

Co-Developing and Validating the I-SPARX Wellness Questionnaire: A Community-Driven Psychometric Study with Inuit Youth in Nunavut

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Article Info

Keywords

Psychometric Evaluation
Exploratory Factor Analysis
Community-Based Participatory Action Research
Questionnaire
Culturally Specific Outcome Measure
Inuit
Mental Wellness
Adolescent Health
Nunavut

Abstract

Inuit youth in Nunavut demonstrate resilience despite enduring inequities and unmet mental health needs shaped by colonial legacies. As Inuit communities prioritize youth mental wellness, actively engaging young people in research and developing culturally relevant assessment tools is critical. This study describes the collaborative process of designing an Inuit-specific well-being survey, the I-SPARX Wellness Questionnaire, and examines its psychometric properties. Eighteen Inuit youth council members and eight adult community members from five communities in Nunavut worked with a university-based research team to identify wellness themes essential for an outcome measure evaluating an online psychoeducational intervention. This collaboration resulted in a 39-item measure assessing the effectiveness of the I-SPARX serious game in supporting Inuit youth mental wellness. Data from 117 Inuit youth, ages 12–24, across Nunavut were analyzed to assess the measure's reliability and factor structure. Results indicate strong psychometric properties, with high internal consistency and a three-factor model reflecting hope for the future, cognitive-behavioural strategies, and distress regulation. The I-SPARX Wellness Questionnaire, co-developed with Inuit youth, offers a culturally relevant, psychometrically sound tool for assessing mental wellness. This measure holds promise for future evaluations of cognitive-behavioural interventions and psychoeducational e-resources aimed at fostering the well-being of Inuit youth.

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<https://doi.org/10.32799/ijih.v21i1.45548>

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Glossary

Aboriginal Children's Health and Well-being Measure (ACHWM)

Community-Based Participatory Research (CBPR)

Exploratory Factor Analysis (EFA)

I-SPARX Wellness Questionnaire (ISPWQ)

Inuit Tapiriit Kanatami (ITK)

Nunavut (NU)

Positionality Statement

The team responsible for crafting this manuscript come from a diverse range of academic and cultural backgrounds, including three Indigenous authors who identify as Inuit, and nine non-Indigenous authors from diverse cultures who are settlers who strive to be allies.

Introduction

Inuit youth in Nunavut (NU) have shown tremendous strength in the face of extreme inequities and significant unmet mental health needs, which are deeply rooted in the historical and ongoing impacts of colonialism (Morris & Crooks, 2015; National Collaborating Centre for Indigenous Health, 2019). A salient example is youth suicide, which began to spike to unprecedented levels after communities across Nunavut were impacted by the colonial atrocities of the “government era” in the 1950s (Kirmayer et al., 1998; Kral, 2016). This period marked the forced disruption of family and interpersonal relationships and other significant social changes that no doubt acted as catalysts for an increase in self-harm in the mid-1980s. This trend remains alarmingly high today (Kral, 2016; Kral et al., 2014; Legislative Assembly of Nunavut, 2024). Currently, youth suicide is a public health emergency in Nunavut (Inuit Tapiriit Kanatami, 2021). In the most recent report from Statistics Canada, the suicide rate among Inuit was reported at 72.3 deaths per 100,000, which is nine times higher than the Canadian national average of 8 per 100,000, with the highest rates seen among Inuit youth, particularly males aged 15–24 (Kumar & Tjepkema, 2019). These statistics only partially capture the profound and painful effects of each loss, with the lives of siblings, parents, grandparents, cousins, friends, classmates, and entire communities irrevocably altered. Addressing a crisis of this magnitude requires culturally grounded, collaborative engagement involving all levels of government, local communities, and, most importantly, Inuit youth (Bohr et al., 2024; Snowball, 2019).

The research described in this article aligns with Indigenous health principles: it focuses on co-creating a wellness measure rooted in Inuit knowledge systems, emphasizing community-defined wellness indicators, and addressing the limitations of Western/Southern¹-centric health metrics. This approach is further supported by the Two-Eyed Seeing/Etuaptmunk guiding principle, an increasingly popular frame for Indigenous health research in Canada, which advocates for integrating Indigenous and Western ways of knowing (Forbes et al., 2020). While the original principle was shaped by Mi'kmaq culture, Two-Eyed Seeing is argued to reflect shared ontological insights that exist among diverse Indigenous communities, and offers flexibility to integrate the specific Indigenous worldviews of relevant communities (Roher et al., 2021). By incorporating Inuit cultural perspectives alongside established psychological frameworks, this study follows the Two-Eyed Seeing approach of remaining scientifically rigorous while being rooted in the lived experiences of Inuit Youth. This dual perspective fosters a more holistic understanding of mental wellness, bridging Indigenous and academic knowledge systems in a way that respects and empowers Inuit communities.

