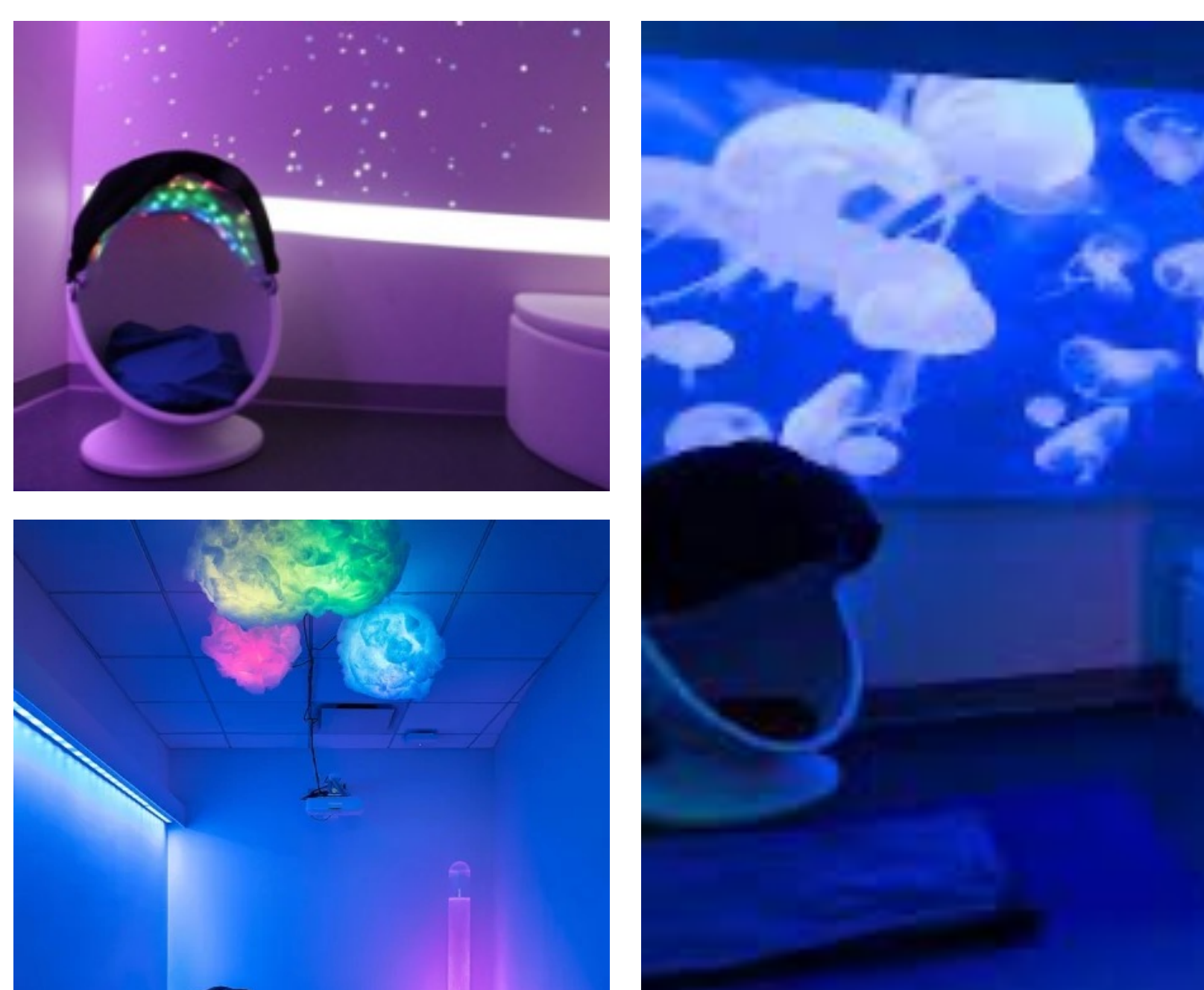


## Introduction/Background

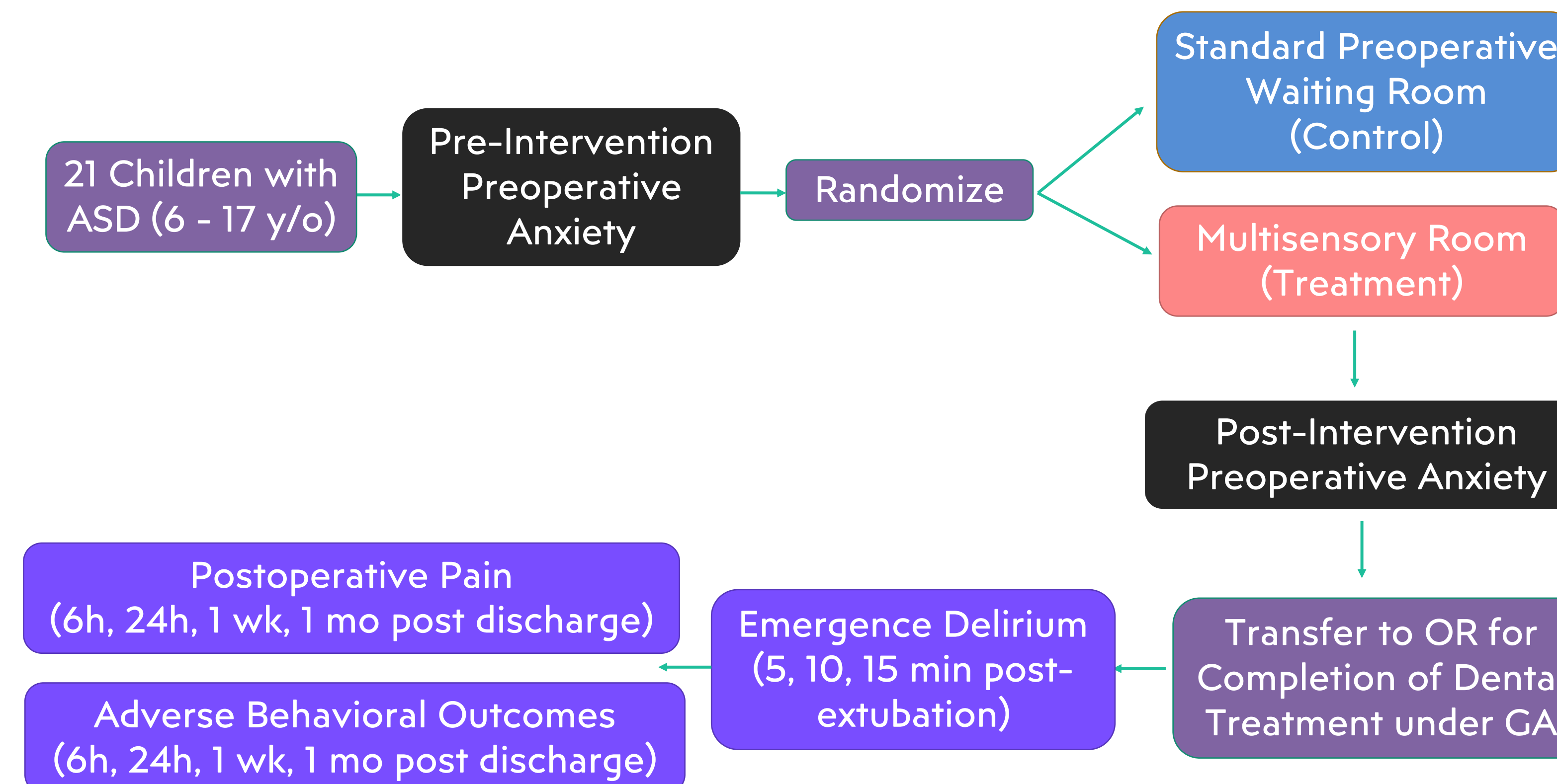
- Children with autism spectrum disorder (ASD) often display uncooperative and interruptive behaviors during dental treatment, thus commonly requiring general anesthesia (GA) to facilitate dental procedures
- Among patients with special health care needs (SHCN) requiring dental treatment under general anesthesia, ASD was the most common medical diagnosis (33%)
- Preoperative anxiety has been associated with increased analgesic consumption, postoperative pain, and maladaptive behaviors
- Limited clinical studies have addressed strategies for managing preoperative anxiety in children with SHCN
- **The main objective of this project was to determine the impact of a multisensory room (MSR) on pre- and postoperative outcomes in pediatric patients with ASD undergoing GA for dental treatment**

## Methods

- 21 children (16 males, 5 females) diagnosed with ASD, aged 6 - 17 years of age, underwent GA for dental treatment at NYU Dentistry Oral Health Center for People with Disabilities
- Subjects were randomly assigned to either the control group (standard preoperative waiting room) or intervention group (MSR) for 20 minutes prior to induction
- Pre- and post-intervention behavioral and physiological anxiety were assessed by the modified Yale Preoperative Anxiety Scale and a pulse oximeter, respectively
- After completion of dental surgery, emergence delirium was evaluated by the Watcha Scale
- Postoperative pain and behavioral recovery were measured using the Facial Pain Scale-Revised and Post Hospitalization Behavior Questionnaire for Ambulatory Surgery, respectively, at 6 hours, 24 hours, 1 week, and 1 month after surgery

