing who to go to for help, because I myself didn't really have a father growing up, it was only my mother and sister and so whenever I got bullied I didn't really have anyone to back me up and just

> telling those kids not to bully. So I guess that will make me the person I am today, so I just accept that. (Participant 6, interview)

Openness. Openness is a personality trait characterized by a willingness to seek out new experiences and explore new ideas and perspectives. This trait was exhibited by all youth participants. Youth frequently mentioned that one of the reasons for their initial participation was the desire to "try something different" (Participant 1, interview). Openness was also reflected in their desires to meet and collaborate with new people, their curiosity about technology-based approaches to research and wellness, and their embrace of different cultural perspectives.

Several youths noted that their ongoing involvement in the projects was maintained by their enjoyment of meeting and learning from new people. For example, when asked about what supports their continued participation, half of the youths referred to the project gatherings, such as our annual youth retreats, where they had the opportunity to meet youth and community members from across various parts of Nunavut and Canada:

> **Researcher:** …What would you say supports your involvement in projects like this?
> **Participant:** Getting together.
> **Researcher:** Getting together…could you tell me more. Like, retreats like this?
> **Participant:** Mmhm. Getting together. Seeing new people.
> (Participant 2, focus group)

This was reinforced by another youth who noted that project gatherings facilitated cross-community learning.

> **Participant:** And I think it would be me wanting to talk to different people.
> **Researcher:** From different communities? (Participant nods).
> **Participant:** Cause it gets tiring seeing the same old people every day…cause, there's so much I didn't learn – I'm learning from their stories. I just want to learn more.
> (Participant 1, interview)

Openness was also reflected in the way youths described their interest in innovative mental health solutions. Various youths mentioned a readiness to bridge their traditional ways of knowing with technology and other cultural approaches to wellness. Technology was recognized as a ubiquitous tool that could and should be leveraged for youth mental health in Nunavut.

> Technology plays a crucial role in our daily lives, and especially in mental health solutions. And by participating in these projects that I'm involved in, I get to engage with young people like me to innovate approaches…and contribute to improving mental health in Nunavut. (Participant 7, interview)

This participant went on to describe how they envisioned technology as playing an important role for providing easier access to mental health support for Nunavummiut.

> **Participant:** Literally everyone has technology now. It doesn't matter if it's a phone, a laptop, but yeah...it's a part of our big lives - day-to-day lives. Technology. So, it's important to find solutions.
> **Researcher:** Like bridging technology with mental wellness.
> **Participant:** Yeah. And that makes it so much easy access to people who need it. (Participant 7, interview)

Another youth described the Virtual Qaggiq video game that is in development as a potential tool for supporting help seeking among Nunavummiut.

> [We have a] lack of mental wellness. Yeah. And this will help…cause you don't need to go see someone just to, I don't know, feel better or something. But, it will help probably. (Participant 2, focus group)

In the same vein, youth also showed an openness to learning about different cultural strategies to support mental wellness, namely Cognitive Behavioural Therapy (CBT), which is a core element of the I-SPARX and Virtual Qaggiq projects.

> I didn't really know what it was before but I'm glad that I learned it. It's like I could control my emotions. So I really – it really helped. (Participant 9, interview)

Youths were "open to" CBT, which may have allowed them to receive and benefit from the teachings. Furthermore, both the I-SPARX and Virtual Qaggiq projects heavily integrate CBT-teachings; thus, it is assumed that youths would have not stayed with these projects for as long as they have, nor expressed a strong belief in the potential of these tools, if they were not open to using CBT strategies for mental wellness.

Passion for (Video) Games. In addition to their passion for supporting mental wellness, all youths described their passion for video games, or games in general, as having

played an important role in their continued engagement in research. Participants, males in particular, mentioned an inherent love of video games. Moreover, several youths shared a belief that games are an effective tool for recruiting additional youth to participate in research.

When asked about why they initially joined the research projects, youth shared that working with video games had been one of their life-long aspirations.

> **Participant:** You guys said we could test it [the I-SPARX game] and then you said you were making a new one and I wanted to do that ever since I was a kid.
> **Researcher:** You've been wanting to make a video game ever since you were a kid…and when did you realize that dream?
> **Participant:** Six or seven.
> **Researcher:** So you have been a gamer since you were six or seven.
> **Participant:** Three.
> (Participant 8, interview)

Another youth described a similar sentiment about video games when recounting their introduction to the research team:

> I ran down from the place we were meeting at. Er like [/They were like/] you have to sign here and I ran down to my grandparents. I was like "you have to sign this! You have to sign it." "Why?" they were asking. "No, just sign it, I want to be a part of it." Yeah and then they signed it and then I was the most excited kid ever…cause they said that we're gonna make games and as a kid - and game - game was the best so I was like, "hell, yeah, I'm gonna take that opportunity" (laughs). (Participant 9, interview)

Several participants also suggested that to recruit youth in their community, hosting in-person meetings where they can play video games and/or other games, would be effective strategies.

> If you guys came in-person…come and throw snacks and activities and games. Because that's what they like. (Participant 1, interview)

Staying Active. In addition to appearing in the quantitative results, *Staying Active* was also identified in the qualitative discussions as an important behaviour that contributes to youth's long-term research engagement. Youth frequently described an inherent desire to

"stay busy" when reflecting on their reasons for staying in the projects. Furthermore, youth expressed a belief that being active is an important contributor to mental wellness.

Several youth shared that the lack of "things to do" in their communities motivated them to learn more about the research projects, as portrayed in one quote: "I was like a teenager. I was a young kid…in a small community where there's not a lot going on and you hear something like that and that got me curious." (Participant 9, interview). In the face of boredom, these youths proactively sought out opportunities to keep themselves busy.

> **Participant:** What makes me want to participate is because we have nothing to do at home. Like such a small community. So, when you guys were new to [community name], and we just got tired of doing the same old thing, just going to school…just going to work, and not very many things to do…so you guys made it sound interesting…cause it's not much to do at home so when there's program - when there's new programs…it's interesting…(Participant 1, interview)

Another youth shared the belief that keeping youth "distracted" is important for mental wellness, and that positive distractions could include any outlet that occupies a youth's time, such as workshops.

> There's a lot of [mentorship] workshops happening throughout the year in Arctic Bay to keep the young people distracted and it seems to be working in the moment. It's popular… in the community and it gives them something to do and that will benefit them. (Participant 7, interview)

The importance of providing outlets for youth wellness was further emphasized by this youth during a discussion about suicide prevention: "There's nothing for us to do up here. We need something to do. We need resources." (Participant 7, interview). One youth affirmed that participating in the current research projects was a way in which they "kept busy."

> **Participant:** [It was] something to keep myself busy and just try out new things.
> **Researcher:** And trying new things. Is it the same for the Virtual Qaggiq project? Do you feel like it's the same thing – you want to keep busy?
> **Participant**: Another way to keep busy…because our town is so small.
> (Participant 1, interview)

Cultural Identity and Pride. All youth participants demonstrated a strong sense of cultural identity and pride. A belief in the importance of Inuit knowledge and integrating Inuit values into virtual tools was apparent throughout the discussions. This theme was also reflected in the quantitative results with question 35: "I think that knowing about cultural practices is important" being a significant predictor of engagement. Over half of the youths expressed that their continued involvement in the projects derives from the fact that Inuit culture is represented in the project's gaming tools.

> I wanted to check it out. I didn't know it was gonna be like the best decision I ever like made to join I-SPARX. Cause it relates to Nunavut, Nunavut youth. Not a lot of us, like young people don't get a lot of opportunity like that. (Participant 9, interview)

Many youth acknowledged how they felt that traditional Inuit knowledge was diminishing, and shared how they viewed the I-SPARX and Virtual Qaggiq games as valuable ways to pass on culture, in particular to the next generation of youth.

> So I joined the program to get a laptop and then that's when I'm fully introduced to the I-SPARX program about this mental wellness game they're trying to work on, which really means a lot to the community and to the territory. And which - and as I got deeper into the program, they talked about this mental wellness game from New Zealand and the willingness to make - to adapt it to make it into the Inuit culture...which really is to me like, very important to keep this Inuit culture alive because I know the younger generation is kind of moving away from that culture because of not much elders are with us anymore who are willing to teach young kids. So, that's what made me stick to the program and go a long way with the program. So, that's why I stayed with the program and now we are in the next steps of doing the Virtual Qaggiq. (Participant 6, interview)

> Since we are losing most of our culture and language, I guess that would be a way to give our new ideas rather than just…letting - allowing ourselves to not do anything to do with our culture and language. So, that's what makes it interesting too, it involves a lot of Inuit culture and language which barely happens at home. (Participant 1, interview)

Socio-political Consciousness. Youth demonstrated an acute awareness of the historical and current inequities affecting Nunavummiut and possessed a strong inclination to

engage in social justice. This was demonstrated through youths' acknowledgment of the blatant lack of resources in Nunavut, the chronicity of the mental wellness challenges, and their desire to rectify injustices through engaging in efforts that promote cultural preservation and resurgence. This theme is partly represented in the following quote, in which a youth discusses the many decades worth of unaddressed wellness challenges in Nunavut.