The Importance of Culturally Specific, Community-Developed Intervention Tools and Wellness Measures For Nunavummiut

To effectively address the pressing crisis described above, intervention tools must build on existing cultural and community strengths, integrate and prioritize local context, and be accessible and sustainable across Nunavut, where mental health resources are limited (Anderson & Smylie, 2009; Bohr et al., 2024; Young et al., 2013). Similarly, measures used to evaluate these tools must resonate with communities, reflecting the outcomes they value (Young et al., 2013). Accordingly, measures of well-being used to evaluate the effectiveness of intervention tools in Nunavut must be co-developed with Inuit youth and communities to ensure cultural specificity and prevent assuming a collective identity of all Indigenous communities. These measures must align with youths' unique understanding of health and well-being (Anderson & Smylie, 2009; Bohr et al., 2023). Such an approach is especially vital for prevention and intervention research conducted in collaboration with Indigenous

¹In Northern Canada, what would elsewhere be called a “Western” or WEIRD knowledge system is termed “Southern.”

communities, as most health indicators used in Canada and North America were generally developed through a Western/Southern lens, making them less relevant or valid for Inuit contexts (Bohr et al., 2023; Glauser, 2020). A culturally appropriate measure for assessing Inuit youth well-being may better capture changes resulting from wellness programs and intervention tools (Bohr et al., 2023). Lastly, using measures validated with Inuit communities in Nunavut may help ensure that Nunavummiut youth can report their mental wellness more accurately (Bohr et al., 2023).

The Current Study

This study is embedded in the multi-year, community-based participatory action research initiative, Making I-SPARX Fly in Nunavut, which sought to evaluate the effectiveness of an adapted gamified psychoeducational e-tool (or serious game) designed to support Inuit youth mental health (see Bohr et al., 2024 for a comprehensive overview of that project). Specifically, the current report seeks to:

1. Describe the youth and community-directed process of designing a culturally specific outcome measure resulting in the I-SPARX Wellness Questionnaire (ISPWQ); and
2. Provide an overview of the psychometric properties of the ISPWQ.

Relationship

This study was developed through a collaborative partnership between the York University research team and Inuit youth and community members from five communities in Nunavut, following a community-based participatory research (CBPR) approach. Inuit youth and community representatives consented to become advisors who guided both the design of the game and overall process of the I-SPARX research project. They were actively engaged in all phases of the project, including the co-development of the ISPWQ to ensure the measure reflected culturally relevant wellness themes and priorities.

The research process was grounded in Inuit Qaujimajatuqangit (Inuit traditional knowledge) and aligned with the ethical principles outlined in Inuit Tapiriit Kanatami's (2018) National Inuit Strategy on Research, emphasizing community ownership of data, Indigenous sovereignty, and cultural safety.

Ethics approval for this study was obtained through the University Human Participants Review Committee (HRPC), which included a review by the Indigenous Advisory Committee (Research Certificate #2018-089). Additionally, a research license was granted by the Nunavut Research Institute (NRI Research License #05-009-17R-M), ensuring compliance with territorial research regulations. To facilitate accessibility and informed participation, consent forms were translated into Inuktitut and Inuinnaqtun, reflecting a commitment to linguistic and cultural inclusivity.

Formal research agreements were established with local partners, reinforcing ethical, respectful, and community-driven research practices. This collaboration prioritized reciprocity, ensuring that Inuit youth and community members had a direct role in shaping the research process, including developing, implementing, and validating the wellness assessment tool.

Methods

Procedure

Development of the I-SPARX Wellness Questionnaire.

In our review of existing measures of Indigenous youth wellness, the research team identified the Aboriginal Children's Health and Wellbeing Measure (ACHWM; Young et al., 2013) as a culturally relevant and promising model for evaluating the effectiveness of I-SPARX in Nunavut communities. Designed and revised in collaboration with Indigenous communities, the ACHWM is a 62-item measure that captures culturally relevant facets of health and well-being among Indigenous youth across Canada, including some Inuit youth (Baker-Anderson et al., 2015; Young et al., 2017). The validity and reliability of the measure were initially established with a First Nations community of the Wiikwemkoong Unceded Territory (Young, Wabano, Ritchie, et al., 2015; Young, Wabano, Usuba, et al., 2015; Young et al., 2016). However, no studies to date have assessed the scale's psychometric properties with Inuit youth residing in Nunavut.

