



Scan QR code for video presentation.

BACKGROUND

- Persons with Special Health Care Needs (PSHCN) have unmet dental care needs.
- Oral healthcare access and utilization barriers include:
 - locating a dentist comfortable with treating PSHCN
 - tolerating treatment due to sensory sensitivities
 - communication challenges
 - intellectual impairment
 - dental fears and anxiety
- Incorporating behavioral-psychology based techniques routinely used in other fields can improve access and reduce barriers to dental care for PSHCN.

OBJECTIVES

- To explore Columbia University College of Dental Medicine (CDM) pediatric dentistry residents' **knowledge, comfort level, and awareness** of behavioral psychology-supported and sensory processing-informed approaches for treating PSHCN before and after targeted education.

MATERIALS & METHODS

- A two-hour lecture on interdisciplinary psychology-based behavioral techniques and sensory processing disorder management in the dental setting was delivered to 15 CDM Pediatric Dentistry Residents.
- Dental resident attendees were invited to complete an electronic pre-lecture and post-lecture survey via Qualtrics under IRB supervision (protocol #AAU2313).
 - Example survey questions:
 - The information and concepts in this lecture have increased my interest in treating individuals with special health care needs. (Strongly Disagree to Strongly Agree)
 - The information in this lecture should be a required part of the curriculum for post-doctoral dentistry programs. (Strongly Disagree to Strongly Agree)
- Descriptive statistics were used to analyze and evaluate the lecture experience and perspectives on presented approaches; after separate review, data for the 2022 and 2023 attendees were combined.

RESULTS

Figure 1: Example Lecture Slides

a. TODAY'S GOALS

01 BEHAVIORAL PSYCHOLOGY AND ABA AND ABA CONCEPTS

02 BEHAVIORAL SUPPORT TECHNIQUES THROUGH A BEHAVIORAL PSYCHOLOGY LENS

03 SENSORY SENSITIVITIES/DISORDER AND HOW TO MANAGE THEM IN A DENTAL SETTING

04 GROUP CASE-APPLICATION OF CONCEPTS DISCUSSED

b. Sensory Tool Box

AIDING IN SADE- SENSORY-ADAPTED DENTAL ENVIRONMENTS

- Individuals with **auditory sensitivities**
 - Sensory Break - "Quiet Location"
 - Noise-cancelling devices
 - Sound cancelling headphones
 - Ear plugs or Noise Putty
 - Preferred soft music or "White Noise"
 - Chewing Items
 - Chewelry
 - Celery or carrot sticks
 - "Heavy Work" Activities
 - Carrying a heavy/weighted toy or bag
 - Putty tips
 - Simon Says "Mouth Exercises"

c. Sensory Tool Box

AIDING IN SADE- SENSORY-ADAPTED DENTAL ENVIRONMENTS

- Individuals with **tactile sensitivities**
 - Deep pressure
 - Massage/ Firm pressure
 - Weighted blanket
 - Pressure Vest
 - Brushing

d. Sensory Processing Disorder

HYPO-RESPONSIVE (BEHAVIORS)

- Constantly touches objects
- Plays roughly and takes physical risks
- Has a high tolerance for pain
- Often squirms and fidgets
- Is constantly on the move
- Invades other people's personal space
- Often gets distracted or feels anxious

Figure 2: Knowledge-Based Question Responses Before and After Lecture (refer to figures 1c and 1d)