> My participation really draws into what we have covered so far and what we talked about, which is - the major factor is wellness to being of use to Nunavut. Which has been talked about throughout, maybe quite a few decades now and still up to today, which is still a big problem. (Participant 6, interview)

Although a smaller theme, socio-political consciousness has been observed in numerous contexts outside the current study. Through informal discussions over the years, youth have frequently demonstrated their awareness of issues concerning colonialism, racism, and a disregard for human rights in relation to historical and current governmental policies.

Determination. Defined as "a firm or fixed intention to achieve a desired end," several youth explained how their determination to see the finished game or "end product" was one of the driving forces behind their sustained involvement over the years. As one participant noted, "we've been here for so long, we just want to keep going like, we started somewhere and we are going to have to end it! And I want to be a part of it still." (Participant 2, focus group). Another youth highlighted how their eagerness to not only see the finished game, but also to witness its potential impact on other youth, contributed to their continued commitment.

> And now, I just find it cool that we are trying to make Virtual Qaggiq for a mobile phone, I think a lot of younger people, this generation, will hopefully be into. I just wanna see if it will work out. See if it will help kids with mental wellness and stuff. (Participant 3, focus group)

Determination was also demonstrated through youth's general reliability in attending meetings and other project activities. For example, despite one youth's busy schedule, they

still made time to meet with the research team to partake in the following interview saying “if I say I'll be there, I'll be there.” (Participant 7, interview).

Relational Factors

In accordance with the Relational Developmental Systems theory, youth’s ability to engage with the project was supported by their innate characteristics, as well as the broader relational, contextual, and socio-cultural factors in which they interact with. Various types of relationships in youth’s lives were found to facilitate their engagement in research; these included *relationships to their family*, *their community*, and t*o the research team*.

Family Relationships. Family was recognized as a significant factor in the lives of youth, acting both as a facilitator and a barrier to their participation in research. Two distinct sub-themes emerged as factors that facilitated youth engagement: *supportive family relationships* and *mentorship*.

Close Family Relationships. Youth described having grandparents, parents, or siblings who were present in their lives and were supportive of their passions. One youth noted that his parents played a significant role in motivating him and his siblings to explore new opportunities, such as research, within their community: “they always tell me to take them before I’m too old.” (Participant 8, interview). Other youth shared that their family members valued mental health and readily supported their involvement in the current projects." Research was also discussed as a potential way to support youth’s families. Youths and the participating Elder explained how monetary compensation from research has a wide-reaching effect that could benefit youths' families.

> And I think if you say that you’re gonna get paid for doing this, it would make them want to be more engaged, cause that’s a way that they can help their family members take care of them, like take care of their needs. (Participant 1, interview)

Mentorship. Mentoring had both direct and indirect effects on youth participation. For example, one youth explained how they spent a significant amount of time caregiving for

their siblings; to ensure that caregiving did not impede their commitment to other responsibilities, they mentored their older siblings to care for their younger ones:

> **Researcher:** You're still able to come here and participate? Why is that?
> **Participant:** I teach my older sisters to take care of the younger ones. (Participant 8, interview)

Mentorship also appeared as a passing down of knowledge about mental wellness from older family members to youths. These family teachings were credited as having a role in instilling their current passions for promoting wellness:

> **Researcher:** Could you tell me a little bit more about where your passion for mental health came from…?
> **Participant:** Growing up my grandma, my mom, my dad used to always say to me "life is not gonna always be sunshine...life is gonna get hard. Life is gonna do that. There's gonna be some time in your life you're gonna need to talk to someone. And that and - but that's yeah, that's just their advice." (Participant 9, interview)

While family was primarily discussed as having a supportive role in the context of mental wellness research, it was also described as a competing priority. For instance, one youth explained that his responsibilities to care for his younger sisters prevented him from attending past youth retreats and certain meetings. He anticipated that caregiving duties would also be a barrier for other youth in his community: "From knowing them personally, I don't think they would be able to…they got – half of the town, got teenagers - they got kids. They got kids. It's – they are parents." (Participant 8, interview). This observation was consistent with the research team's experiences over the years, noting that youth with young children or siblings often have less time and flexibility to participate in research activities than those without. To address this barrier, youth were encouraged to bring their children and babies to participate in activities, in the spirit of an intergenerational approach to research, which proved effective in supporting engagement.

Relationships with the Research Team. Youth described various qualities about the research team that they perceived as having contributed to their continued engagement. Three

sub-themes emerged from this topic, including *Convenience and Flexibility, Relationality, and Value Oriented*

Convenience and Flexibility. *S*everal youths noted their appreciation for the research team's flexibility regarding how they could participate, the amount of time required, and the emphasis placed on making participation convenient for them. Youth expressed a preference for quick and convenient opportunities to engage with the project, especially as they juggle multiple family, community, and work commitments. One youth explained how elements of social media, such as Facebook polls, could be leveraged for youth's convenience; "the thing about Facebook polls is it's very time efficient. It's you know - it's just like a button and it's clear. And it's something that's very useful to me, in my opinion." (Participant 7, interview). Another youth, who is a young mother, shared how having the option to participate in a short meeting and get paid for it, was very valuable to her: "even getting paid is awesome cause…I'm not working right now but even getting paid to just do a zoom meeting is great. Just like 10 minutes and then you get paid for it." (Participant 2, focus group). Research competes with other demands in these youths' lives; despite demonstrating a desire to involve themselves in these programs, supporting their sustained involvement requires the research project to be both flexible and accommodating, meeting youth where they are and adapting to their schedules and needs where possible.

The Elder also contributed to this discussion, noting how research activities that are naturally flexible are preferred; "and I always go back to that day we took that walk in Iqaluit out along the river. You know, that was just…wonderful. There was no rigid schedule or anything like that – the payment was happiness within." (Elder Participant, focus group).

Relationality. All youth emphasized the value of forming trusting and ongoing connections with youth and their communities throughout the research process. Several youth commented on the closeness of the research team, likening these relationships to family: "and

it's always great talking with you guys, you know…you guys are like a family to me." (Participant 7, interview). When asking another youth about what motivates them to stay with these projects, they echoed similar sentiments about family:

> Like gather together. Cause we're like - we're all close now with the team and it helps - we laugh cause we want to make the memory. And we became family and that's why I like it. (Participant 9, interview)

The same youth emphasized how their trust in the mission of the research team and shared values about mental health encourages them to recurrently accept new opportunities from the project:

> That was the first mental health help I wanted to be part of before I went into music and ever since you guys been asking me if I want to be part of new projects. I'm always going to say yes cause I know you guys want to help out too. And that's what I want to do. (Participant 9, interview)

The importance of "ongoing relationships" with the research team also frequently appeared throughout discussions, with many youth citing continued communication and persistence on behalf of the research team as a source of their engagement. As one youth shared;

> Doesn't matter how hard it gets. I love it when you guys don't give up on us – us, like [inaudible]. That's what I love the most. You guys won't give up on us. (Participant 9, interview)

The Elder participant reinforced that "ongoing relationships" are inherent to Inuit culture, and that this concept is reciprocated in youth's commitment to the project.

> **Researcher:** I think that it was really beautiful what you were saying this morning…is Inuit culture is not impulsive and very thoughtful.
> **Participant:** And ongoing…and you see that commitment here (points around circle at team members)...it's ongoing. I mean they joined you when they were teens. And now they have children.
> (Elder Participant, focus group)

The Elder further emphasized the importance of 'ongoingness,' not only within mental wellness research but also for mental health services across Nunavut, highlighting the need for continuous and equitable representation of Inuit voices.

> And the GN is not listening at all to getting Inuit mental health workers at the same pay level, at the same benefit level as the mental health workers that we have now which are say - seldom based. We need equalness and not just be a one-time kind of thing. It needs to be ongoing if it's gonna be better. So they really need someone in there who also understands the Inuit values and traditions to incorporate into their mental wellness programs that they have. (Elder Participant, focus group)

Youth highlighted the need for in-person gatherings to foster meaningful relationships. While youth shared that communicating virtually provided convenience for them, meaningful relationships were nurtured throughout in-person gatherings such as retreats and community visits; "when you guys came to [community name] in-person, it sounded interesting, because it was in-person." (Participant 1, interview)

Lastly, youth discussed how the relationships established in these programs can foster a sense of belonging and wellness for participants. For example, one youth highlighted how feeling connected to the research team and the project can facilitate broader engagement in society: "when young individuals are…feel connected to these projects, they are more likely to actively engage in this society because I see a lot of people my age struggling to fit in this...world where it's all on your own." (Participant 7, interview).