In alignment with the principles of community-based participatory research (CBPR), adapting this measure aimed to centre collaboration and cultural relevance. Inuit youth representatives and participants were provided with consent forms in the language of their choice (either English, Inuktitut, or Inuinnaqtun). The study's purpose, procedures, risks, benefits, and confidentiality measures were also communicated verbally and/or through a youth-friendly video. All youth representatives and participants were compensated at rates consistent with those provided to Southern-based researchers, with adjustments to reflect the higher cost of living and resource expenses in the Canadian Arctic (i.e., approximately \$40/hour).

In April 2019, during a three-day research meeting in Iqaluit/ᐃᓐᓴᓴᓴᓴ, NU, part of the Making I-SPARX Fly in Nunavut project, the York University-based research team introduced the ACHWM to 18 members of the project's youth council and 8 older community members. The youth council, which comprised Inuit youth representatives aged 13–21 (4 females and 14 males) from five Nunavut communities (Qamani'tuaq/ᓐᓴᓴᓴᓴᓴ/Baker Lake, Iqaluktuuttiaq/ᐃᓐᓴᓴᓴᓴᓴ/Cambridge Bay, Kinngait/ᓐᓴᓴᓴᓴᓴ/Cape Dorset, Panniqtuuq/ᓐᓴᓴᓴᓴᓴ/Pangnirtung, and Mittimatalik/ᓐᓴᓴᓴᓴᓴ/Pond Inlet), provided critical feedback. I-SPARX youth representatives expressed their approval of using the ACHWM; however, they noted its length as a major drawback for its use with Inuit youth, and felt some questions needed to be modified. The decision was made to co-create a shorter, culturally more specific questionnaire for the I-SPARX tool evaluation, tailored to address the concerns of Inuit youth. The adaptation process was carried out through extensive discussions with the youth representatives during the Iqaluit Youth Summit (see Figure 1) and a subsequent one-day meeting with youth from Iqaluktuuttiaq/ᐃᓐᓴᓴᓴᓴᓴ/Cambridge Bay who visited the York University in July 2019 (two females and two males, ages 15–17). All discussions centred on themes that youth identified as crucial to Inuit youth wellness: cultural and community connectedness, interpersonal relationships, emotional well-being, and physical wellness. Using the ACHWM model, youth participants contributed to refining questionnaire items to ensure they resonated with Inuit cultural and experiential contexts. The team also addressed the need to have the measure assess the learnings derived from the I-SPARX intervention, which is based in Cognitive Behavioural Therapy (CBT).

Figure 1

I-SPARX Youth representatives reviewing the I-SPARX game and discussing the changes needed to adapt the game and evaluation to better represent Inuit culture. Photo shared with permission of those photographed

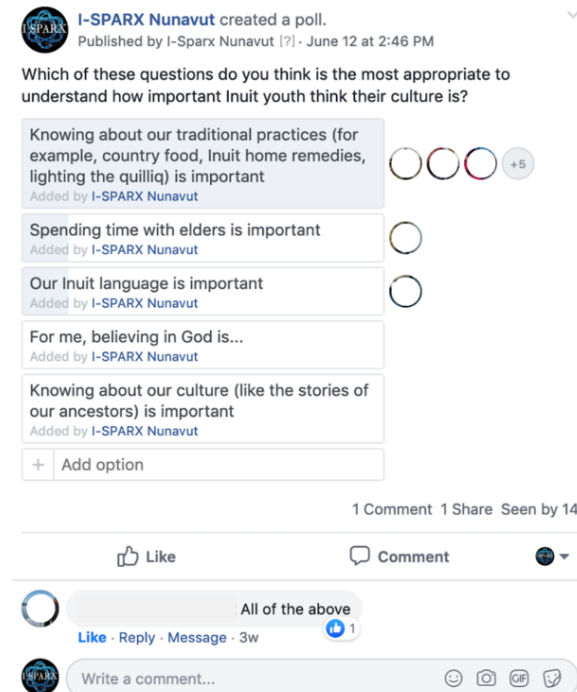


To ensure inclusivity and gather input from youth unable to attend in-person meetings, the research team published Facebook polls on a private group with youth representatives to identify the most salient themes reflecting the youth's understanding of wellness. Redundant items were removed based on collective feedback provided through this platform (see Figure 2 for an anonymized example of the Facebook polls). The remaining items were further refined and consolidated during subsequent meetings held by the university-based research team, which maintained ongoing consultation with youth representatives to uphold cultural and contextual relevance.

