



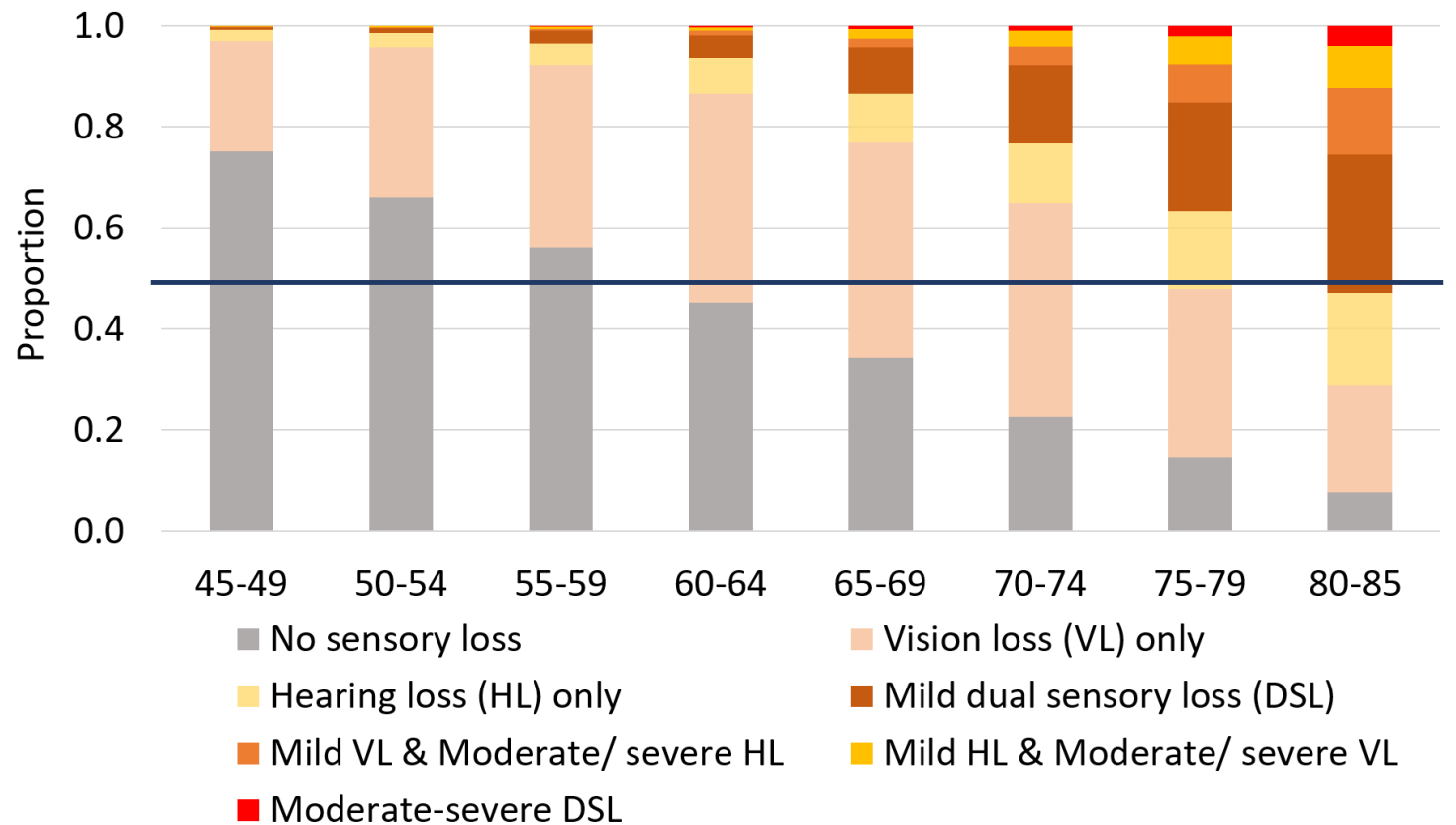
Facilitators and barriers encountered by working-age and older adult braille learners

