Long-Term Engagement:

Exploring opportunities for family engagement with trails

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FAMILIES WITH CHILDREN UNDER 14 YEARS OLD

Children under 14 yo

make up **16.7%** of the population of La Peche.

Statistics Canada | Statistique Canada

> *Kids who engaged in outdoor activities before age 11 are more likely to engage in environmental attitudes as adults* **(Wells, 2006).**

Background

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What factors influence long-term family engagement with trails, including Sentiers Wakefield Trails?

OBJECTIVES

- What factors attract and influence families to involve with SWT?
- What are the barriers that affect the relationship between families and SWT?
- What is the impact of long-term family engagement on the financial sustainability and operational effectiveness of the Trails organization?

Problem Space

Recruitment

59

PARTICIPANT SURVEY

Quantitative data from families with children about their connection with trails, it also served as a tool to recruit interview participants.

2

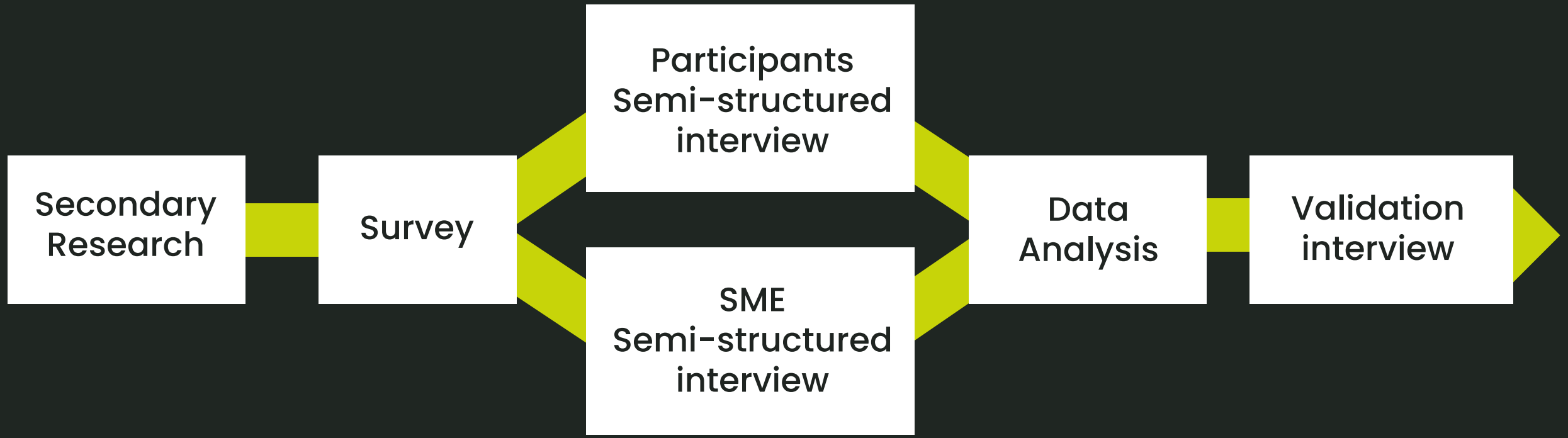
PARTICIPANT INTERVIEW

Families insights offer a deeper look into their use of trails and their connection with their kids.

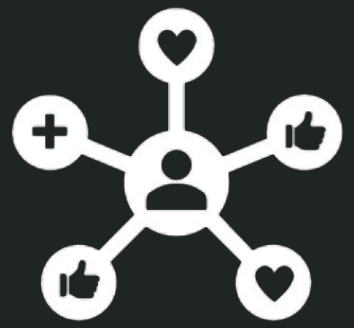
5

SME INTERVIEW

In order to gain expert insights and learn about trail management and families relationship with trails.