The research team then mapped the adapted items onto the specific objectives of the I-SPARX intervention. In alignment with the participatory ethos of the I-SPARX initiative, the youth representatives reviewed these items while engaging with the game to validate their relevance and applicability as a pre-and post-evaluation measure. The iterative process, grounded in continuous collaboration, ensured that the questionnaire was culturally resonant and functionally aligned with the goals of the I-SPARX intervention.

Figure 2

An anonymized example of the Facebook polls used to gather additional youth feedback on questionnaire items

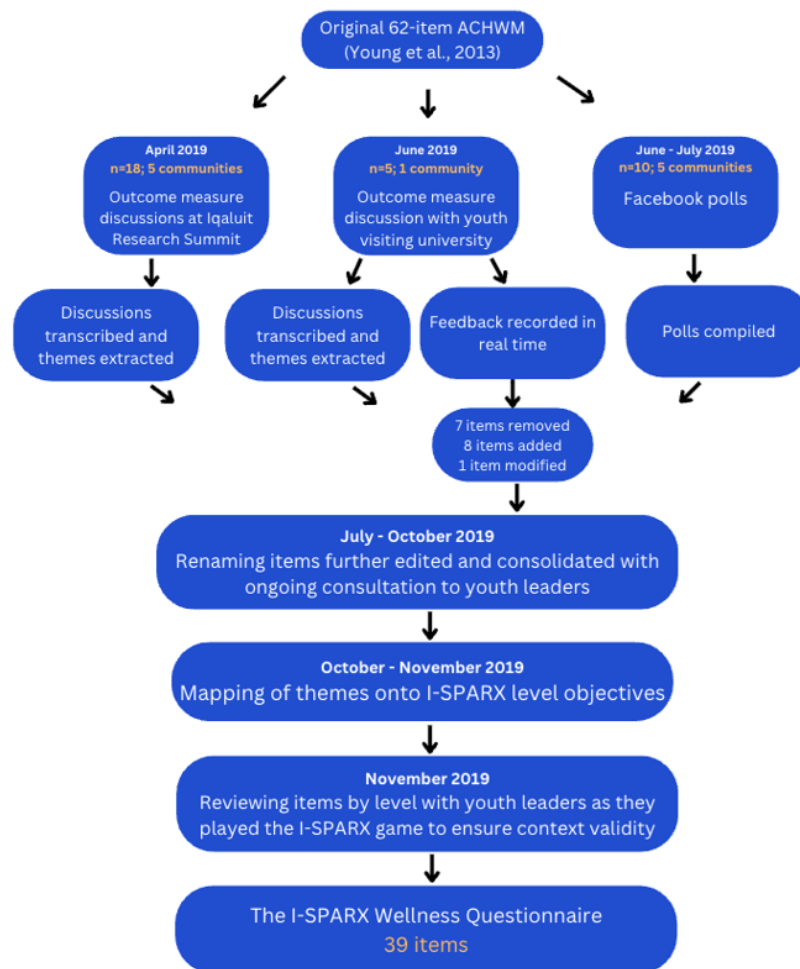


The final ISPWQ comprised of 39 items (see Appendix for a list of final items). Of these, 30 items were designed to detect changes in wellness that may be related to skill acquisition after playing I-SPARX (e.g., “I have strategies to help me solve conflict with others”; “I have hope for my future”). The remaining nine items were not expected to change pre-post gameplay, providing a broader assessment of youths’ overall well-being (e.g., “I feel safe in my community”).

To ensure cultural relevance, a Likert scale modelled after the ACHWM was retained, offering five response options ranging from “Never” to “Always.” The ISPWQ was available in English, with the option to request a translation into Inuktitut or Inuinnaqtun if requested. However, no youth participants requested a translated version during the I-SPARX tool evaluation. See Figure 3 for a flow chart outlining the adaptation of the outcome measure, which reflects this work’s iterative and collaborative nature.

