

# Brain Machine Interfaces and other communication technologies and the views of a disability service organization

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We acknowledge the support of the Wolf Pack

## INTRODUCTION

- Advancements in communication technologies (see Figure 1) have transformed how we communicate and interact with one another
- Communication is often seen as a problem for people with disabilities (Regnard, 2006)
- No literature exists, to our knowledge, on the views of staff at disability service organizations related to developing communication technologies

## PURPOSE

- To ascertain the views of advancing communication technologies among staff of a disability service organization in Canada

## METHODS

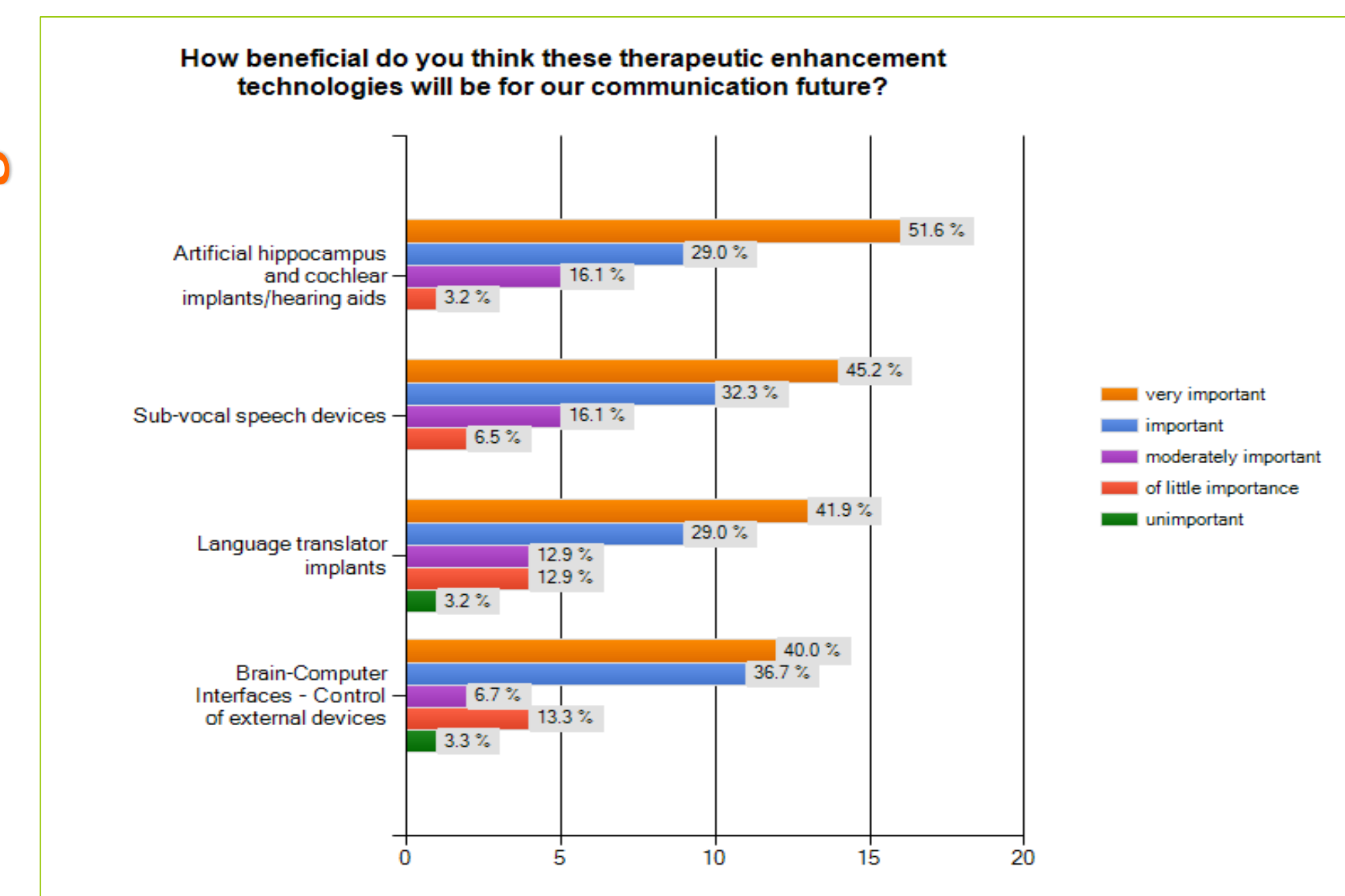
- Online exploratory, non-probability survey
  - Question types:
    - 'Yes'/'No' response;
    - Likert scale; and
    - Opinion rating scale with option to comment
- Survey administered to a disability service organization in Canada