Value oriented. The youths and the Elder underscored how speaking to young people's cultural and personal values are what sustain their engagement in research. Not only did participants need to feel that the research project's mission aligned with their values in order to participate, but the project's activities needed to account for youth's varied passions and interests as well. Among these values were mental health, culture, the land, and family.

One youth explained that it is important to emphasize the overarching mission of supporting mental wellness, as opposed to solely advertising the wellness tool itself, when recruiting youth for the project.

> Maybe I would say go into the very little details about mental health and really, I guess I would say you really need to draw attention to youth to get their attention because if you say - if you go for the simple details…it will make them think "no, no, this is not worth my time" in that sort of perspective. So, maybe try go on to the very

> little details and - when trying to engage youth about the program…maybe the deeper message you wanna pass along…I would say instead of "mental wellness game" you could try maybe instead explain why you are doing this - this is to help youth mental health and trying to find a solution that works best. "Please try it out and give your feedback" or something like that. (Participant 6, interview)

Having youth's values reflected in the project activities was deemed important, not only for their participation, but also from a wellness perspective. For example, the Elder frequently emphasized the importance of being on the land for youth well-being, noting, "especially on-the-land programs, I think are crucial for the well-being of everyone, but youth in particular." (Elder Participant, focus group) Some youth discussed their values around supporting their families, and how research activities could facilitate this by providing monetary compensation that benefitted their family, as well as by allowing them to bring family members, such as babies and Elders, to project gatherings. Importantly, while many of these youth share common values and passions, one participant emphasized the need to acknowledge individual differences so that the research project could tailor its activities accordingly and reach a broader range of youth participants.

> I remember there was another girl my age in [Community Name]. She tried to join but she found it boring. I don't know why. Me and brother were interested so, there's many different things we find interesting and another person is not so interested. (Participant 1, interview)

This advice is particularly important when recruiting youth who may not be as readily or naturally 'engaged' as the current participants.

Community. Youth cited aspects about their communities that they perceived as having facilitated their engagement in the current projects. Many of these youth recounted being introduced to the project through a local connection, or through meeting the research team at a shared space in the community, such as the youth centre. Youth reinforced that establishing an in-person presence and forming local connections at these spaces are effective strategies for youth engagement:

> I think going back to the communities, like you guys did, going back in person. Announce it on the radio and the Facebook page…posters, or make it sound as fun as possible. You guys could go to the schools in each community and tell the – since they announce…they just announce stuff going on…and you guys could go to the youth centres and tell the worker to tell the youth "there's a program going on and it's for ages blah-blah-blah, and this is what you can learn." (Participant 1, interview)

Notably, it was shared how community commitments, such as school or work, were sometimes a barrier to participation, as they require significant time from youth's schedules. Therefore, further emphasizing the importance of bridging research with community connections, including schools, colleges, and other local institutions.

Socio-Cultural Factors

Technology. In terms of the socio-cultural factors influencing youth engagement, the main recurring theme in discussions was *technology*. Youth frequently described how technology has facilitated their ongoing communication with the research team and how it could be leveraged to engage additional youth. For example, some youth indicated that technology-based incentives were what initially drew them to the project. One participant mentioned that his interest in the project was sparked by the offer of free laptops. Others highlighted how the purchasing and distribution of wingles (internet gigabyte sticks) made their participation easier, given the limited and costly internet access in Nunavut.

Engagement was also supported through social media; youths noted that communication via Facebook and phone messenger is convenient due to the widespread use of both phones and social media in their communities. As one youth shared, "what makes it easy is that we have our phone with us like all the time. So it's just like a message away." (Participant 3, focus group). Conversely, the absence of social media, particularly Facebook, posed challenges for participation. One participant explained, "The thing is, I don't have the Facebook app anymore. So I can't really see what's happening or what's going on" (Participant 9, interview).

Youths and the Elder offered several suggestions for using social media to better reach other youth in their communities. Their suggestions included posting videos about the projects on Tiktok, Facebook, Youtube, as well as making announcements through local radio. Using Facebook polls was noted as a quick way for collecting feedback. This feedback is partly summarized in the following quote:

> **Participant 4:** Radio.
> **Researcher:** Radio!
> **Participant 5:** [Speaking in Inuktitut]. So going on the radio and possibly inviting others that don't know about the project. It's a good way of sharing that information.
> **Participant 2:** Posting on Facebook.
> **Participant 5:** How about Instagram is that – (participants shake their heads), no. Snapchat?
> **Participant 2:** Sometimes (laughs).
> **Participant 5:** But more Facebook than anything right?
> **Participant 2:** Mostly Facebook in our town. Everyone probably has Facebook.
> **Participant 5:** So if you do those polls for others you are gonna get feedback. Yeah, you will get feedback.
> **Participant 2:** I can't wait to get the game done and post it.
> (Participants 2, 3, 4, 5, focus group)

Discussion

For this study, I conceptualized sustained engagement in research as an indicator of thriving in Inuit youth. The purpose of this study was to first investigate the individual, relational, contextual, and socio-cultural factors associated with high levels of engagement in mental wellness research conducted with adolescents and emerging adults in Nunavut, and second, situate these factors within a framework of Inuit Qaujimajatuqangit.

The quantitative analyses highlighted intrinsic qualities that predicted high levels of engagement from I-SPARX Inuit youth testers. Specifically, elevated scores on the domains; *Being Active* and *Dealing with Emotions,* were associated with higher levels of engagement, whereas high scores on *Overcoming Problems* were associated with lower levels of engagement. Quantitative analyses also revealed significant relational and culture-based predictors. Youths who condoned the belief that *knowing about cultural practices is*

important (question 35 from the outcome measure) showed greater levels of engagement, while youths who scored high on *at least one really good person in my life who is there for me* (question 32 from the outcome measure) showed decreased engagement.

The qualitative analyses aligned with several aspects of the quantitative findings. Throughout interviews and one focus group with a highly engaged group of Inuit youth involved as long-term co-leaders in this mental wellness research, a thematic analysis of their conversations/voices?? showed that six intrinsic qualities were associated with their engagement in the current projects: *inuttiavak, openness, a passion for (video) games, motivation to stay active, cultural identity and pride, a socio-political consciousness, and determination.* The youth leaders also identified important relational factors, including having strong bonds to *family, the research team,* and their *community.* From a socio-cultural lens, *technology* in the form of social media and the internet, was highlighted as an important mechanism for shaping youth's perceptions and behaviours towards research.

In line with the Relational Developmental Systems model and Bornstein's principle of specificity, "thriving" is both an outcome and process shaped by multisystemic, interacting factors. While the quantitative analyses identified specific facets of youth's lives associated with engagement or "thriving," the qualitative analysis expanded on these findings by demonstrating direct connections between some of these variables and engagement, as well as illustrating how many of these variables are mutually reliant. For instance, while youth cited a number of *Community*-based aspects as having contributed to their participation in research, including access to local connections and shared spaces, these factors alone would have likely been less influential without youth's *Openness* to new connections and experiences. Thus, pathways to "thriving" – or engagement in the context of this study – is likely to vary depending on the context-specific interactions between external and individual factors present in youth's lives.

Interpretation of Quantitative Findings[2]

Beginning with the factors associated with an increase in engagement, higher scores in the domain *Being Active* significantly predicted greater youth engagement of Inuit testers in the I-SPARX project. This domain encompassed six questions that assessed youth's energy levels, somatization, and access to fun activities. Youth who reported higher levels of activity in their lives at baseline were more likely to stay engaged in the I-SPARX program. This may be partly explained by the fact that highly active participants inherently possess the energy and resources to stay involved in research activities for longer periods of time. Another explanation may lie in theories of behavioural activation, which suggest that being active fuels a cycle of more activity. Behavioural activation therapy posits that behaviours, such as engaging in enjoyable activities, precede and influence emotions. Action-oriented behaviours lead to several emotional benefits including reduced symptoms of depression and anxiety, improved quality of life, and increased motivation (Tindall et al., 2017). These benefits in turn, may support and fuel participant's engagement in community-based programs. As Kral (2019) suggests, community-based action can have a "ripple effect," whereby involvement in one community activity can generate momentum for engagement in other initiatives.