Figure 3

The flowchart with an overview of the adaptation process of the ACHWM to develop the ISPWQ, including the number of youth representatives (n) involved at each stage of development



Use of the ISPWQ in the I-SPARX evaluation.

The ISPWQ was a pivotal tool in the Nunavut-wide evaluation of I-SPARX, further detailed in a prior study (Bohr et al., 2024). Inuit youth aged 12–24 were invited to participate in the evaluation. Recruitment efforts emphasized community engagement and accessibility, leveraging social media platforms (e.g., Facebook, Instagram, Twitter), flyers in community spaces and schools, and outreach through community-based facilitators. Participants registered either online or through a local facilitator. They completed the ISPWQ on the Qualtrics survey platform before and after playing I-SPARX.

To assess test-retest reliability, a subset of participants was invited to complete the measure one additional time, one month before playing the game. However, due to high participant attrition (only 16 participants completed the pre-test one month prior), this procedure was discontinued,

and test-retest reliability could not be analyzed. Overall, 117 participants completed the pre-play questionnaire, generating the data used in this analysis.

The questionnaire items were divided across four pages on Qualtrics, with each page containing one attention-check question (e.g., “Please select ‘Always’ for this item”). Participants failing to respond correctly to any of the four attention-check items were removed from the study, excluding 18 participants. Additionally, an Item Response Theory (IRT) model was employed to assess the congruence of individual participants’ response patterns with expected patterns. This “person fit” statistic identified participants with extreme response patterns (± 4 SDs), leading to the exclusions of four additional participants.

Participants

The data of 95 participants from 17 Nunavut communities and one from Ontario were included in the analyses of the I-SPARX Wellness Questionnaire. Participants ranged in age from 12–24, with a mean of 17.57 (SD = 2.87) and a median of 17. The majority of the participants identified as female (59%), with the remainder identifying as male (38%) or trans-male (2%), and one participant preferred not to indicate their gender. All participants identified as Inuit and were raised in Nunavut; three individuals were residing outside of the country at the time of the study.

Results

Factor Structure

The psychometric properties of the ISPWQ were examined using Exploratory Factor Analysis (EFA), a descriptive process that identifies latent factors underlying a measure. The original ACHWM represented the four quadrants of the medicine wheel (emotional, spiritual, physical, and mental well-being). However, the ISPWQ was adapted to reflect additional and alternative content, such as awareness and development of tools to protect and improve wellness better suited to Inuit youths’ specific cultural and contextual needs. Given this unique context, EFA was employed to (1) identify latent factors underlying the measure; (2) assess the fit of the factor model to the data; and (3) identify items that may require removal.

The factor analysis was conducted using R, leveraging tools within the psych package. Initial tests indicated the data’s suitability for factor analysis: Bartlett’s test of sphericity ($\chi^2(741) = 1837.6$, $p < .001$) and the Kaiser-Meyer-Olkin test of sampling adequacy (overall score = 0.792), both of which suggest the data are likely suitable for factor analysis. Several methods were utilized to determine the optimal number of factors, including parallel analysis, scree plot, comparison data analysis, Empirical Kaiser Criterion, and the Hull Method, all indicating a 3-factor model as the most appropriate.

Subsequently, a 3-factor EFA was conducted. Factor loadings, communalities (proportion of variance within items explained by the factor structure), and item complexities (degree of cross-loading) were evaluated. The initial EFA model fit was adequate ($RSM = 0.07$, $BIC = -136.81$, $TLI = 0.87$, and $RMSEA = 0.04$), with clear factor structures emerging (see Table 1). Most items exhibited strong single-factor loadings with acceptable communalities. Four items (3, 9, 12, and 28) were removed due to inadequate loadings, inappropriate cross-loadings, low communalities, and/or poor theoretical alignment with the corresponding items in the factor. The EFA was then re-run, resulting in a stable model fit with slight improvements ($RSM = 0.07$, $BIC = -99.42$, $TLI = 0.88$, and $RMSEA = 0.04$). Factor loadings for remaining items remained consistent.