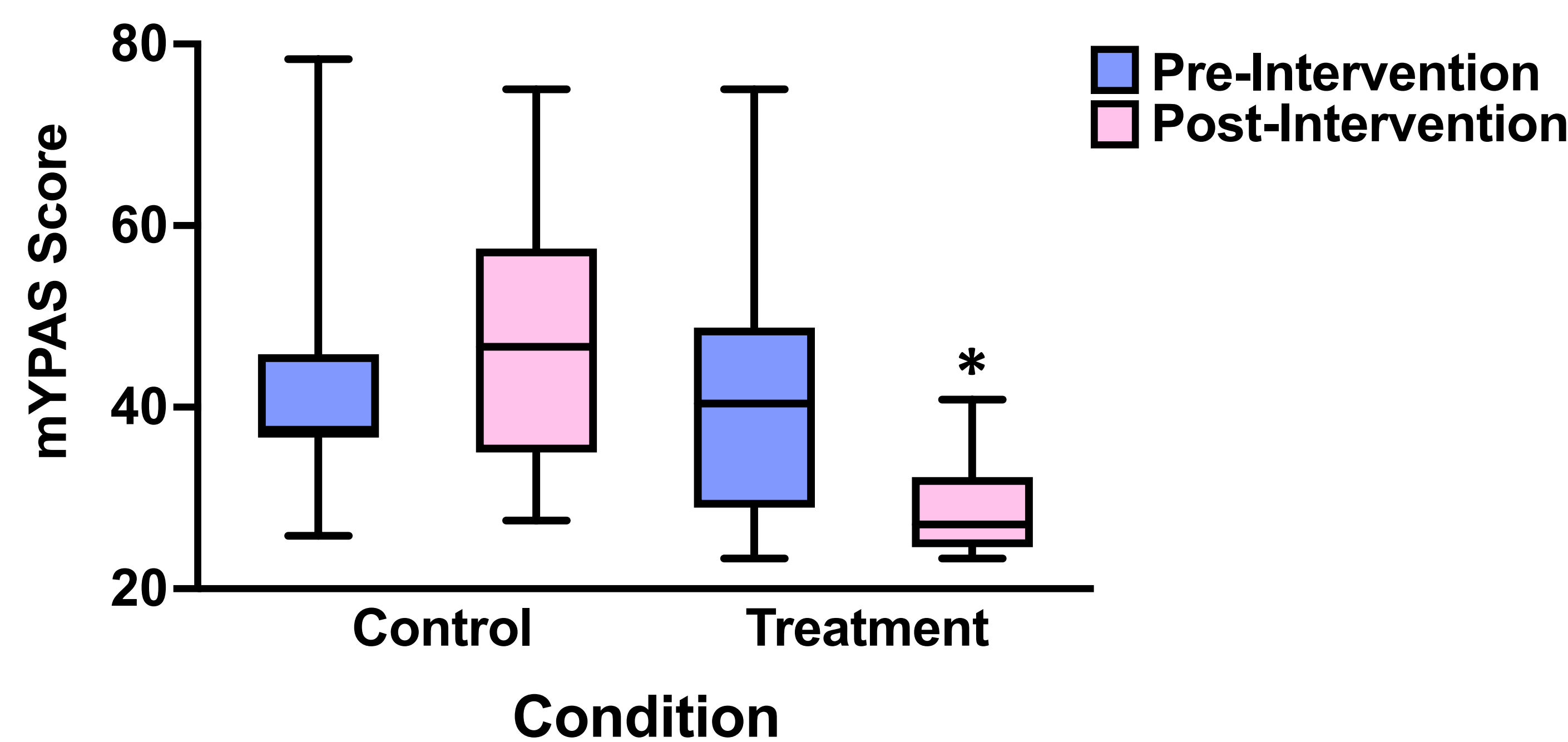


## Project Design

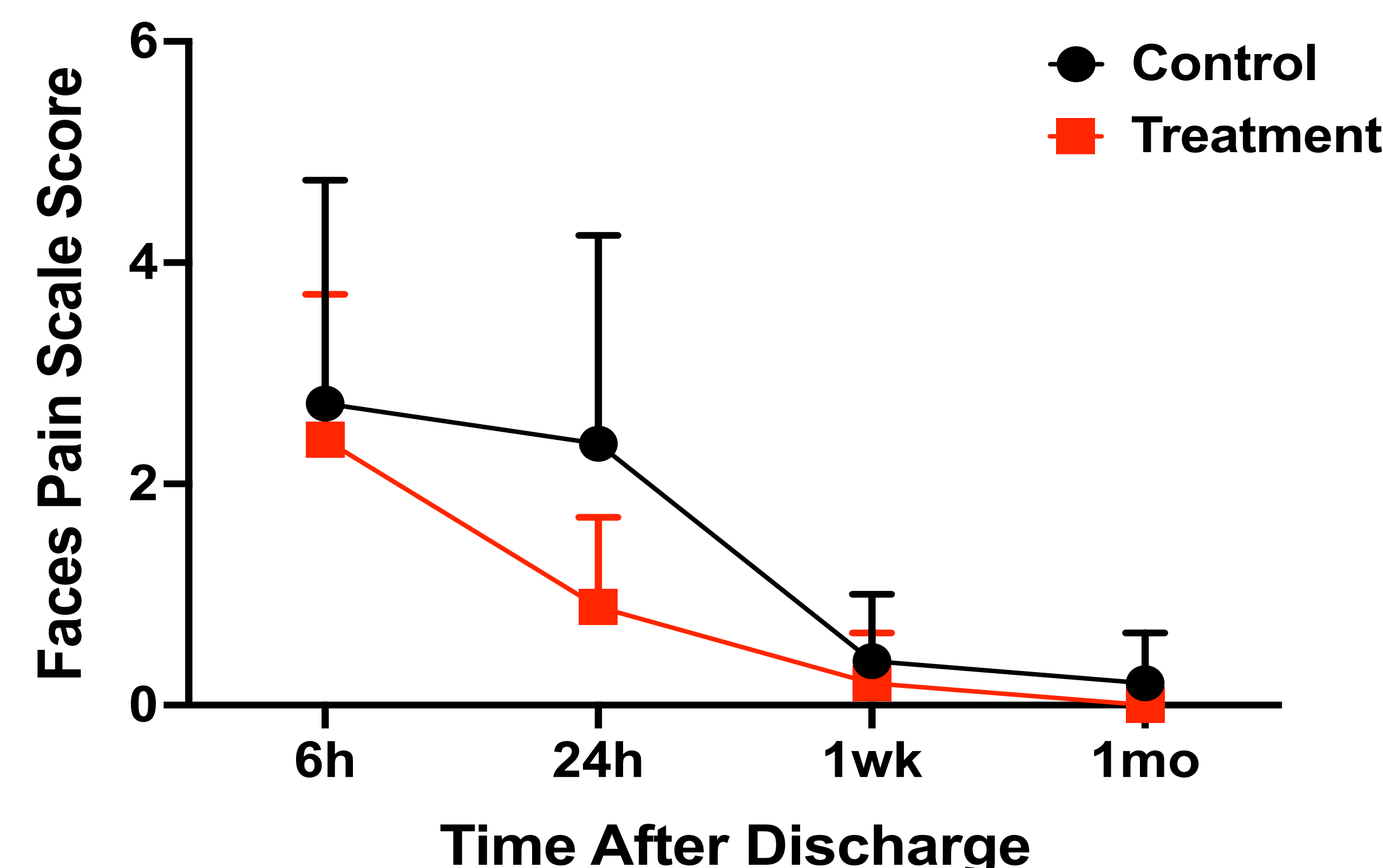


## Results

**Fig. 1. Behavioral Anxiety**



**Fig. 2. Postoperative Pain**



## Results

- **Children assigned to the MSR exhibited a significant decrease in behavioral anxiety after the intervention**, while the control group response was flat (mixed model ANOVA, interaction  $p < 0.001$ )
- Within the control group, males tended to show more behavioral anxiety post-intervention than females (t-test,  $p = 0.17$ )
- The groups showed similar post-intervention changes in physiological anxiety (interaction  $p = 0.34$ ), levels of emergence delirium (t-test,  $p = 0.65$ ), levels of postoperative pain (Mann-Whitney (M-W) test, each time point,  $p = 0.46$  to  $0.97$ ), and levels of adverse behavioral outcomes (M-W test, each time point,  $p = 0.77$  to  $0.97$ )

## Conclusions

- Use of an MSR in pediatric patients with ASD prior to GA induction for dental treatment significantly reduced behavioral anxiety
- Further understanding of the perioperative experience of children with ASD may help to facilitate the development of an individualized perioperative management plan for all children with SHCN
- These findings may suggest a novel, non-pharmacologic technique that can be utilized by various health care specialties to reduce preoperative anxiety and improve postoperative outcomes in pediatric patients with ASD and other SHCN

## Acknowledgements

- This research was supported by:
  - The American Society of Dentist Anesthesiologists Education and Research Foundation grant awarded to S. Wade
  - The New York University Research Catalyst Prize awarded to S. Wade

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