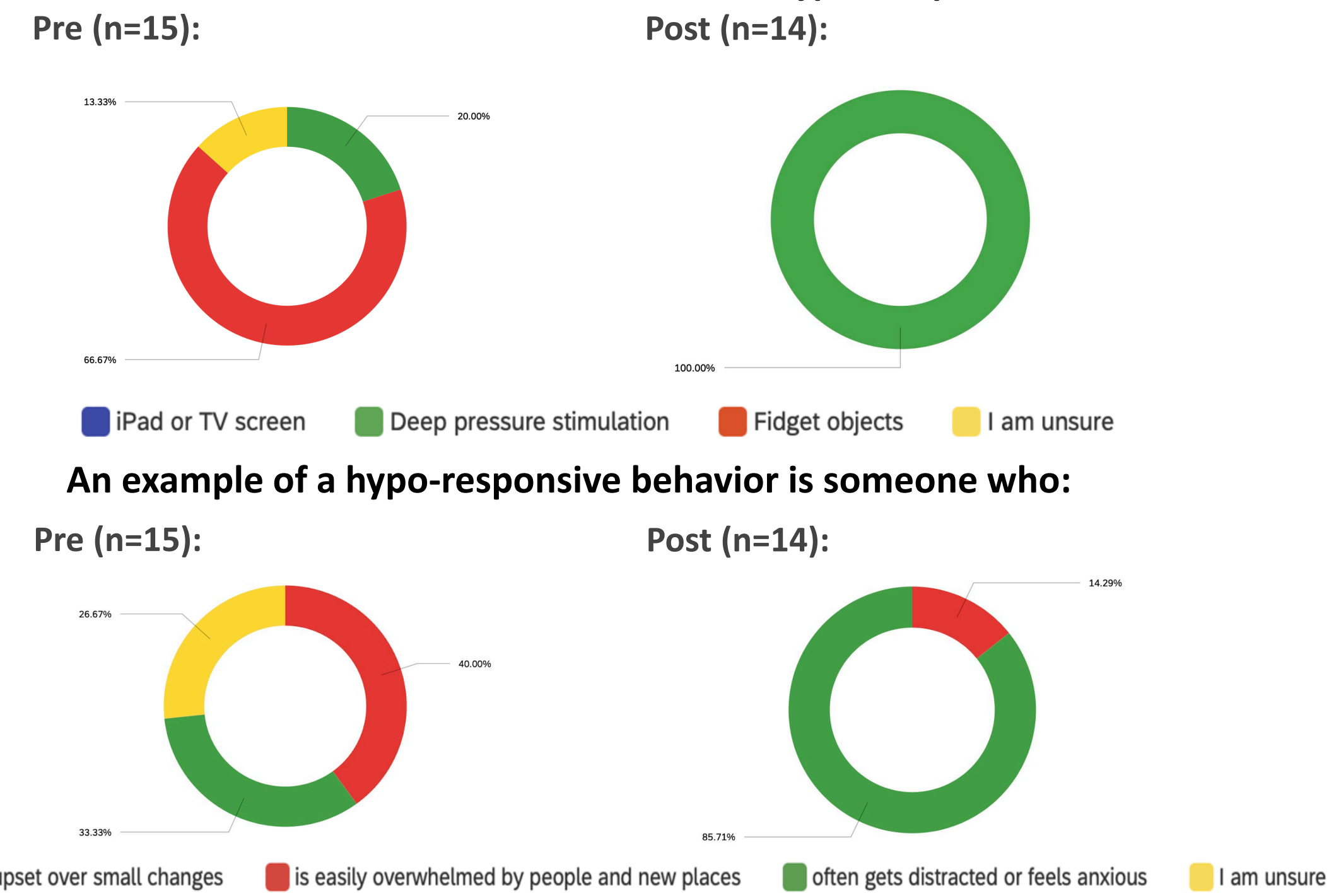
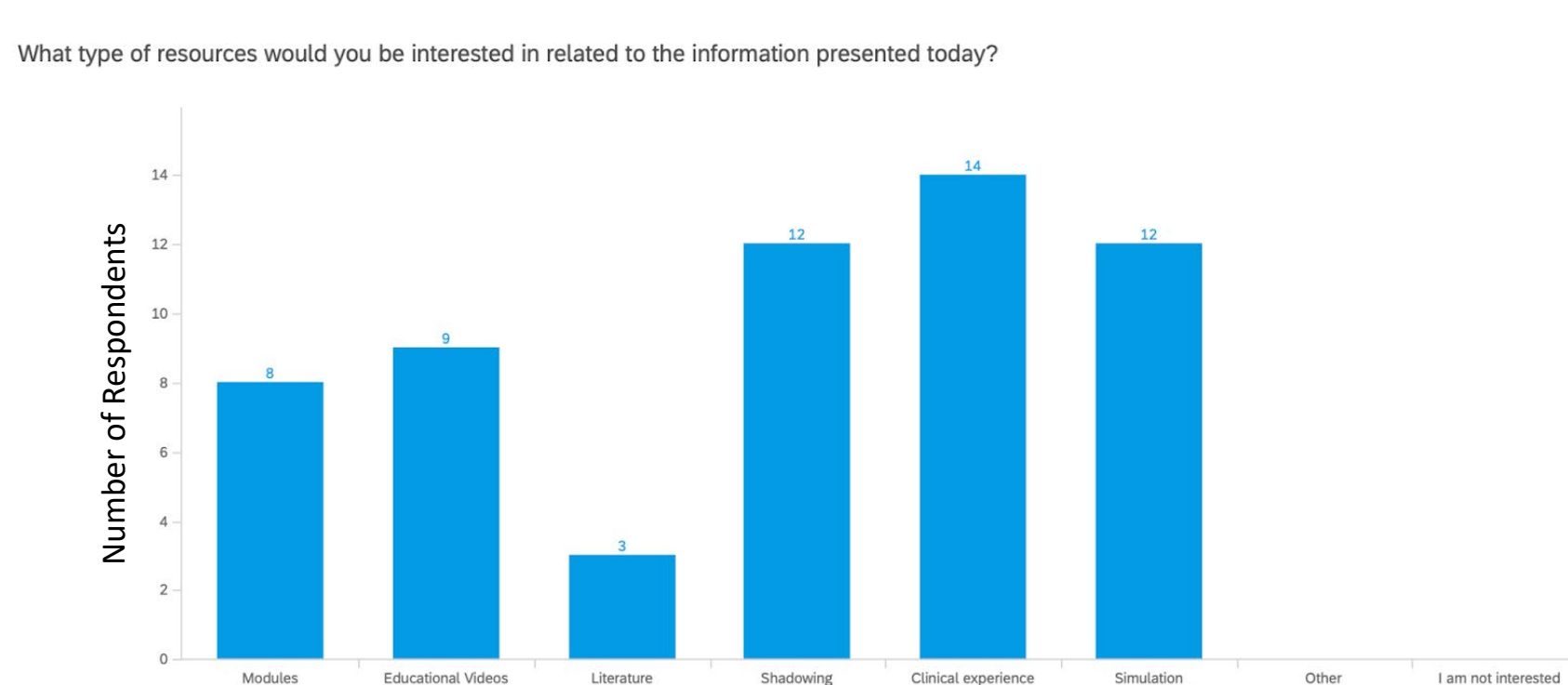