Table 1
Original EFA, including all items

Item #	Factor 1	Factor 2	Factor 3	Communality	Complexity
1	0.45			0.31	1.26
2	0.35	0.47		0.44	2.10
3			-0.38	0.16	1.57
4	0.45		0.21	0.40	1.68
5		0.53		0.34	1.06
6		0.46		0.39	1.48
7	0.57			0.48	1.19
8	0.86			0.66	1.03
9		0.42		0.25	1.69
10	0.67	0.23		0.63	1.24
11	0.31		0.42	0.33	1.91
12	-0.32	0.57		0.27	1.61
13	0.76			0.56	1.02
14		0.21	0.70	0.61	1.18
15			0.55	0.28	1.06
16		0.55		0.41	1.16
17		0.48	0.31	1.16	
18	0.42			0.31	1.43
19	0.44	0.22	-0.24	0.30	2.09
20			0.78	0.53	1.08
21	-0.71			0.41	1.14
22	0.47	0.26		0.39	1.49
23		0.42	0.24	0.40	1.87
24		0.41		0.27	1.29
25	0.53		0.27	0.40	1.51
26		0.29	0.38	0.28	1.89
27		0.57		0.33	1.35
28	0.31	0.47		0.49	1.77
29			0.49	0.25	1.35
30	0.31	-0.22	0.49	0.35	2.15
31	-0.58	0.24	0.36	0.31	2.07
32	0.62			0.54	1.15
33		0.66		0.36	1.13

34	0.29	0.45		0.36	1.86
35		0.46	-0.22	0.17	1.57
36	0.79	-0.37		0.55	1.47
37	0.30	0.28		0.24	1.99
38	0.53	0.21		0.38	1.43
39	0.34	0.43		0.53	2.20

Note. Only relevant cross-loadings (<0.20) were considered notable and are included in the table.

The final set of factors were descriptively named based on their item content:

- Factor 1: Hope for the future and present appreciation within the context of culture and community
- Factor 2: Cognitive-behavioural strategies within the context of community connectedness
- Factor 3: Distress and emotion regulation

See Table 2 for the final list of items and their associated factor loadings organized into relevant subscales.

Table 2

Items, subscales, and factor loadings after final EFA

Subscale and Item Wording	Factor Loading
Hope for the Future and Present Appreciation	
1. I feel loved by other people around me	0.42
4. I laugh and have fun	0.42
7. I have hope for my future	0.55
8. I think that learning is an important part of my future	0.85
10. I appreciate what I have	0.66
13. There is at least one really good person in my life who is there for me	0.74
18. I have time on my own to relax with an activity I like (e.g., music, sports, etc.)	0.43
19. I can recognize when I am having gloomy or negative thoughts	0.42
21. I think that knowing about cultural practices (storytelling, country food, craft making, traditional healing, spirituality, etc.) is important	-0.71
22. I have activities that can help me when I am feeling upset or stressed	0.45
25. I feel like hurting myself when I am upset or angry	0.52
31. I miss doing things that used to be fun	-0.60
32. There are things in my life that make me happy	0.60
36. I break things when I am upset or angry	0.82

38. I feel like good things will happen	0.51
Cognitive-Behavioural Strategies	
2. Even when things are not going well for me, I remind myself that things will get better	0.41
5. I have enough energy	0.59
6. I feel like I matter in my community	0.55
16. When I feel a bad mood coming on, I have tools I can use to make myself feel better (e.g., talking to a friend, writing about how I am feeling)	0.58
17. I make healthy choices that send me on a good path in life	0.53
23. I am able to replace gloomy or negative thoughts with more positive ones	0.42
24. When I get sad or upset, I get over it quickly	0.46
27. I am comfortable asking for support when I need it	0.53
33. I am physically active (on the land, organized sports, playing with friends, etc.)	0.62
34. I have strategies that help solve conflict with others	0.52
35. I spend time listening to and learning from Elders	0.37
37. I feel like my relationships at school are positive	0.33
39. I have strategies I can use to help myself cope with gloomy or negative thoughts	0.47
Distress and Emotion Regulation	
11. I feel like giving up	0.46
14. I feel lonely	0.71
15. I get mad or cry when something small goes wrong	0.56
20. I get in a bad mood	0.77
26. I feel overwhelmed by everything I have to do	0.41
29. I get so worried that I feel it in my body (for example, I feel butterflies in my stomach or my shoulders get tense)	0.50
30. I hurt other people when I am upset or angry	0.51

Note. Prior EFA analyses (see results for details) led to the removal of four items from the original scale: 3. “Learning is hard for me”; 9. “I feel connected to the land”; 12. “I get a good night’s sleep”; and 28. “I feel safe in my community.”

Internal Consistency

Internal consistency of the final item set was assessed using Cronbach’s alpha and McDonald’s omega, yielding scores of 0.92 and 0.94, respectively. These results indicate strong internal reliability among the items, affirming the measure’s psychometric robustness.