The domain *Dealing with Emotions* was also a significant positive predictor of engagement. This category consisted of six questions that assessed youth's ability to respond constructively to negative emotions. Youth who expressed greater competency in regulating challenging emotions at baseline exhibited higher levels of engagement. This association may be attributed to the fact that individuals with stronger emotion regulation skills are better equipped to manage mental wellness challenges that impede daily functioning, thereby

[2] Negatively phrased questions on the outcome measure were reverse coded to ensure consistency in directionality and interpretation; higher responses indicate positive or adaptive behaviours and lower responses signify negative or maladaptive behaviours.

allowing them to devote extra time and focus to research activities. Indeed, difficulties with emotion regulation are associated with anxiety and depression (Schäfer et al., 2017), unhealthy coping strategies such as substance use, withdrawal, and self-harm (Rolston & Lloyd-Richardson, 2020), and suicidality (Hatkevich et al., 2019). These challenges impair daily functioning, create social isolation, and can restrict Inuit youth from engaging in traditional resilience-enhancing activities, such as connecting to friends, family, and good role models, being on the land, and keeping busy in the community (Kirmayer et al., 2011; Thomas et al., 2021).

Additionally, the question *I think that knowing about cultural practices is important*, was a significant positive predictor of engagement. Specifically, youth who condoned valuing Inuit cultural practices at baseline were more likely to show greater engagement with the I-SPARX program. This finding is consistent with both extant literature on Inuit youth resilience and thriving, with Inuit communities having previously identified connection to culture and cultural identity as an important promoter of resilient functioning (Kirmayer et al., 2011; Thomas et al., 2021).

Interestingly, the domain *Overcoming Problems* was associated with a significant decrease in engagement among I-SPARX testers. That is, youth who reported greater capabilities in *Overcoming Problems* were less likely to stay engaged in the I-SPARX program. This category contained seven questions pertaining to youth's conflict resolution skills, their ability to recognize and respond to gloomy or defeated thoughts, and their tendency to seek out support during tough times. This finding is contradictory to previous research on resilience and thriving, which suggests that individuals who are emotionally and socially competent are more likely to have positive mental health outcomes and thus, may be more likely to stay engaged in research initiatives (Lerner et al., 2005). Simple linear regressions were conducted on each question within this domain to identify which were most

influential, in an attempt to disentangle the reasons for the negative association. Within the *Overcoming Problems* category, two questions were significantly negatively associated with engagement; Question 21: *I have strategies that help solve problems with others* and Question 22: I *am able to replace gloomy or negative thoughts with more positive ones*. Thus, participants who reported having strategies to resolve interpersonal conflicts and replace maladaptive thoughts at baseline were overall less engaged in the I-SPARX program. One plausible explanation for this negative association may be that individuals who already have strategies to address gloomy thoughts do not feel the need to remain engaged in an activity that is about learning such strategies.

Given the theoretical similarities between the *Overcoming Problems* and *Dealing with Emotions* domains, their contradicting relationships with engagement were explored by performing additional simple linear regressions on each question within the *Dealing with Emotions* domain. Two questions within the *Dealing with Emotions* category were significantly positively associated with engagement; Question 12*: I break things when I'm upset or angry*, and Question 15: *I feel like hurting myself when I'm upset or angry*. These findings suggest that participants who reported being less likely to hurt themselves or break things in response to anger at baseline, were more highly engaged individuals. The primary difference between these two sets of questions is that those within the *Overcoming Problems* domain refer to learned strategies for regulating behaviour, whereas the questions within *Dealing with Emotions* may speak more to individuals' innate temperaments. While emotional regulation is partly shaped by learned strategies and experiences, previous research suggests that it is also influenced by a biological predisposition in temperament (Calkins et al., 2019). Some research has found that emotion regulation is associated with heightened self-reflection/awareness and self-criticism (Gadassi et al., 2021). It could be that participants who scored higher on the domain of *Dealing with Emotions* may be more self-critical of their

abilities to overcome problems. This self-criticism may have motivated them to remain engaged with the I-SPARX program for longer, potentially in hopes of improving these capabilities.

It's important to note that these differences in engagement could also be explained by participants' perceived utility of the I-SPARX game. For example, it is possible that these participants continued with the program for longer merely because they felt that the game effectively addressed their specific needs at the time. Future research should explore the influence of the game itself on participant engagement by examining whether participants demonstrated improvement in response to the intervention over time.

Lastly, the question, *there is at least one really good person in my life who is there for me*, predicted a significant decrease in engagement. In other words, participants without a mentor or support system in their lives appeared to be more motivated to remain engaged in the program. It could be that the contact with researchers the initiative provided, and the potential for learning social emotional strategies was attractive to those who did not yet have these opportunities in their lives.

Interpretation of Qualitative Findings

Six individual characteristics described the highly engaged subset of Inuit youth leaders in this study: *inuttiavak, openness, a passion for (video) games, motivation to stay active, cultural identity and pride, a socio-political consciousness, and determination.* These attributes are an important part of Inunnguiniq - the Inuktitut term for the process of "raising a capable human being", also sometimes referred to as Inunguqsajauniq -"to be made whole." In traditional times, a "capable" child was one who successfully learned and embodied the teachings of Inuit Qaujimajatuqangit. Elders and family members could rest assured that these children were ready to lead their family through hard times, effectively navigate the

land and animals, and pass on their knowledge to raise the next generation of capable human beings. Importantly, "being capable" entailed rich knowledge on how to live a good and happy life.

Youth leaders' sustained engagement was rooted in *inuttiavak, "*always being ready to help." Youth expressed a passion for helping others and believed that the intervention tools developed in these research projects would be a positive way of supporting their communities. Additionally, several youth leaders reported being attentive to the well-being of their peers, and actively sought out opportunities to lend a helping hand, whether that be through engaging them in conversation, distracting them with activities, or taking on a supportive, mentoring role. *Inuttiavak* is strived for in Inunnguiniq and is promoted through three core teachings of Inuit Qaujimajatuqangit (IQ); *Inuuqatigiitsiarniq,* a teaching that encourages respecting others, relationships and caring for people; *Pijitsirniq* which promotes serving and providing for family and/or community; and *Tunnganarniq* which emphasizes fostering good spirits by being open, welcoming and inclusive. Inuit Qaujimajatuqangit (IQ) espouses a welcoming and kind attitude for the purpose of finding inner happiness, building strong relationships with family and community, and to secure the passing down of culture. Inuit Elders have remarked that happiness is founded on helping others. Simple actions such as briefly visiting someone or talking to others demonstrates that you care and supports harmonious living. Moreover, embodying *Inuttiavak* encourages others to want to come to you and be taught by you - the "passing along of Inuit wisdom and knowledge relies on those who hold to this way of being" (Karetak et al., 2017, pg 9).

Youth leaders portrayed an inherent *openness* to new experiences. They were keen to meet new people and learn from different cultural perspectives. This openness aligns with the Inuit Qaujimajatuqangit (IQ) teaching, *Tunnganarniq*, and is fostered through Inunnguiniq. IQ emphasizes that every individual is unique with different ways of thinking; being open to

hearing others' perspectives and collaborating for the collective good is essential for supporting one another. Elder, Jose Angutinngurniq, captured this sentiment in the following quote; “if you are willing to help others, you can do your part by working with others to look for ways to help people to have a better life. We want all children to have a good attitude and to be able to benefit from others, no matter where they are from.” (Karetak et al., 2017, pg 82). Furthermore, openness is reinforced in Inuit Qaujimajatuqangit (IQ) to ensure that children are raised with a diverse set of skills. IQ teaches that you learn by trying new things; young Inuit who are willing to learn from others about a range of topics will be more adaptable and better prepared for life's challenges. Previous research has linked openness to various positive outcomes, including increased creativity, curiosity, adaptability, mental flexibility, acceptance of others, and effective and innovative leadership (Raya et al., 2023).

Staying active was a theme that emerged from both the quantitative and qualitative analyses. Several youth leaders described a chronic lack of “things to do” in their communities. To combat boredom, youth expressed how they actively sought out ways to “keep busy” and engage in initiatives for “distraction,” including participating in the I-SPARX and Virtual Qaggiq programs. Boredom is associated with an array of internalizing and externalizing behaviours such as substance use, peer violence, elevated risk-taking, depression, anxiety, and lack of self-compassion (Milea, Cardos, & David, 2021). Consistent with previous research, staying “busy” has been identified by Inuit community members as a way to foster resilience during difficult and self-isolating times, such as the Covid-19 pandemic (Thomas et al., 2022; Bohr et al., 2024). Moreover, one study suggested that staying active within one's community may even serve as a protective mechanism against suicidality (Kral, 2019). Inunnguiniq implies that *staying active* is essential to learn and develop skills. Inunnguiniq encourages *Pilimmaksarniq,* the development of skills through observation, mentoring, practice, and effort. Inunnguiniq posits that capable human beings

are not to be lazy, to experience and practise, and to work even when tired (Karetak et al., 2017). Similar to I-SPARX youth testers, youth leaders appeared to possess the natural energy and skills to seek out activities that prevent boredom, which one could attribute in part to the values instilled in Inunnguiniq. This proactive and value-driven behaviour promotes a state of wellbeing that then fuels a cycle of sustained engagement and thriving.