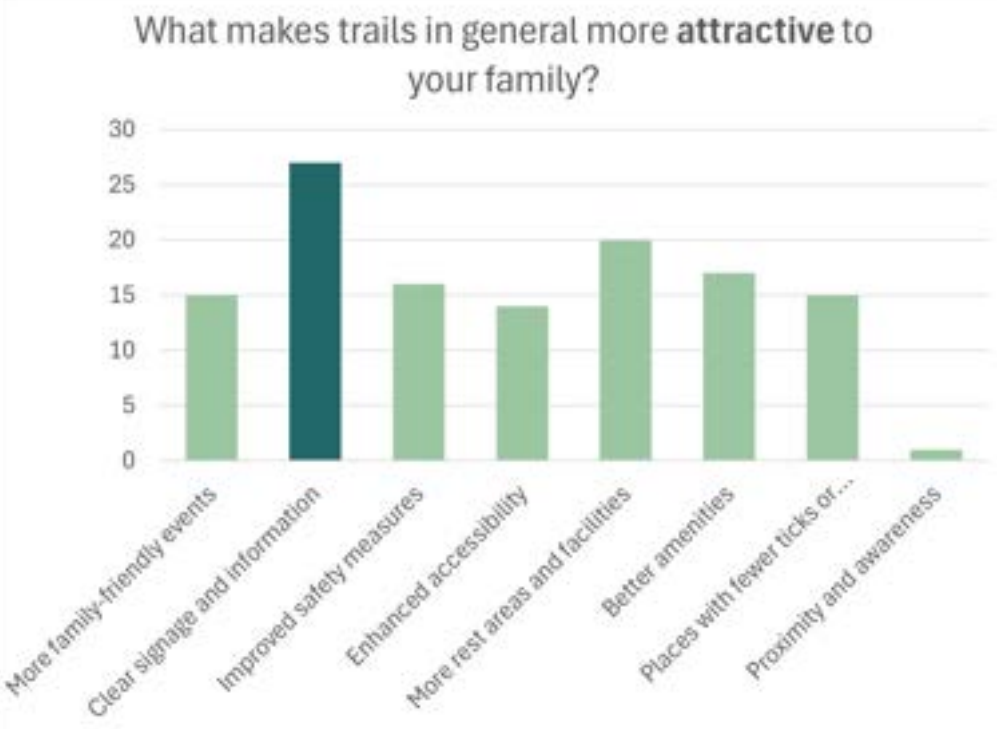
Research Methods

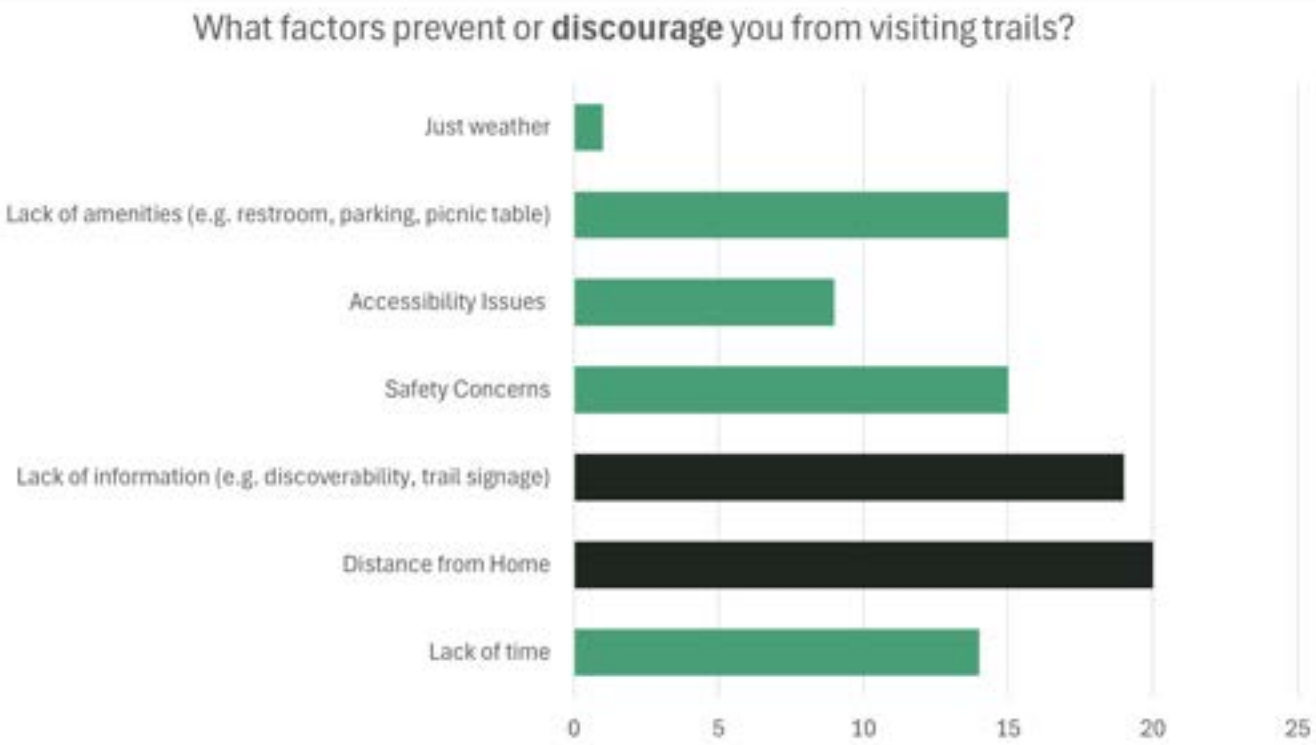


Research Findings

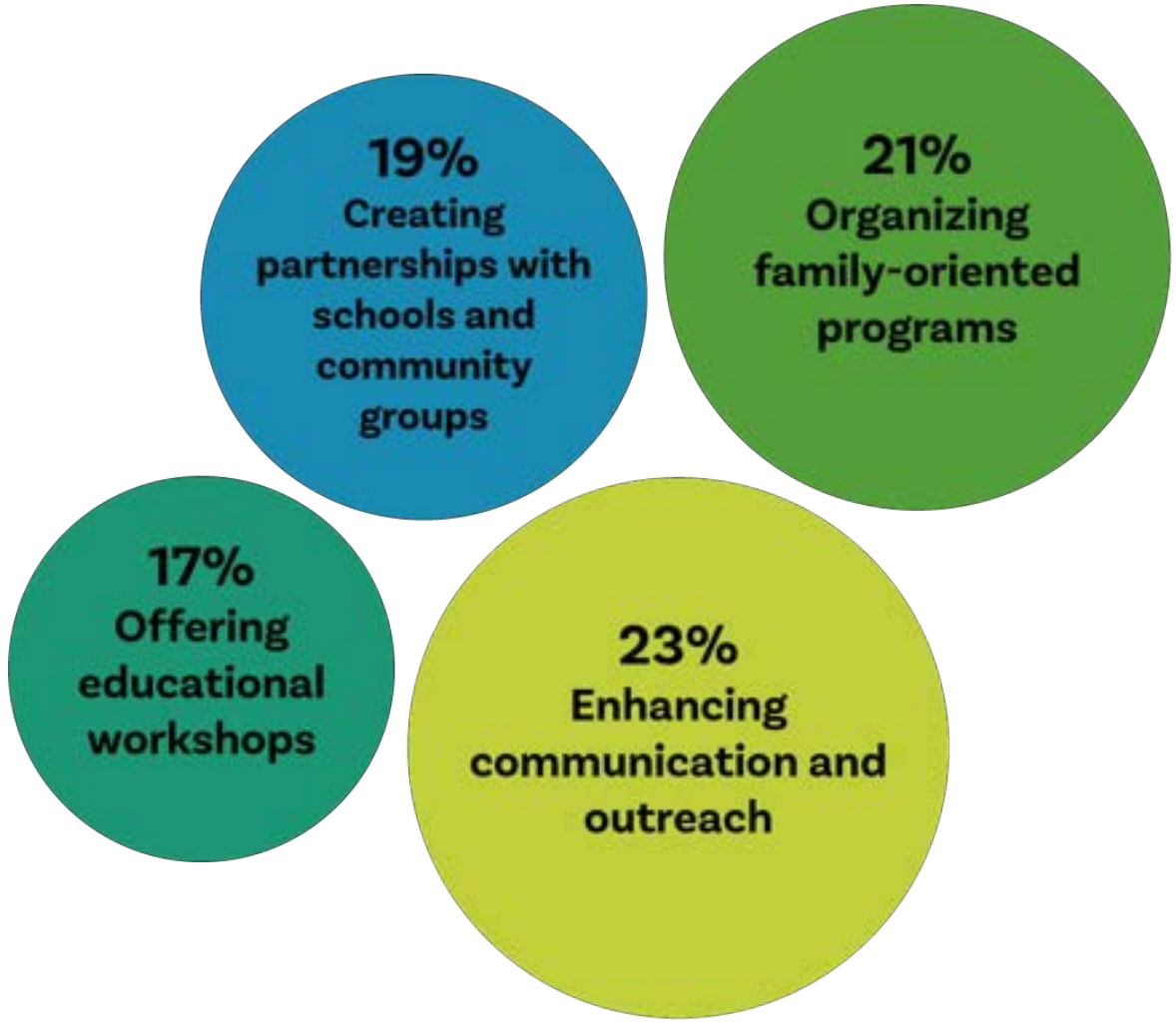
The survey shows that **20.43%** of respondents find the **lack of information (e.g., discoverability, signage) discouraging**.