Natalina Martiniello, Ph.D., CVRT
Wittich Vision Impairment Research Lab
University of Montreal
natalina.martiniello@umontreal.ca
Twitter: @paws2see

Martiniello, N., Haririsanati, L., Wittich, W. (2020). Enablers and barriers encountered by working-age and older adults with vision impairment who pursue braille training. *Disability & Rehabilitation*. DOI:[10.1080/09638288.2020.1833253](https://doi.org/10.1080/09638288.2020.1833253)

The Problem – Changing Demographics

- Prevalence of older adults with vision loss will triple by 2050 (Bourne et al., 2017)
- Reading-related difficulties = most common reason for referral (Rubin, 2013)



The Problem – Evidence-based Practice

- Adult braille rehab introduced in early 20th century but little evidence-based research (Herie, 2005)
 - Heavy focus on blind children, e.g. LMA (Holbrook, McCarthy, and Kamei-Hannan, 2017)
- Evidence of lower referral rates and high abandonment (Ponchillia and Durant, 1995; Martiniello, Haririsanati and Wittich, 2020)
- Vast inconsistencies in adult braille education assessment training and support across centers
 - Discrepancies due to geography, healthcare and service delivery (Leat, 2016)

Children vs Adults -- Literacy

Children

- Literacy
- Concept development

Pedagogy

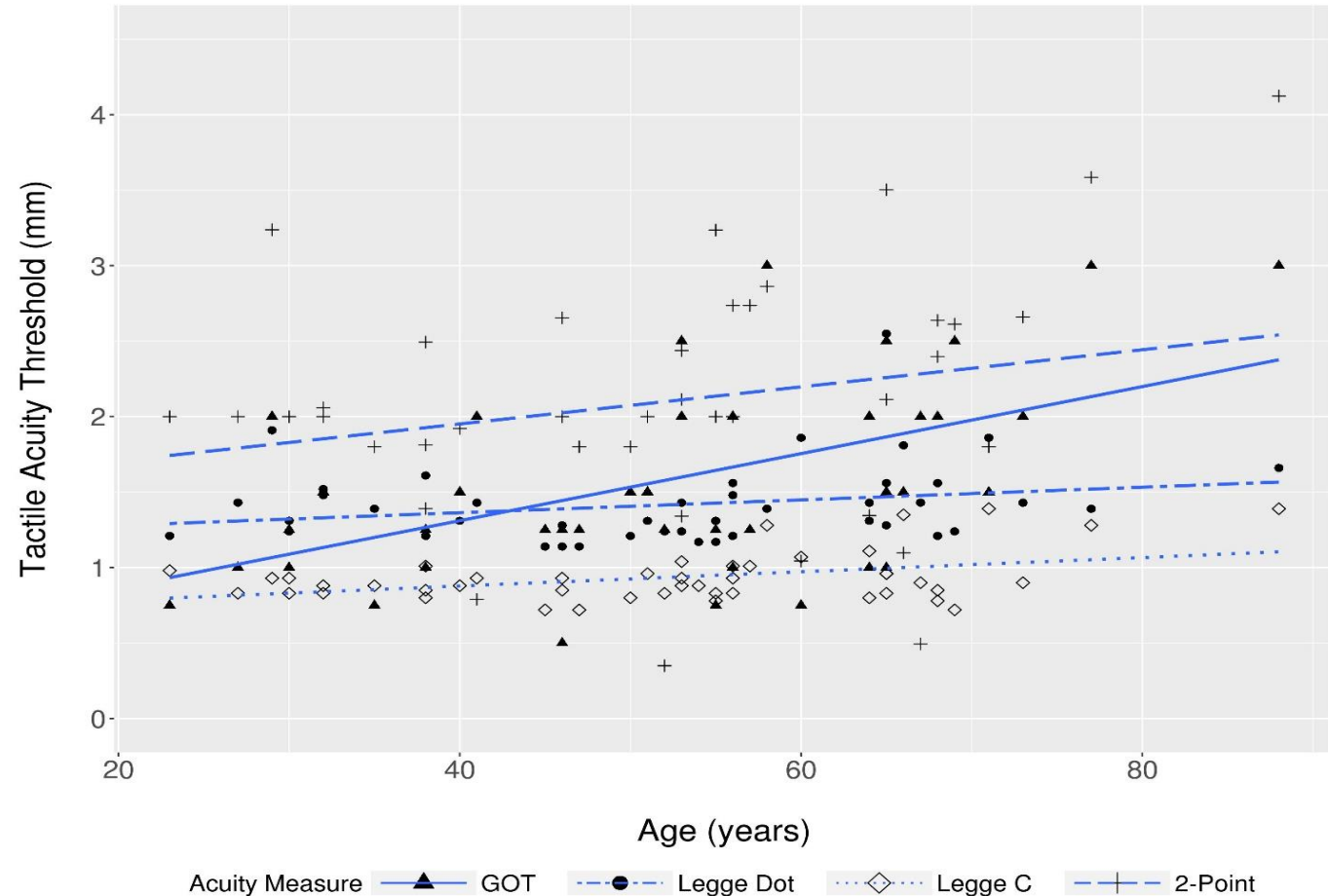
Adults

- Accumulated literacy skills
- Development of reading mechanics

Andragogy

Impact of Aging

- Normal aging = declines in tactile, motor and cognitive capacities (Kandel et al., 2013; Stevens, Foulke and Patterson, 1996; Goldreich and Kanics, 2003; Legge et al., 2008)



Andragogy

- Role of stigma during adjustment to VI (Schroeder, 1996)
 - Abandonment and under-use of tools that disclose impairments (Martiniello, Eisenbarth, Lehane, Johnson and Wittich, 2019)
- Other factors: anxiety about returning to “school”, resistance to change, poor past academic performance, restrictive schedules and limited time (Zhang and Zheng, 2013)
- Development of adult learning frameworks in other fields (UDL, transformational learning, constructivism)