Another common attribute among these youth leaders was their *passion for games and video games*. Youth recounted how many of them had been passionate about video games since they were young, and how the project's focus on video game development played an instrumental role in their initial interest in the projects. Youth discussed how games in general are important to incorporate into project activities for engagement. Community games are considered an important aspect of Inuit Qaujimajatuqangit for their ability to provide spiritual and mental exercise. IQ describes games as being integral to fostering a happy spirit, and strengthening friendships and supportive attitudes (Karetak et al., 2017).

Youth exhibited a strong sense of cultural identity and pride. According to the literature on resilience and thriving in Inuit communities, a connection to culture serves as a protective factor and predicts positive mental health (Kirmayer et al., 2011; Thomas et al., 2021). Cultural connection may therefore be considered a valid contributor to sustained engagement. Indeed, youth described how a primary motivator for their continued participation in the projects was their belief that the intervention tools would contribute to a resurgence and revitalization of Inuit cultural values. Connection to their culture was conveyed explicitly through statements expressing respect for traditional Inuit values and ways of being, and indirectly, through an observed adherence to and embodiment of Inuit Qaujimajatuqangit principles.

Youth also possessed a strong *socio-political consciousness* - a quality rooted in cultural pride and a keen awareness of the significant losses endured, and continuing to occur,

at the hands of colonialism. To be aware of these types of socio-political issues, youths require not only historical knowledge, but also a commitment to social justice; according to the literature on positive youth development, these characteristics are important predictors of thriving and engagement (Lerner et al., 2005).

Lastly, youth demonstrated an inherent *determination* to complete tasks and overcome challenges. Determination is a well-studied predictor of resilience and a valued quality of Inunnguiniq. Elders believed that if a child had determination to finish the task they were given, this ability became a tool that was important to being successful. Determination was viewed as a strength that made a capable human being, allowing them to move forward when the going gets tough (Karetak et al., 2017).

In addition to the personal characteristics exhibited by these youth, several relational-based factors appeared to be associated with their sustained engagement in the research projects: *relationships with family, community,* and *the research team*.

Relationships are foundational to Inuit culture. Indeed, communication with friends and family, forging strong communities, and having good role models are known to be promoters of resilience and thriving among Inuit youth (Kirmayer et al., 2011; Thomas et al., 2021). Providing for family and community is at the centre of Inuit life and is represented in several IQ principles. *Pilimmaksarniq*, for example, emphasizes the value of learning skills through mentorship. In the context of child rearing, Inunnguiniq holds that Inuit children learn by seeing and doing. The practice of watching family members engage in tasks, learning their wisdom, and receiving mentorship is considered crucial to raising a "capable" child (Karetak et al., 2017, pg 7). Youth leaders credited teachings passed down from their families as having instilled important life lessons and skills related to maintaining positive mental health, which ultimately influenced their desire to participate in mental health research. *Inuuqatigiitsiarniq*, another IQ teaching, is defined by respecting others,

relationships, and caring for people. Many youths explained how having support and encouragement from family members and community members to participate in the projects allowed them to make time for the projects and validated their interests in research. Given that research still carries a degree of negative connotation and stigma (Bohr et al., 2024; Inuit Tapiriit Kanatami, 2018;), support and validation from family and community members is crucial. Finally, the IQ teaching *Pijitsirniq,* meaning having a willingness to serve and provide for others, was demonstrated through youth's desire to give back to their families and communities. This was evident in their motivation to contribute to the development of an intervention tool for Nunavummiut and in their decision to use earnings from research work to support their families and the broader community.

Relationships with the research team were also vital to engagement, dependent on the following factors: flexibility and convenience in planning and scheduling, southern researchers' commitment to building meaningful and trustworthy connections with the community, and their alignment with the values of youth and communities through their research mission and activities.

Youth and Elders highlighted the necessity of short and flexible research activities to accommodate the unpredictable and demanding schedules of Inuit youth. Youth in Nunavut often juggle numerous commitments arising from the impacts of ongoing colonialism, including socio-economic and mental health challenges. Many youth must work at a young age or face poverty, while also supporting their families and managing their own mental health. Researchers seeking to engage Inuit youth must understand the social and structural inequities affecting Nunavummiut and recognize how these factors may compete with the demands of research. Moreover, a cooperative and flexible approach to research is aligned with Inuit cultural values. Inuit Qaujimajatuqangit emphasizes the importance of adaptability. Elders have remarked how in traditional times, it was common for life not to go according to

plan. An open and flexible mindset was necessary to remain calm and effectively navigate life's obstacles (Karetak et al., 2017).

While keeping in mind both convenience and flexibility, it's also important to ensure that research activities are grounded in relationality. Just as relationships to family and community facilitate engagement, strong relationships with the research team are necessary for youth to feel committed to a project. Many youths expressed that they felt the research team had become like family. Moreover, it was their trust in the research team's ongoing mission to support the mental wellness of youth in their communities that encouraged them to give research a chance and to stay involved. This trust was predominantly cultivated through in-person connections. Previous studies on engaging Inuit youth have similarly highlighted the importance of dedicating time to being present, practising active listening, increasing cultural sensitivity, and demonstrating reciprocity to build trust in youth-researcher relationships (Gbetholancy, 2022; Sadowsky, 2022b). According to the literature on positive youth development, feeling connected to others is essential for thriving. Connection involves a sense of membership and belonging which are protective factors. As one Inuit Elder articulated "resiliency can be developed in people when they feel they are supported to be brave and sincere and allow themselves to go in a safe environment with someone who cares." (Karetak et al., 2017, pg 206).

Youth made it clear that for them to engage in a project, the research must speak to their values. This underscores the importance of community-born and directed research that allows for youth's values to be represented in both the research projects' mission and activities. Consistent with previous research, youth's values were grounded in Inuit Qaujimajatuqangit, including respecting traditional knowledge on wellness, the land, and intergenerational relationships (Blangy et al., 2018; Gérin-Lajoie et al., 2018; Johnston GoodStar, 2009; Pollari, 2018). Youth emphasized that when their values are successfully

represented in the project activities, this not only sustains their interest but also supports their wellbeing, demonstrating the intrinsic connection between wellness and Inuit Qaujimajatuqangit.

From a sociocultural perspective, technology - in the form of social media, internet, and video games - was identified as an important tool for promoting engagement in research. Youth participants were particularly drawn to the project due to the video game component and the internet support provided to facilitate their participation. Additionally, social media, especially Facebook, was highlighted as an integral part of modern-day Inuit culture and a valuable research tool for enhancing youth engagement within their communities. However, previous literature has indicated that some Inuit Elders believe that Inuit Qauijmajatuqangit principles are undermined when priority is given to technological change at the expense of being present in the real world. Specifically, Inuit elders in Karetak et al.'s (2017) book expressed that in this technological age, children are no longer "watching, touching, feeling, smelling, and learning from what is happening around them" (Karetak et al., 2017, pg 5). Nevertheless, in the context of research engagement, technology serves as a crucial means of maintaining communication between the research team and participants, especially in Nunavut-wide initiatives where vast distances exist between one another. Furthermore, youth have consistently expressed interest in the video game component of the projects, claiming it provides an innovative way of learning about traditional cultural practices.

Limitations

This is one of the first research endeavours to study the factors associated with Inuit youth's engagement in mental wellness research. The strengths of this study include the incorporation of mixed qualitative and quantitative measures, the use of a culturally informed, strengths-based approach to data analysis, and the participation of a highly engaged

subset of Inuit youth from a broad range of communities across Nunavut. That said, the current study has several limitations.

First, while the 117 participants in the quantitative data represented 16 out of the 25 communities in Nunavut, the sample size of the Inuit youth leaders who joined the interviews and focus group was comparatively small, limiting the generalizability of findings. Youth who are highly engaged in research tend to be quite exceptional and scarce in number, thus, a study of this kind will naturally have a smaller sample size. Nevertheless, it will be important for future research to gather additional qualitative perspectives from youth, as well as insights from Elders and community members, to obtain a richer, more holistic understanding of factors that sustain youth engagement in mental wellness research.

While this study gathered strengths from its focus on highly engaged, "thriving" youth, there is also value in digging deeper into the barriers that inhibit youth from participating in long-term mental wellness initiatives. Given that the current mental wellness projects were shown to have benefits for both participants and research assistants involved, it is worthwhile to try and understand more about the factors associated with youth who are "disengaged," to better tailor future research projects for these types of individuals.