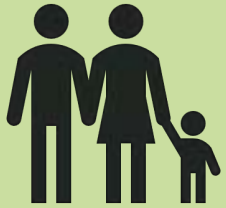
Meanwhile**, 21.6%** said that **clear signage and information would make trails more appealing**. This highlights a strong demand for improved trail maps, informational boards, and wayfinding tools.





The survey shows that **23.76%** of respondents believe **enhancing communication and outreach** would increase family engagement, while **20.79% suggest organizing family- oriented programs**.





Long term Family Engagement and Active Participation in Trails

- Families value trails that **have different activities and events to offer** a sense of adventure and keep the kids entertained.
- Families enjoy **closer and convenient** trails which are accessible for everyone.
- Families **prefer amenities like free parking** near trails and ability to bring dogs.

> *In our community, people take pride in having trails nearby, and being able to hike or bike on them frequently has helped keep our family engaged with the outdoors.* Participant

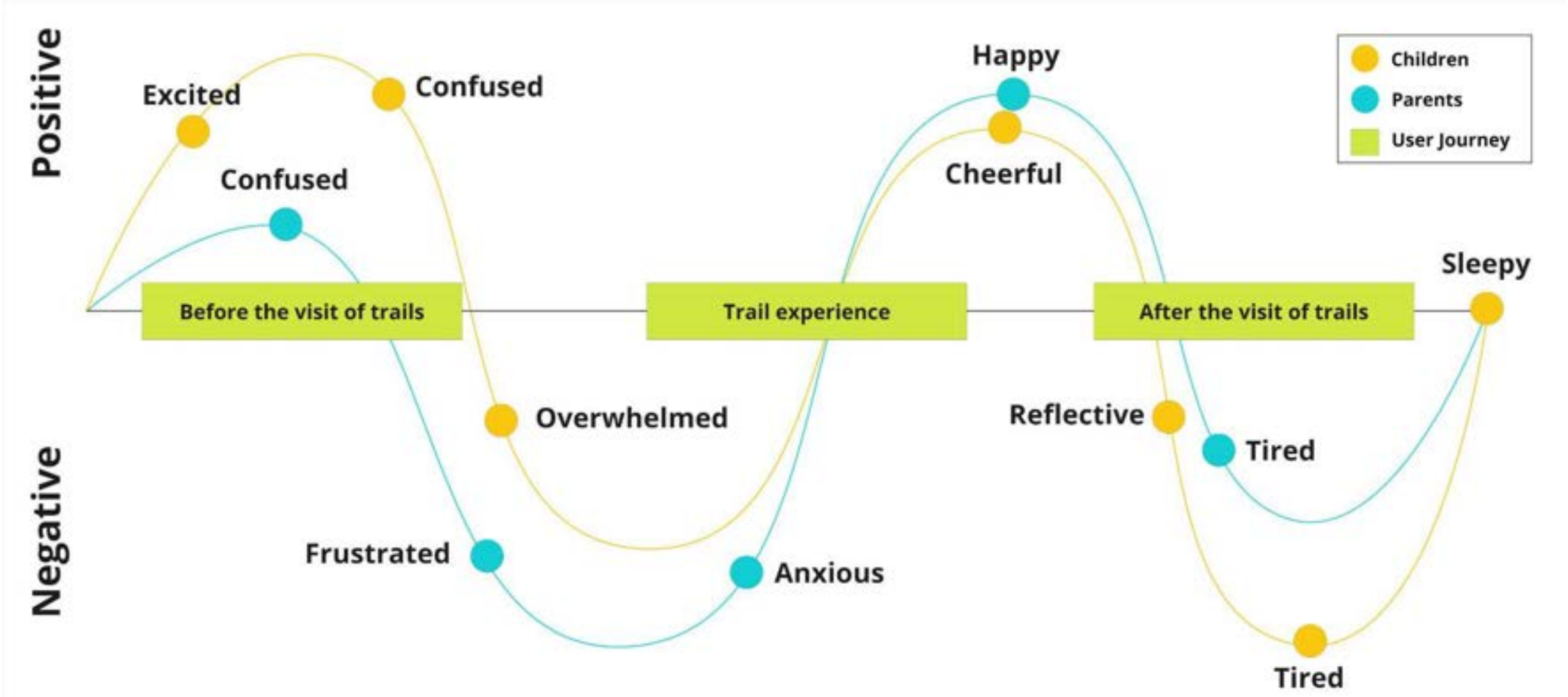
> *Trails have proven invaluable for bringing families together; I often see intergenerational engagement that strengthens family bonds and supports long-standing traditions.* SME