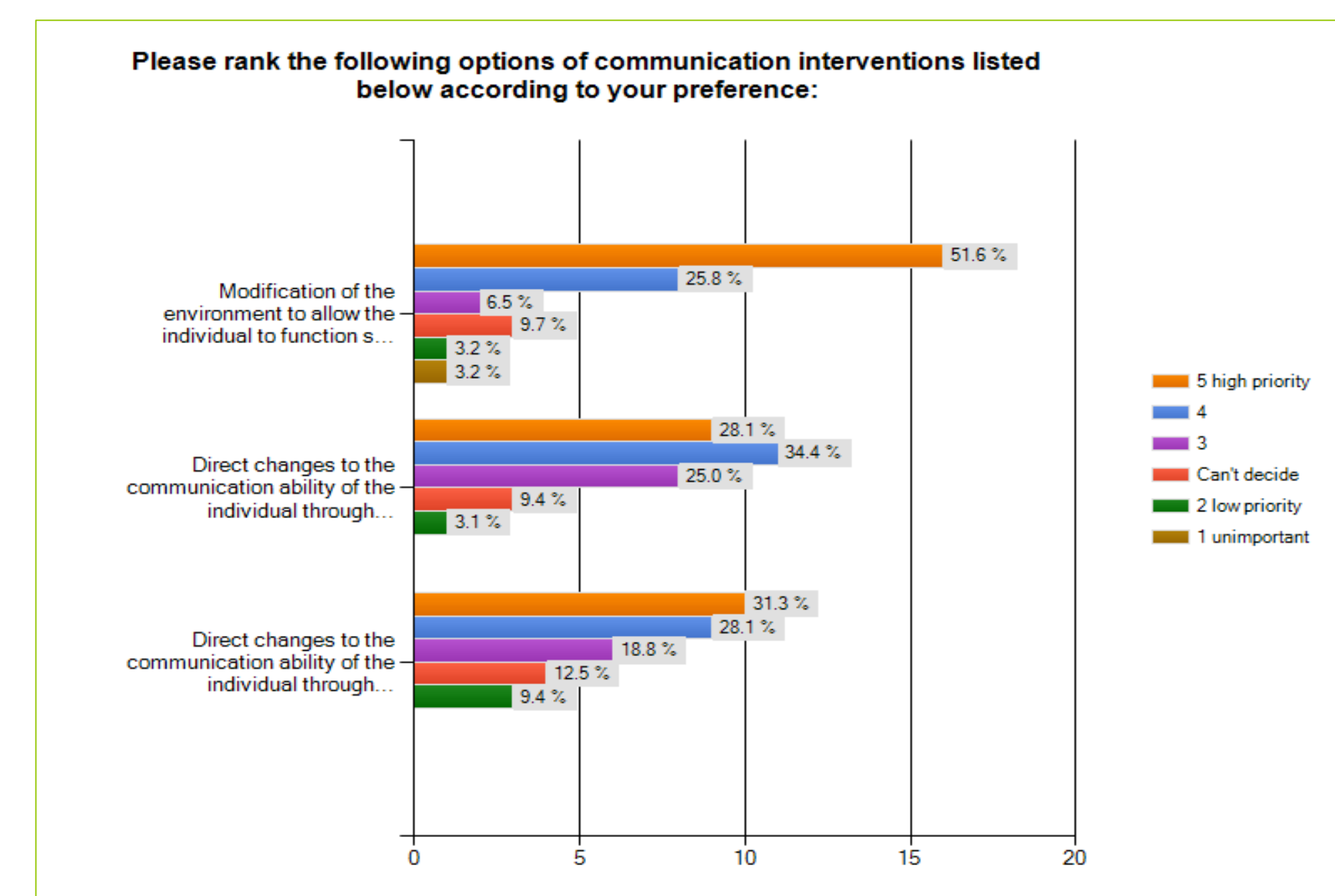
Figure 1. Examples of advanced communication technologies