An important limitation regarding the quantitative data was the wide variability in how participants completed the I-SPARX wellness surveys. Some youth engaged with I-SPARX individually over several weeks according to a schedule set by the research team, while others participated in a group setting during a workshop that lasted 1 to 2 days. The engagement score, which was calculated based on the completion time and the number of survey questions answered, did not account for the differences in duration of participants' involvement (i.e. how many days/weeks one remained in the project). Consequently, participants in the 1-2 day play-now workshop setting could have similar engagement scores to those who participated over several weeks. Future research should factor these variables

into the engagement index. Furthermore, because the meaning of engagement is still not concretely operationalized in the literature and may vary across groups and cultures, it will be important for future research to define Inuit conceptualizations of engagement. Various aspects of engagement should be considered, including affective, behavioural, and cognitive indicators.

Another notable limitation regarding the quantitative data, is that the setting in which the youth played the game was not known for all participants. Some participants may have faced distractions at home that hindered their full participation, or they might have had other commitments not captured by the wellness survey. Additionally, despite being written in plain English, the survey questions required a certain level of literacy, which could have posed challenges for participants less familiar with written English.

Additionally, the I-SPARX wellness survey has not yet undergone standardization, meaning the quantitative results are derived from wellness domains that were constructed based on theoretical groupings rather than statistical factor groupings. While the qualitative interviews provide support for the quantitative findings, future research should aim to use a wellness measure that has been statistically validated through factor analysis.

Lastly, as the primary researcher in this study, I ama female Qallunaat (non-Inuit white woman). Although I am educated on Inuit culture and seek to have the study results thoroughly reviewed and edited by Inuit youth and community members in Nunavut, the most culturally accurate description and interpretation of the results would be achieved by an Inuk researcher.

Implications and Future Directions

The findings from this study have important implications for research in the field of Inuit youth engagement in participatory action research. This study shed light on a variety of

factors associated with sustained youth engagement in community-based, mental wellness e-intervention research. A collection of individual, relational, and sociocultural factors was identified in two different contexts; Inuit youth participants/testers who evaluated the intervention tools and Inuit youth leaders who assisted in the development and implementation of these tools.

By recognizing the multisystemic factors that drive Inuit youth's engagement in research, researchers can better tailor their initiatives to accommodate youth, sustain their engagement for longer, and ultimately enhance the overall effectiveness and cultural appropriateness of the project.

Importantly, this thesis supports the need for continued, widespread and integrative teachings of Inuit Qaujimajatuqangit within Nunavut communities. The Inuit youth leaders embodied the qualities of capable human beings taught through Inunnguiniq. Moreover, youth identified with various facets of Inuit Qaujimajatuqangit, and possessed a strong connection to Inuit culture. IQ teachings thus play an instrumental role in supporting engagement and thriving among youth.

This study was also one of the first to directly highlight the pathways between the research process and positive mental wellness for Inuit youth leaders. Based on accounts from these leaders, engaging in co-creative research offers an effective way to stay busy and avoid boredom. Additionally, the relationships formed during the research process can foster a sense of membership and belonging while simultaneously building research capacity. Thus, when the research project effectively recognizes youth's individual strengths, and incorporates necessary relational, sociocultural factors, the process of conducting mental wellness research itself can be a prevention tool. There is a need for funding that supports ongoing projects that facilitate cross-community travel, enabling youth to build meaningful research relationships that are crucial for sustainability.

As one of the first studies to explore youth engagement within a mental wellness research context, these findings lay the groundwork for researchers to explore additional questions and research methods in future. To gain deeper insights into the factors that predict sustained engagement among Inuit youth, future research should consider interviewing family and community members to understand the factors and mechanisms they believe facilitate youth engagement. Additionally, exploring youth engagement longitudinally could help confirm the role of the intervention itself in fostering engagement. While this study focused on baseline measures, future research could examine response patterns among highly engaged youth overtime to determine whether these participants demonstrated improvements in response to the intervention. This information could in turn could help design future interventions for enhancing engagement.

Through these methods, we can further explore and consolidate Inuit understandings of meaningful engagement, identify the discrete factors contributing to youths' continuous participation in the project, as well as the recurring hindrances, and develop and culturally specific conceptual model of engagement that may benefit areas outside mental wellness research, including youth engagement in schools and government.

Conclusion

Inuit youth engagement in research, particularly mental wellness research, is of critical importance. Exploring factors related to youth engagement may help community members and researchers better understand how to support the presence and voices of Inuit youth in community-led research, contribute to the continuity and sustainability of community-based action, illuminate the role of engagement in mental health, and deepen our knowledge of Inuit resilience and thriving in this context.

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Appendix A: Consent Forms

I-SPARX INFORMED CONSENT FORM

Date:	November 2020
Study Name:	Making I- SPARX fly in Nunavut
Principal Investigator:	Dr. Yvonne Bohr, C.Psych., York University
Co-Investigators:	Ms. Chelsea Singoorie, Nunabox, Ms. Cécile Guérin, Embrace Life Council, Dr. Deborah Pepler, Dr. Sarah Flicker, Dr. Farah Ahmad, Dr. Jonathan Weiss, Dr. Gordon Flett, Dr. Jennine Rawana, Dr. Jennifer Jenson, Dr. Sally Merry, Dr. Mathijs Lucassen, Dr. Matthew Shepherd
Sponsor:	The Canadian Institutes of Health Research

PURPOSE OF THE RESEARCH: The goal of this project is to develop and evaluate an Inuit-specific adaptation of the computerized SPARX (Smart, Positive, Active, Realistic, X-factor thoughts) intervention program for youth. The SPARX program was developed to help youth who are at risk for depression learn new skills for dealing with feelings of depression or stress.

We have completed a pilot study that showed that a Māori version of SPARX was promising in decreasing symptoms of depression. During the pilot study, youth participants and community clinicians recommended creating an Inuit-specific version of the program. It was recommended that this would increase interest in the program and make it more relatable. A culturally appropriate version of SPARX (I-SPARX) may increase individual resilience through enhancing cultural pride and community wide resilience.

In Phase 1 of the project, we visited 5 communities across Nunavut and gathered information about how we could make the SPARX program more relevant for Inuit youth. The Pinnguaq organization has taken this feedback and has generated a modified version of the SPARX game: I-SPARX. We are now in Phase 2 of the project, where Inuit youth in several communities will participate in playing the newly adapted I-SPARX in order to evaluate its effectiveness. Phase 2 of the project will take place entirely online and all in person research activities are suspended until all COVID-19 restrictions have been lifed.

WHAT WILL YOU BE ASKED TO DO: Participation in this study is voluntary. If you agree to participate in this study, you may be asked to:

A. Required: Play 7 levels of the new I-SPARX game, remotely downloaded onto a compatible device or on a tablet shipped by the research team, over the course of about 3 weeks. Each level should take 20-30 minutes to complete.
B. Required: Provide feedback on your thoughts and mood in a questionnaire that has been designed with members of your community to assess wellness, resilience and

general mental health. The questionnaires will be delivered through Qualtrics and should take 10-15 minutes to complete.

C. Optional: If you are interested, you may be asked to provide feedback on your thoughts and moods through interview and/or focus groups. Interviews/focus groups may take approximately an hour to complete. These sessions will be recorded if participants consent.
D. Optional: If you are interested, you may be asked to provide feedback on your experience of the process of being involved in this project through interviews and/or focus groups. Interviews/focus groups may take approximately an hour to complete. These sessions will be recorded if participants consent.
E. Optional: If you are interested, you may participate in workshops led by the I-SPARX research team. Workshops will vary in length.

RISKS AND DISCOMFORTS: Some of the questions regarding mental health may feel difficult or upsetting. For example, some questions will relate to the experiences of people with low mood or depression and some experiences that are linked to symptoms of depression. The research team or the community facilitator will be available to help you if you feel uncomfortable or start to feel upset. If you feel discomfort, or experience negative thoughts at any point before, during or after participating in the I-SPARX project, the research team or the community facilitator will be available to answer any questions you may have. We have also gathered information about resources in your community that you can access for help and support. This information will be on the I-SPARX website and will be shared with you by the research team and your community facilitator. You can also stop participating in the study at any point because participation is voluntary.

BENEFITS OF THE RESEARCH AND BENEFITS TO YOU: The goal of this study is to develop a culturally appropriate wellness intervention that is fun and useful for young people when they feel they are experiencing low mood or depression. You may or may not benefit directly from taking part in this study. We hope that by helping evaluate the I-SPARX program, you will feel connected to your community and culture and empowered to support your wellness and the wellness of others in your community. Participants will also be compensated at a rate of $20 per hour, comparable to the pay rate of York research assistants.