Community Learning Through Outdoor Education and Nature Interpretation

There's a shift towards **outdoor learning**, emphasizing the need for **wayfinding skills, accessible trails, and support for interpreting nature**, which enhances community engagement and learning.

> *My kids loved the educational storyboards on the Fairburn trails; they made the outing both fun and informative.* Participant

> *"When we introduce children to conservation and the importance of green spaces, it fosters a lifelong commitment to environmental advocacy.* SME


Positive
Negative
Children
Parents
User Journey
Excited
Confused
Confused
Happy
Cheerful
Sleepy
Before the visit of trails
Trail experience
After the visit of trails
Overwhelmed
Reflective
Tired
Frustrated
Anxious
Tired

Journey map

Key Insights

1. Families prefer trails that offer amenities such as parking and picnic areas, as these make outdoor activities more inviting and feasible for all family members.

2. The convenience and variety of activities offered by a trail are key drivers of family engagement with outdoor spaces.

3. Family decisions on trail use are heavily influenced by safety considerations, highlighting their need for adequate signage, informative maps, and accessible trail details.

4. Outdoor education fosters family interactions with nature and encourages long-term engagement with trails.

How might we?

Design **adaptable outdoor** experiences that integrate **educational elements**, fostering family bonding and encouraging long-term engagement with trails for families with diverse interests and skill levels?

Solution Intervention

Card Deck for All

A **trail-based card game system** that combines **outdoor education with family fun**.

This engaging deck inspires **year-round exploration, learning, and quality family time in nature.**

FEATURES

- Games for all ages
- Four game categories
- Bilingual: Double-sided cards in french and english

Take, Clip & Play

TAKE CARDS AT THE BEGINNING OF THE TRAIL

CLIP THEM IN THE CARABINER

PLAY ON THE TRAILS WITH YOUR FAMILY

A **trail-based card game system** that combines **outdoor education with family fun**. Featuring **age-tailored** activities like trivia, scavenger hunts, and learning challenges.
This engaging deck inspires **year-round exploration, learning, and quality family time.**

Environment Discovery

Sensory Awareness

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Navigation and Adventure

Mark your path

1. When you reach a fork in the path, **leave a marker** to let others know your hike path.

2. **Repeat this every time you make a decision** on which way to go.

*Use tracking symbols or create an arrow with sticks and stones.

Age 5+

DID YOU KNOW? Wayfinding can boost brain health, especially in the hippocampus which is responsible for orientation, spatial cognition, and memory.

Marquez votre chemin

1. Lorsque vous atteignez une bifurcation sur le chemin, laissez un marqueur pour informer les autres de votre chemin de randonnée.

2. Répétez cette opération chaque fois que vous prenez une décision sur la voie à suivre.

*Utilisez des symboles de suivi ou créez une flèche avec des bâtons et des pierres.