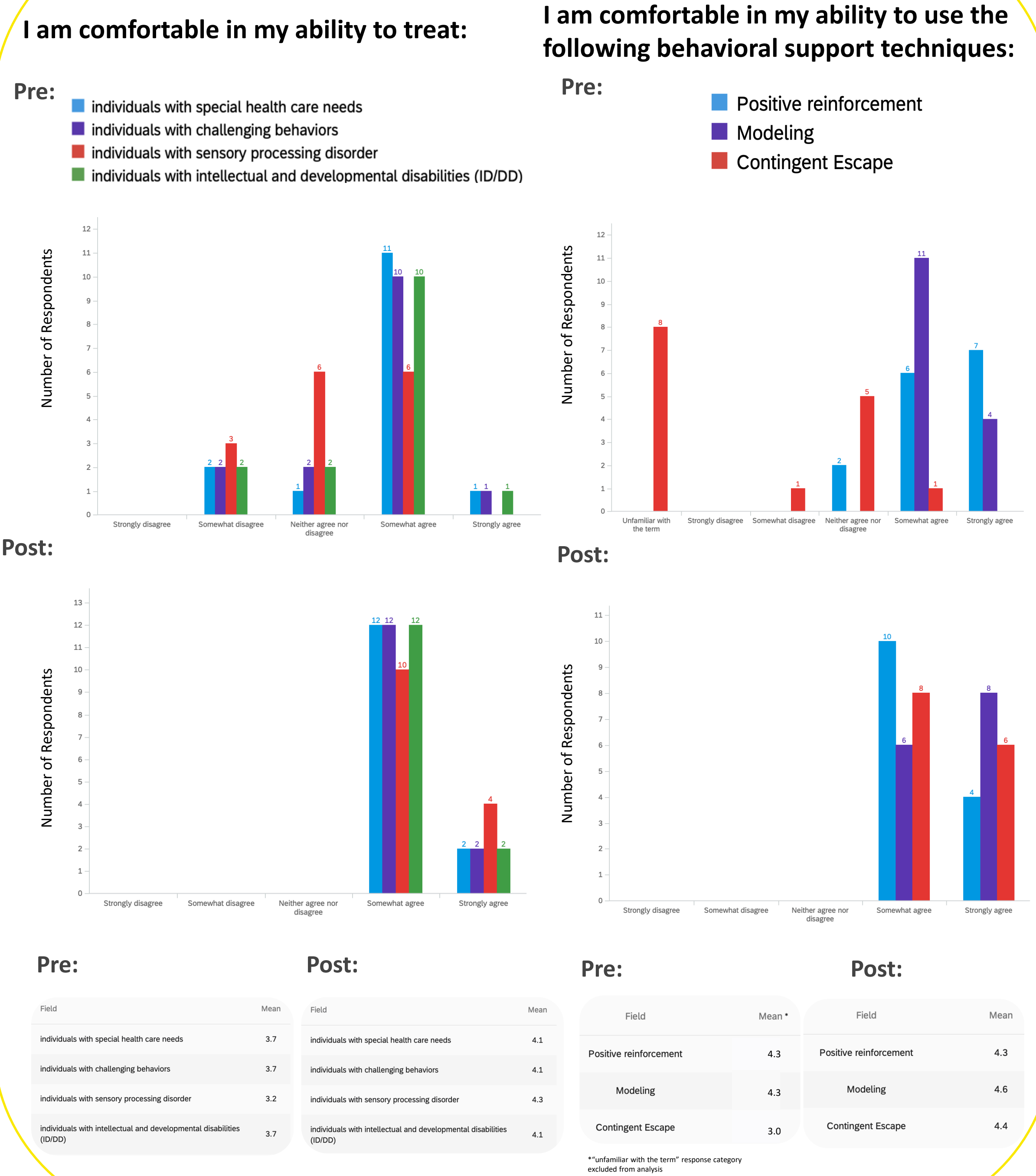