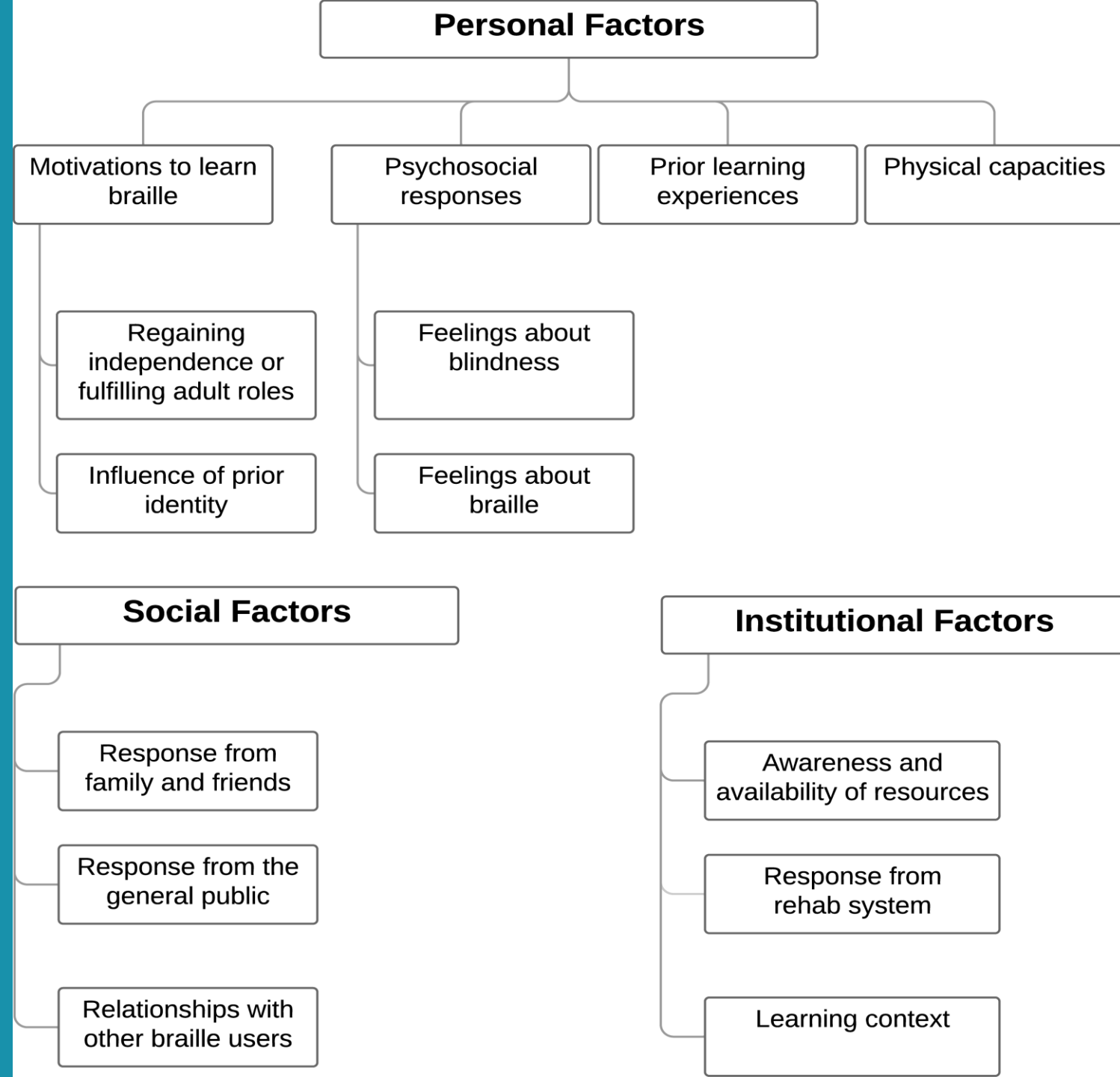
Objectives and Methods

- To explore the adult braille learning experience and facilitators and barriers encountered
- Semi-structured interviews with adult braille learners
 - Phenomenological approach using thematic content analysis (Braun and Clarke, 2012)
- Inter-coder agreement >98% (Gwet's AC = .988)

Demographics

- 14 participants: 7 male, 7 female
- Age range: 40-72 (Mdn=55)
- Braille learning age: 33-67 (Mdn=46)
- 12 pursued braille through rehab centres; 2 through correspondence courses
- Following braille training:
 - Daily use of braille=5
 - Several times per week=4
 - Once per week=3
 - A few times per month=2

Personal, Social and Institutional Factors



Personal Factors: Prior Identity

- Reconnecting with lost sense of self and the disconcerting period “in between”
 - **Margaret:** Well when I read print I had an internal voice that read along with me. And when I read braille, I get my internal voice back. It’s just ... My existential self is kind of reaffirmed. I feel like I am not losing anything (...) It’s that crisis that happens when you have yourself taken away, the things you identify with strongly. Like in my case, reading... and then all of a sudden that’s gone. People say “well do something else”. But remember I’m an adult and you don’t become “something else” readily.

Personal Factors: Psychosocial Response to Braille

- Either an enabler or obstacle, depending if attached to misconceptions
 - Braille is too difficult to learn, only for the totally blind, only for extensive reading
- Sometimes misconceptions dissipated once training began
 - **Seth:** There was a group at the time and I went to a couple of meetings, but I was kind of turned off because they were all blind... and I didn't think that I was that bad yet.