## RESULTS

Views of various communication technologies



Preferred level of invasiveness

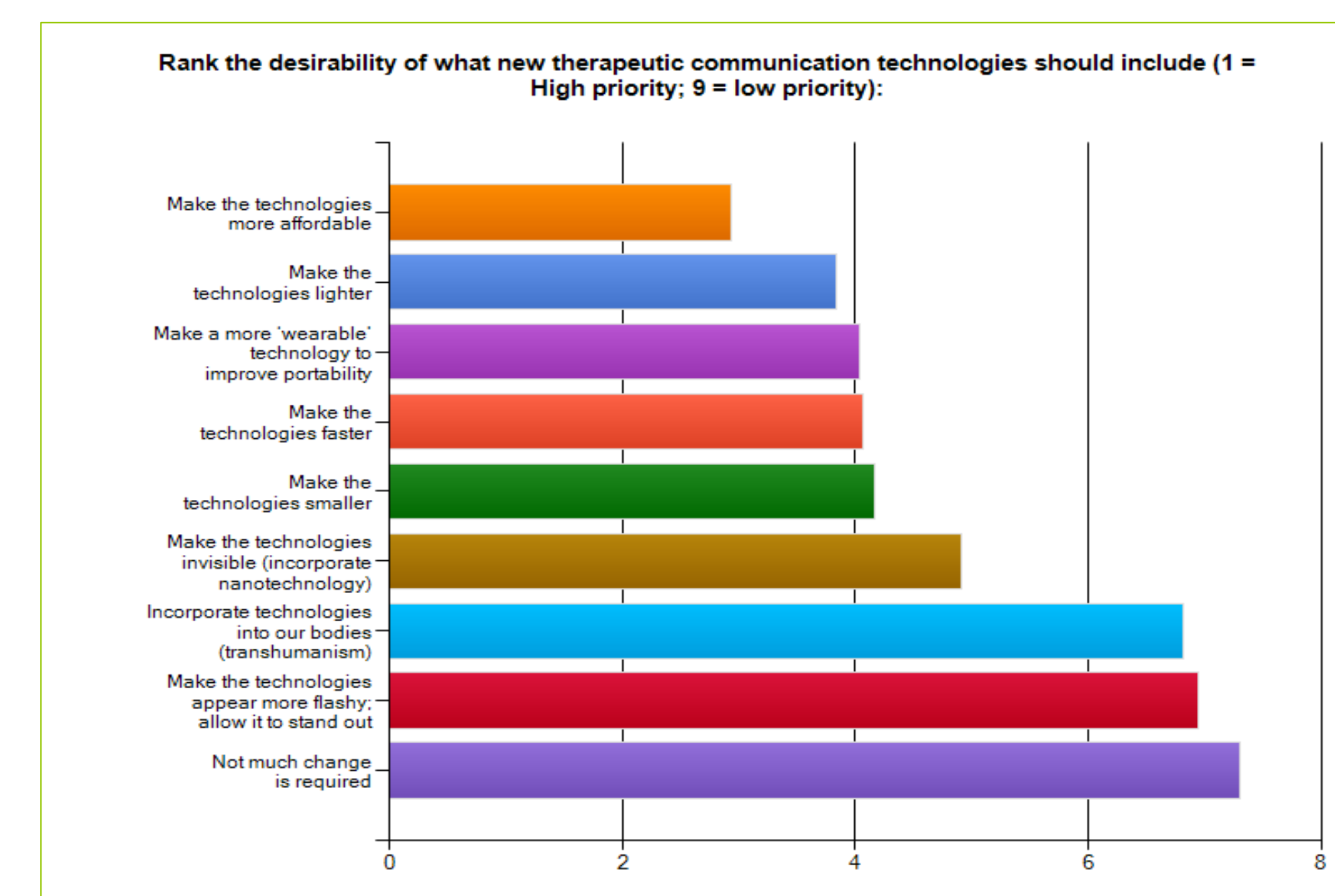


Usefulness for classroom learning

If these therapeutic technologies (brain-computer interfaces, sub-vocal speech devices, hearing aids and cochlear implants, and language translator implants) were to be introduced into the classroom setting, do you think they will be beneficial to the communicative abilities of individuals with developmental disabilities? Please explain.

Abilities Able to Communicate Believe  
Beneficial Children Feeling Help People  
Individual Needs OLDER Students Technology Think  
Understand Younger

Desired characteristics in communication devices



## DISCUSSION

- There is strong support for existing and emerging wearable communication devices
- Respondents believed that these devices will be very beneficial to supporting their client's communication abilities

- Preference for modification of the environment so clients do not have to use a wearable device
- Invasive, wearable devices ranked last but there was still substantial support for it

- Positive response to the beneficial support for children:
  - Provide communication abilities
  - Provide support persons with an understanding of individual's needs

- Lack of affordability of technology was the highest concern
- Invisibility was a desired characteristic so that the wearer would not stick out
- Portability was also favored
- Incorporating the technology into the body was not seen as desirable and neither was there desirability for the technology to be flashy

## CONCLUSION

Staff at disability service organizations are on the frontlines of interaction with various communication devices used by their clients. The overall sentiment of communication technologies and developing communication technologies including Brain Machine Interfaces among staff at this organization is positive with the perception that these devices will be beneficial to support their clients' communication needs. Of major concern for staff is the possible lack of affordability of these devices as most of their clients have little money. They also feared for their clients to stick out as that might increase isolation and as such preferred invisible products although they also were not in favor of invasive products.

## REFERENCES

Regnard, C., Reynolds, J., Watson, B., Matthews, D., Gibson, L., & Clarke, C. (2007). Understanding distress in people with severe communication difficulties: developing and assessing the Disability Distress Assessment Tool (DisDAT). *Journal of Intellectual Disability Research*, 51(4), 277-292.