Figure 3: Interest in Additional Resources



RESULTS, CONT.

Figure 4: Comfort-Based Questions Responses Before and After Lecture



DISCUSSION

- After the two-hour lecture, residents
 - were **more knowledgeable** about sensory processing disorders.
 - better understood** how to address patients' sensory needs.
 - were interested in **hands-on training opportunities** to implementing the presented skills.
 - Meeting this need poses resource and logistical challenges.
- Study limitations: small sample size, experiential differences of PGY1 and PGY2 residents, minor modifications in lecture content
- Future directions: expand to other post-doctoral as well as pre-doctoral programs, identify opportunities to supplement lecture seminars; pilot use of sensory sensitivity intake form
- Follow-up studies: focus on specific techniques; follow up with seminar participants

CONCLUSIONS

- There is a **gap in knowledge** in treating PSHCN in the dental setting.
- There was a **substantial increase in comfort** in treating PSHCN using behavioral psychology supported techniques after one two-hour seminar.
- Expanding training that increases providers' skills and comfort treating PSHCN can **improve access to care** for this population.

ACKNOWLEDGEMENTS

Shriya Jain was supported by Columbia University College of Dental Medicine and funded by the Summer Research Fellowship. Jeremy Chiu was supported and funded by Columbia University Mailman School of Public Health. Shriya and Jeremy would like to thank Dr. Aaron Myers, Dr. Marcie Rubin, and Dr. Serena Simone for their guidance and support throughout the duration of this project.

REFERENCES

- Hernandez, P. Ikkanda Z. Applied behavior analysis: behavior management of children with autism spectrum disorders in dental environments. *J Am Dent Assoc.* 2011 Mar; 142(3):281-7
- Jansen-van Vuuren, J., & Aldersey, H. M. (2020). Stigma, Acceptance and Belonging for People with IDD Across Cultures. *Current Developmental Disorders Reports*, 1–10. Advance online publication. <https://doi.org/10.1007/s40474-020-00206-w>
- Krahn, G. L., Walker, D. K., & Correa-De-Araujo, R. (2015). Persons with disabilities as an unrecognized health disparity population. *American Journal of Public Health, 105 Suppl 2(Suppl 2), S198–S206.* <https://doi.org/10.2105/AJPH.2014.302182>