Personal Factors: Role of Prior Learning

- Invisible enablers or barriers depending on whether associated with positive or negative memories
 - e.g. like learning to tie shoelaces, it becomes automatic
 - **Stephanie:** Me as a learner. I really thought that would hold me back a little bit. I would think "I don't know if I can do this!"
- Some highlighted the role of previous learning tactics which served them well (or would have if provided): e.g. visual memory, self-check study tools

Social Factors: Family and Friends

- Importance of family support:
 - Labelling household items
 - Driving client to lessons
 - Awareness and respect of braille items

Social Factors: Family and Friends

- Influence of biases held by family/friends:
 - **Brian:** "Well you don't really need it, if it's that difficult"
- Those with low vision highlighted that family may not be aware of the need for braille
- Above all else, participants highlight the need to provide family members with resources and support:
 - **Brian:** I think a supportive environment really helps encourage someone to stick with it and to learn. had my family members been exposed to any kind of information about why it was important to learn braille, maybe they would have encouraged it more. I.. Education for family members might help and so the advice I would give is to have that available to them, or point the blind individual to resources they can share with their family to help

Social Factors:

Response from General Public

- Reactions from the general public a pervasive problem
- Braille as symbol of blindness that puts you on display
- Others highlight that the usual social contract is broken during interactions; public may behave in ways that are normally viewed as inappropriate:
 - **Kelly:** I said, "what's happening? what's happening?" and this woman said "oh, I wanted to show my grandson!" and I said "you can't do that! Do you do that to sighted people, come to them and remove their book from out of their hands?" (...) She gave it back to me and said "read to him?" and I said "please don't do that."

Social Factors:

Influence of Other Braille Users

- A thread emerged related to the experience of identifying with a larger braille or blindness community and influence this had on identity formation during braille learning
- The notion that remaining a non-braille reader in a sighted world is more disabling than being a braille reader in a blind world
- Braille in such cases comes to be viewed through an identity lens, like “being given my heritage”
 - **Ellen:** I knew totally blind people who knew braille and read it extraordinarily well. You know, it was the weirdest experience. I went to a restaurant with a totally blind friend... and they read the menu to me. I couldn't read the menu. So I'm stuck in this nowhere land, because I'm in the middle. I can't read print, but I can't read braille.

Institutional Factors: Awareness / Availability of Resources

- Barriers encountered once they decided to learn braille: lack of resources, long wait lists
- Inability to secure practice resources either due to lack of materials for adults or lack of awareness of where to search
 - e.g. delay in receiving library books
- Lack of funding programs available to adults impedes use of devices to reinforce training
 - **Thomas:** We did see a braille display and it was really neat, but it was so expensive. I probably would have used braille more if I actually would have had my own braille display

Institutional Factors: Response from Rehab System

- Several participants described a perceived reluctance to provide braille training, due to beliefs about braille or aging:
 - **Kelly:** He said “No, you’re not ready” and I almost cried. I thought ‘is this it?’ I could learn. I could learn to read a new code. Write a new code. I could touch paper again... And you’re saying no? I was devastated.
- Others expressed that their advanced age led some professionals to feel that they would be unable to learn to the same degree

Implications

- Barriers arise when prospective learner is operating upon misconceptions about what braille is and who it can serve
 - Onus remains with rehab specialist to be cognizant of unspoken biases and to foreground practical applications of braille
- Other formats may not address identity gap; consider holistic experience of literacy
- Harness prior learning experience to enhance assessment/training
- Expand resources for family members as part of standard process
- Foster opportunities for peer support (knowing other braille users)

Implications

- Response from general public: How to rehabilitate not just clients but a society that carries negative perceptions
- Increase practice materials to motivate adult learners – few opportunities to practice during/after training
 - Frequency of braille usage is an important correlate of braille reading performance (Martiniello and Wittich, 2020)
- Increase access and funding for braille devices to solidify learning (Martiniello and Wittich, 2021)
- Practitioners should remain reflective about the influence of unconscious biases on decision-making

Conclusion

- Findings bring to the forefront barriers that can be addressed through policy and practice changes
- Complicate the notion that physical factors alone are solely or primarily responsible for outcomes
- These questions will become increasingly important in future decades



Natalina Martiniello, Ph.D., CVRT

Email: natalina.martiniello@umontreal.ca

Twitter: [@paws2see](https://twitter.com/paws2see)



Centre de réadaptation
**LETHBRIDGE-
LAYTON-MACKAY**
Rehabilitation Centre