This study details the development and psychometric evaluation of the ISPWQ for Inuit youth residing in Nunavut. Our findings indicate that the measure exhibits strong content validity, which is achieved through its development in collaboration with Inuit youth and community members and by demonstrating robust psychometric properties. The factor analysis supports a three-factor model comprising:

- The ISPWQ provides researchers with a culturally relevant outcome survey tool when collaborating with Inuit youth in Nunavut. It may offer a means to conduct wellness research using a measure co-created with youth from five communities across the territory. Incorporating culturally valid outcome measures in health research is essential, especially given the current healthcare landscape in Canada, where tools often need to be tailored to Indigenous communities (Bohr et al., 2023; Glauser, 2020). This study addresses this gap by providing a psychometrically sound measure rooted in Inuit cultural and community values.

As the development and evaluation of novel, culturally grounded e-tools and interventions for Inuit youth mental wellness continue (e.g., ᐅᐅᐅᐅᐅᐅᐅᐅᐅ ᐅᐅᐅᐅᐅᐅᐅᐅᐅᐅ ᐅᐅᐅᐅᐅᐅᐅᐅ/Virtual Qaggiq Project (2022–2026)), the ISPWQ emerges as a valuable resource for researchers, clinicians, and health professionals engaged in cultural and CBT-based mental wellness work. By using this measure, stakeholders may gain meaningful insights into the mental wellness of Nunavummiut youth, ensuring that wellness outcomes are evaluated through a culturally appropriate and psychometrically robust lens.

Strengths and Dilemmas

This study demonstrates several notable strengths. Representation from 17 Nunavut communities highlights the study's broad geographical research and community inclusivity. Most importantly, it is the first to examine a culture-specific Indigenous wellness measure developed in the context of a Nunavut-wide evaluation of the I-SPARX serious game. The tool is unique because it was designed to assess aspects of mental wellness specific to Inuit youth. The ISPWQ provides a culturally appropriate method of evaluating changes in Inuit youth participants' mental wellness pre- to post-intervention in mental health research. This development of the ISPWQ addressed a need voiced by youth participants during a pilot study conducted in 2016 (Bohr et al., 2023). The York University research team also successfully adapted to youth-friendly communication, such as Facebook polls and Messenger, to maintain youth engagement when in-person communication was not feasible. Additionally, the study demonstrated a solid commitment to building research capacity among I-SPARX Youth representatives and community members, who were actively involved in all aspects of the project, including questionnaire development and knowledge mobilization (Inuit Tapiriit Kanatami, 2018). The ISPWQ contributes to the growing body of culturally specific wellness measures by centering Inuit perspectives and co-creating tools with community members, addressing gaps in Western/Southern approaches to mental health assessment.

The project team, however, also encountered challenges reconciling competing priorities. The first of these is an expressed preference on the part of the communities for post-intervention interviews and focus groups rather than using a measure in the first place. Participants expressed significant value in freely expressing their thoughts, ideas, and feedback, which is not achievable via a Likert-style measure. While interviews allow for more in-depth and nuanced discussions on sensitive topics (i.e., mental wellness) than a questionnaire can allow (Flanagan et al., 2015), interviews are not always feasible due to available time and resources, nor are they always preferable depending on the research question at hand. As such, the development of questionnaires is essential, but considerable care must be taken to approximate the depth and nuance of an interview as closely as possible.

Another challenge was to balance the need to honour youth and community feedback with the rigorous standards of psychometric measure design. For example, it was challenging to balance youths' preference for a concise measure with the need to cover significant domains of wellness (a necessity to establish good content validity), particularly domains that would capture changes in wellness post-play. Further, discussions with Inuit youth council members indicated that culturally adapting the measure was more meaningful to them than verifying its psychometric properties. Youth emphasized that engaging in in-person collaboration to ensure the measure's relevance to Inuit wellness held greater significance than statistical validation. Such preferences highlight a frequent dilemma in community-based research: the constructive tensions between addressing community-driven needs and adhering to what can be termed "colonial" Western/Southern empirical research approaches.