VOLUNTARY PARTICIPATION: It is entirely your choice whether or not you agree to participate in this study. If you do <u>not</u> agree to take part in the study, this will have no impact on your participation in any of the programs offered by the organization that suggested your participation. Your decision not to participate in the study will have no influence on the nature of your relationship with any of the members of this research team and it will not affect the mental health care services you receive now or in the future. If participants choose to withdraw from the study, they will still be compensated for the time they had committed to the project.

WITHDRAWAL FROM THE STUDY: If you <u>do</u> agree to take part in the study, then you have the right to only participate in the parts that you are comfortable with. You can also stop participating in the study at any time, for any reason. Your decision to stop participating or to

refuse to discuss particular subjects will have no impact on your participation in any of the programs offered by the organization that suggested your participation. Your decision to withdraw from the study will have no influence on the nature of your relationship with any of the members of this research team and it will not affect the mental health care services you receive now or in the future. If you decide to withdraw from the study, all information about your participation will be immediately destroyed.

CONFIDENTIALITY: All information you share during the research project will be kept anonymous: that means that your name will not appear in any report or publication of the research[1]. All personal information will be removed from the collected documents and will be replaced with an identification number. The information you share is only for the purpose of the evaluation of the I-SPARX program. For participants who choose to participate in interviews/focus groups, a secure 3rd party platform will be used (Zoom for Healthcare). This platform has security safeguards and advanced settings to protect against sessions being eavesdropped on or tampered with, but there is always risk for virtual platforms to be hacked or compromised. Interviews/focus groups will only be audio recorded if participants consent and recordings will be saved in a password protected file to research team members' local computer, not the cloud-based service.

USES OF RESEARCH DATA: The data collected for this project belong to the individual communities in which these data were collected. With community representatives' permission, the information will be presented to the communities, and also to scientific meetings, and published in scientific journals (always without any names attached). Some of the information may be written up in research reports including PhD dissertations and/or Masters' theses. Data will be used as long as the community deems it useful.

QUESTIONS ABOUT THE RESEARCH? If you have questions about the research in general or about your role in the study, you can contact your local contact person, the community facilitator, and/or a research team member, whose information you will be given at the beginning of your participation. You can also contact Yvonne Bohr at 416-736-2100 ext. 40561.
This research has been reviewed and approved by the Nunavut Research Institute, the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any ethical concerns, questions about this process, or about your rights as a participant in the study, please contact either the Graduate Psychology Program office (telephone 416-736-5115 ext. 66225)

or Ms. Alison Collins-Mrakas at the Office of Research Ethics, 5th Floor, York University Research Tower (telephone 416-736-5914 or e-mail acollins@yorku.ca).

[1] This study will use Qualtrics to collect survey data and Zoom for Healthcare to conduct interviews and focus groups. These are both externally hosted cloud-based service. When information is transmitted over the internet privacy cannot be guaranteed. There is always a risk your responses may be intercepted by a third party (e.g., government agencies, hackers). Further, while York University researchers will not collect or use IP address or other information which could link your participant to your computer or electronic devices without informing you, there is a small risk with any platform such as this of data that is collected on external servers falling outside the control of the research team. If you are concerned about this, we would be happy to make alternative arrangements (where possible) for you to participate, perhaps via telephone. Please contact Yvonne Bohr (bohry@yorku.ca) for further information.
Audio recordings will be saved in a password protected file to research team members' local computer, not the cloud based services.
Please note that it is the expectation that participants agree not to make any unauthorized recordings of the content of a meeting / data collection session.

Legal Rights and Signatures (for youth under 16):

I_____, consent for my child to participate in the research study "Making I-SPARX Fly in Nunavut" conducted by the LaMarsh Centre for Child and Youth Research at York University.

I have been fully informed of the objectives of the project being conducted. I understand these objectives and consent to my child's participation. I understand that steps will be undertaken to ensure that the information collected will remain anonymous and confidential. I also understand that, if I wish to withdraw my child from the study or if they wish to withdraw themselves, they may do so without any repercussions.

I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature _____ Date _____

(Parent/Guardian)

Signature _____ Date _____

(Participant)

Signature _____ Date _____

(Witness)

Legal Rights and Signatures (for youth over 16):

I_____, consent to participate in the research project "Making I-SPARX Fly in Nunavut" conducted by the LaMarsh Centre for Child and Youth Research at York University.

I have been fully informed of the objectives of the project being conducted. I understand these objectives and consent to my participation. I understand that steps will be undertaken to ensure that the information collected will remain anonymous and confidential. I also understand that, if I wish to withdraw from the study, I may do so without any repercussions.

I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature _____ Date _____

(Participant)

Signature _____ Date _____

(Witness)

Audiotape Consent (if participating in Interviews / Focus Groups)

I _____, give my consent for my child to be audiotaped during discussion about the I-SPARX program. I understand that the purpose of the audio-recording is strictly for this study, and to benefit the evaluation of the current I-SPARX program. My questions have been answered to my satisfaction and I agree for my child to participate in this study. I understand that my child can stop taping at any time.

I _____, give my consent for the listening of my audiotaped interview for the purpose of (please check to indicate consent):

c research

Signature _____ Date _____

(Parent/Guardian)

Signature _____ Date _____

(Participant)

Re-Contact for Future Research Consent

Please check the appropriate box below and print your name:

I _____, give my consent for my child to be contacted in the future for the purpose of (please check to indicate consent):

c follow-up to the I-SPARX research study.

VIRTUAL QAGGIQ INFORMED CONSENT FORM

Date:	November 2022
Study Name:	Inuit Youth Develop a Virtual Qaggiq: Using Technology and Cultural Knowledge to Support Resilience Outside the (Digital) Box
Principal Investigator:	Dr. Yvonne Bohr, C.Psych., York University
Co-Investigators:	Ms. Chelsea Singoorie, Ms. Cécile Guérin, Dr. Skye Fitzpatrick, Dr. Matthew Keough, Ms. Leigh Armour, Dr. Farah Ahmad, Dr. Robert Allison, Dr. Marc Bornstein, Dr. John Eastwood, Dr. Jeffrey Hankey, Dr. Jennifer Jenson, Dr. Mathijs Lucassen, Dr. Hugh McCague, Dr. Nicole Muir, Dr. Jennine Rawana, Dr. Matthew Shepherd, Dr. Shmuel Shulman, Dr. Karolina Stasiak, Dr. Jonathan Weiss.
Sponsor:	The Canadian Institutes of Health Research

PURPOSE OF THE RESEARCH:
The goal of this project is to work with you and your community to develop interactive digital "tools" such as video games and virtual reality experiences to support the mental wellness needs and resilience of youth across Nunavut. These electronic or e-tools will be "housed" in an interactive, online meeting space, the *Virtual Qaggiq*.

This new project builds on the project, *Making I-SPARX Fly in Nunavut*, where we worked with Inuit youth leaders and community members across Nunavut to adapt a mental wellness computer game for Inuit youth. The game, I- SPARX, teaches skills for dealing with feelings of low mood, sadness, depression and stress. I-SPARX Youth Leaders wanted to continue developing *Inuit-specific* and technology-based mental wellness tools, and now we invite you to contribute your knowledge to the project.

This project will have multiple phases over the next four years. In the first phase, Elders, youth, and community members in Nunavut will identify things that they think might contribute to mental wellness challenges in their communities. The Elders, youth, and community members will then choose some strategies that build on Inuit culture as well as more Western style strategies to help reduce mental wellness challenges. Together, with youth and community members, the research team will work with technology experts to design interactive e-tools based on what communities told us and use these strategies in the Virtual Qaggiq. In the final phases, community members and youth across Nunavut will test these tools to evaluate how well they help youth improve their mood and deal with stress.

WHAT WILL YOU BE ASKED TO DO: Participation in this study is voluntary. If you agree to participate in
this study, you will be compensated at a rate of $40/hour and you may be asked to:

- Participate in interviews to give knowledge on community strengths and needs related to mental wellness. Meetings may take place online (using Zoom for Healthcare[1], a secure video calling service) or in person, depending on rules for COVID-19 safety in place at the time.
- Help in choosing culturally appropriate strategies to support mental wellness challenges in your community.
- Help in designing interactive e-tools that use those mental wellness strategies.
- Provide feedback on the finalized tools in interviews. Meetings may take place online (using Zoom for Healthcare[1], a secure video calling service) or in person, depending on rules for COVID-19 safety in place at the time.
- Provide feedback on the usefulness and cultural appropriateness of the tools through questionnaires that have been designed with members of your community.
- Give feedback on your experience of being involved in this project through interviews. Meetings may take place online (using Zoom for Healthcare[1], a secure video conferencing platform) or in person, depending on rules for COVID-19 safety in place at the time.