Ans 5+

SAVIEZ-VOUS? L'orientation peut améliorer la santé de l'hipocampe, responsable de l'orientation, de la cognition spatiale et de la mémoire

History and Narration

Covered Bridge

Built in 1915, this was one of the first bridges to connect the two sides of the Gatineau River.

It was destroyed by fire in 1984, but the village raised money to rebuild it.

The new Gendron covered bridge was completed in 1998 and is only for pedestrians.

Age 7+

DID YOU KNOW? The current Bridge includes some original pieces from the first bridge, such as the supporting pillars.

Pont couvert

Construit en 1915, ce fut l'un des premiers ponts à relier les deux rives de la rivière Gatineau.

Il a été détruit par un incendie en 1984, mais le village a collecté des fonds pour le reconstruire.

Le nouveau pont couvert Gendron a été achevé en 1998 et est réservé aux piétons.

Ans 7+

SAVIEZ-VOUS? Le pont actuel comprend certaines pièces originales du premier pont, telles que les piliers de support.

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Feedback and Reward

Feedback: To gain a better understanding of the families experience and how to improve it.

Reward: To promote the event, gamify the activity and offer a prize for participating.

Scalability

1

ONE DAY EVENT

One-day trail event by setting up card stations along the entrance of the trails where children engage in activities like sensory awareness, navigation challenges, and storytelling. Parents/guardians will guide kids through each station.

2

IN-TRAIL GAME

Set as permanent trail feature using durable physical cards placed strategically along the path. Each station would include instructions, that guide participants through self-directed learning. This setup ensures accessibility, durability, and an engaging, independent experience for families.

3

EXPANSION

The gamified learning prototype can be customized for various trail types, ecosystems, and cultural contexts. For example, trails in urban, rural, or indigenous settings can integrate unique educational content tailored to their local history and environment.

Service System

Card Handling

Pickup and Return System:

Decks will be placed at trail entry points with parking available, allowing families to easily collect them.

Families will drop the decks off at designated trail exit points, ensuring availability for the next users.

Priorities

1. **Accessibility:** Ensure cards are bilingual (English and French) and easy to carry, attach, and use, even for younger children.
2. **Durability:** The laminated cards ensure resilience against different weather conditions, such as rain, snow, and humidity.
3. **Educational Value:** Include bilingual learning games that promote knowledge about nature, wildlife, and seasons, offering a rich educational experience for all family members.
4. **Engagement:** Provide fun, interactive games and a rewarding system to sustain interest and participation.
5. **Self Sufficiency:** This solution is entirely self-managed and requires little human involvement or maintenance from the trail organization.

- Usability testing on Wakefield trail.
- Customising information on History card for different historical facts of trail localities.
- Designing more varieties of games for the different categories and for various ages.

Next Steps

Feedback form filled from user group (families with kids) collected during the event.

Amount of Family user tracked during the event through the equipment TrafX.

Track visitors on the website (Linktree) to understand the engagement.

Success Metrics

Thank you!

To our client, Sentiers Wakefield Trails, the Human-centered Design Lab, our SMEs, and the individuals who generously participated in our research.

Your insights, expertise, and willingness to share made all the difference, and we couldn't have achieved these outcomes without your contributions.

Thank you!

¡Gracias!

धन्यवाद्

Merci

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Unu emela

Create your own activity card

Create a title here

Explain the activity or the experience you want to share here.

Name (Optional)

Select a Category:

Environment Discovery

History and Narration

Navigation and Adventure

Sensory Awareness

REFERENCES

Shaw, K., Anderson, D., & Barcelona, B. (2015). Parental Perceptions of Constraints to Family Participation in Nature-Based, Outdoor Experiences. *Journal of Outdoor Recreation, Education, and Leadership*, *7*(1), 3-19. 10.7768/1948-5123.1241

Statistics Canada. (2022, December 16). Distribution (in percent) of children aged 0 to 14 in census families by family structure, Wakefield (Parish), 2016 and 2021. Statistics Canada. Retrieved July 24, 2024, from https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/alternative.cfm?topic=4&lang=e&dguid=2021A00051311014&objectId=2

Wells, Nancy & Lekies, Kristi. (2006). Nature and the Life Course: Pathways from Childhood Nature Experiences to Adult Environmentalism1. Children, Youth and Environments. 16. 10.1353/cye.2006.0031.