Future Research and Next Steps

Future research should explore additional psychometric properties of the measure, such as its construct validity and test-retest reliability, by contrasting it with more established psychometric tools commonly used in wellness research. Confirmatory factor analyses should also further validate the factor structure identified in this study. Furthermore, translating the questionnaire into Inuktitut and Inuinnaqtun is an important step to enhance its accessibility and cultural relevance, ensuring that the measure reflects the linguistic diversity and cultural specificity of the Nunavummiut communities it is designed to serve. Unlike Western/Southern tools, the ISPWQ integrates cultural relevance by incorporating Inuit-specific indicators such as community connectedness and cultural

practices. Lastly, given the collective and collaborative development of the wellness measure, the ISPWQ belongs to and is controlled by the Inuit scholars, youth, and community members involved in the project (Inuit Tapiriit Kanatami, 2018). As such, the ISPWQ itself along with the dataset generated and analyzed during the current study can be made available with their permission. We hope that this questionnaire will be utilized in support of Inuit self-determination in research by offering Inuit Nunavummiut a community-designed measure for locally governed data collection, analysis, and outcome evaluation in Nunavut.

Conclusion

This study addressed Inuit youth project representatives' and community members' local needs and preferences by designing a culturally specific outcome measure modelled after the ACHWM. The development of the ISPWQ and exploratory evaluation of its psychometric properties indicate that it may be a robust measure of mental wellness for Inuit youth residing in Nunavut. The measure appears to assess three distinct but interconnected factors: hope for the future and present appreciation (within the context of culture and community); cognitive-behavioural strategies (within the context of community connectedness); and distress and emotion regulation. The ISPWQ contributes to the small but growing number of wellness measures intentionally designed by and for Indigenous communities. Its culturally grounded approach and psychometric soundness offer researchers, clinicians, and policymakers a meaningful tool for supporting mental wellness in those communities.

Acknowledgements

We want to thank the Inuit youth project leaders and their communities for their devoted efforts in designing a community-developed outcome measure to assess the usefulness of the Inuit-SPARX (I-SPARX) serious game. We are incredibly thankful to the Hamlets of Qamani'tuaq/ᑭᓄᓚᓂᑦᑐᑦᑕᓄᓐ/Baker Lake, Iqaluktuuttiaq/ᐃᑭᓄᓚᑐᑦᑕᓄᓐ/Cambridge Bay, Kinngait/ᑭᓄᓚᓂᑦᑐᑦᑕᓄᓐ/Cape Dorset, Panniqtuuq/ᑭᓄᓚᓂᑦᑐᑦᑕᓄᓐ/Pangnirtung and Mittimatalik/ᑭᓄᓚᓂᑦᑐᑦᑕᓄᓐ/Pond Inlet. We are grateful for the enduring relationships built with community members in Nunavut over the past nine years.

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Appendix

List of the final 39 items retained in the ISPWQ to evaluate the I-SPARX project

1. I feel loved by other people around me
2. Even when things are not going well for me, I remind myself that things will get better
3. Learning is hard for me
4. I laugh and have fun
5. I have enough energy
6. I feel like I matter in my community
7. I have hope for my future
8. I think that learning is an important part of my future
9. I feel connected to the land
10. I appreciate what I have
11. I feel like giving up
12. I get a good night's sleep
13. There is at least one really good person in my life who is there for me
14. I feel lonely
15. I get mad or cry when something small goes wrong
16. When I feel a bad mood coming on, I have tools I can use to make myself feel better (e.g. talking to a friend, writing about how I am feeling)
17. I make healthy choices that send me on a good path in life
18. I have time on my own to relax with an activity I like (e.g. music, sports, etc.)
19. I can recognize when I am having gloomy or negative thoughts
20. I get in a bad mood
21. I think that knowing about cultural practices (storytelling, country food, craft making, traditional healing, spirituality, etc.) is important
22. I have activities that can help me when I am feeling upset or stressed
23. I am able to replace gloomy or negative thoughts with more positive ones
24. When I get sad or upset, I get over it quickly
25. I feel like hurting myself when I am upset or angry
26. I feel overwhelmed by everything I have to do
27. I am comfortable asking for support when I need it
28. I feel safe in my community

29. I get so worried that I feel it in my body (for example, I feel butterflies in my stomach or my shoulders get tense)
30. I hurt other people when I am upset or angry
31. I miss doing things that used to be fun
32. There are things in my life that make me happy
33. I am physically active (on the land, organized sports, playing with friends, etc.)
34. I have strategies that help solve conflict with others
35. I spend time listening to and learning from elders
36. I break things when I am upset or angry
37. I feel like my relationships at school are positive
38. I feel like good things will happen
39. I have strategies I can use to help myself cope with gloomy or negative thoughts