RISKS AND DISCOMFORTS: Some of the questions or discussions about mental wellness may feel difficult or upsetting. For example, some discussions will be about mental wellness challenges in your community. The research team or the community facilitator will be available to help you if you feel uncomfortable or upset at any point before, during, or after participating in the Virtual Qaggiq project. We have also gathered information about resources in your community that you can access for help and support. This information will be on the Virtual Qaggiq website and will be shared with you by the research team and your community facilitator. You can also stop participating in the study at any point because participation is voluntary.

BENEFITS OF THE RESEARCH AND BENEFITS TO YOU: The goal of this study is to work with you and your communities to develop culturally appropriate, interactive e-tools that are accessible and useful for Inuit youth experiencing mental wellness challenges. You may or may not benefit directly from taking part in this study. Your support may benefit the future of Inuit youth. We hope you will feel connected to your community and Inuit culture and confident and capable to support your wellness and the wellness of others in your community. You will be paid $40.00 per hour for participation in all activities, including interviews and any additional activities.

VOLUNTARY PARTICIPATION: It is entirely your choice to participate in this study. If you choose not to participate, this will have no impact on your participation in the program(s) that told you about this project. If you choose not to participate, this will have no impact on your relationship with any of the members of this research team and it will not affect the mental health care services you receive now or in the future.

WITHDRAWAL FROM THE STUDY: If you do agree to participate in the study, then you have the right to only participate in activities you are comfortable with. You can also change your mind at any time, for any reason. Your decision to stop with the study will have no impact on your participation in any of the programs that told you about this project. Your decision to stop will have no impact on your relationship with any members of this research team and it will not affect the mental health care services you receive now or in the future. If you decide to stop with the study, all information about your participation will be

immediately destroyed. You can stop at any time and will still be paid for the time you were actively involved.

CONFIDENTIALITY:. All information you share during the research project will be kept anonymous. Your name will not appear in any report or publication of the research. However, the information you share is for the purpose of developing interactive digital mental wellness tools for Inuit youth, so the information you share will be kept anonymous but will not be confidential. That is, the information will be available to others but will not have your name or identity attached to it in any way.

Youth will have the option to share their knowledge and opinions through surveys designed by members of their community, and/or by participating in interviews with the research team. This study will use *Qualtrics* to collect survey data and *Zoom for Healthcare* to conduct interviews with youth who prefer to meet virtually with the research team. These sites are both externally hosted cloud-based services. Although Qualtrics and Zoom for Healthcare have security safeguards and advanced settings to protect against tampering and uninvited listeners, there is always a small risk that they will be tampered with or spied on by a third party (e.g., government agencies, hackers). While York University researchers will not collect or use IP addresses or other information which may link your participant ID to your computer/electronic devices without informing you, there is a small risk of information stored or shared on external servers falling outside the control of the research team. If you are concerned about this, we would be happy to make other plans for you to participate, such as using the telephone. Please contact Yvonne Bohr (bohry@yorku.ca) for further information. Please note that by participating you agree not to make any unauthorized recordings of the content of a meeting or workshop. Interviews will only be audio recorded if everyone involved consents and recordings will be saved in a password protected file on a York researcher's local computer, not online on "the cloud".

USES OF RESEARCH DATA: The information collected for this project belongs to the communities in which these data were collected. With the community councils' permission, the information will be presented to the communities as well as in scientific meetings and in scientific journals. Some of the data may also be written up in graduate student research reports. Data will be used as long as the community thinks it is useful.

If applicable, we will be following COVID protocols AS MANDATED BY YOUR COMMUNITY.
COVID-19 SPECIFIC CONSENT INFORMATION: COVID-19 has presented additional risks and challenges to conducting face-to-face research. We are taking all safety precautions to reduce the risk of spread of COVID-19 and expect you to follow public health directives as well. Only research involving participants considered "low risk" may proceed at this time. If you feel that you are from a vulnerable group with respect to COVID-19 effects (e.g., senior, immuno-compromised), please discuss your participation with the research team before consenting.
As always, regardless of your relation to the laboratory, you are under no obligation to participate and there will be no negative consequences if you change your mind about participating in the research. If at any time you feel pressured to participate, please contact the senior researcher Yvonne Bohr (bohry@yorku.ca). Your safety and comfort are of paramount importance. During all in-person research activities, the following safety protocols must be followed, as per Occupational Health and Safety:

- All participants will be asked to complete passive screenings before attending in person meetings
- Masks or face coverings will be required during all in-person meetings and physical distancing will be maintained at all times.
- Prior to all meetings, attendees will be asked to use hand sanitizer which will be made available to them by the research team. Surfaces will regularly be disinfected.
- We will be collecting personal contact information that we must retain in order to follow up with you and/or conduct contact tracing if you may have been exposed to COVID-19 in coming to the research site.
- Contact information will be kept separate from data collected through the research study to allow for de-identification of the research data (if applicable, as detailed in the protocol).

You maintain your right to withdraw from the study at any time, including research data (if applicable). If you do withdraw, we will continue to maintain your contact information and will only give it to Occupational Health if required for contact tracing. We cannot guarantee anonymity as the personal contact information identifies you as a participant

QUESTIONS ABOUT THE RESEARCH? If you have questions about the research in general or about your role in the study, you can contact your local contact person, the community facilitator, and/or a research team member, whose information you will be given at the beginning of your participation. You can also contact Yvonne Bohr at 416-736-2100 ext. 40561.
This research has been reviewed and approved by the Nunavut Research Institute, the Human Participants Review Sub-Committee, York University's Ethics Review Board and conforms to the standards of the Canadian Tri-Council Research Ethics guidelines.

If you have any ethical concerns, questions about this process, or about your rights as a participant in the study, please contact either the Graduate Psychology Program office (telephone 416-736-5115 ext. 66225)

or Ms. Alison Collins-Mrakas at the Office of Research Ethics, 5th Floor, York University Research Tower (telephone 416-736-5914 or e-mail acollins@yorku.ca).

Legal Rights and Signatures (for youth over 16):

I_____, consent to participate in the research project "*Inuit Youth Develop a Virtual Qaggiq*" conducted by the LaMarsh Centre for Child and Youth Research at York University.

I have been fully informed of the objectives of the project being conducted. I understand these objectives and consent to my participation. I understand that steps will be undertaken to ensure that the information collected will remain anonymous and confidential. I also understand that, if I wish to withdraw from the study, I may do so without any repercussions.

I am not waiving any of my legal rights by signing this form. My signature below indicates my consent.

Signature Date

(Participant)

Signature Date

(Witness)

Audiotape Consent (if participating in Interviews)

I _____, give my consent to be audiotaped during discussions about the Virtual Qaggiq project. I understand that the purpose of the audio-recording is strictly for this study, and to help with the development and evaluation of mental wellness tools within the Virtual Qaggiq. My questions have been answered to my satisfaction and I agree to participate in this study. I understand that I can stop taping at any time.

I _____, give my consent for the listening of my audiotaped interview for the purpose of (please check to indicate consent):

c research

Signature Date

(Participant)

Videotape/Photography Consent (IF YOU OR YOUR COMMUNITY SELECT VIDEOTAPING/PHOTOGRAPHY AS A DESIRED ACTIVITY)

I _____, give my consent to be videotaped/photographed during discussions about the Virtual Qaggiq project. I understand that the purpose of videotaping/photography is strictly for this study, and to help with the development and evaluation of mental wellness tools within the Virtual Qaggiq. My questions have been answered to my satisfaction and I agree to participate in this study. I understand that I can stop taping at any time.

I _____, give my consent for the viewing of my videotape interview and/or photographs for the purpose of (please check to indicate consent):

c research

Signature Date

(Participant)

Re-Contact for Future Research Consent

Please check the appropriate box below and print your name:

I _____, give my consent to be contacted in the future for the purpose of (please check to indicate consent):

c follow-up to the Virtual Qaggiq research study.

Appendix B: Survey and Interview Questions

Interview Questions for Youth Leaders

Start off with an explanation of ITK principles

1. What makes you want to participate in these projects (or other mental wellness projects that you are apart of)? What draws you to this type of research?
2. What supports your participation in this project?
3. What aspects of yourself or your life might make participation in research easier? Harder?
4. When you respond to us over Facebook, what makes it easy to get back to us or what makes it hard? What makes you decide "yes I can get back to this", and what makes you decide that you can't?
5. What are some things to keep in mind when trying to engage other Inuit youth from Nunavut?
6. Are there any additional thoughts you would like to share regarding youth engagement in research that we didn't ask?