

## ABSTRACT

**Purpose:** The aim of this cross-sectional study was to assess when and why certain pharmacologic behavior guidance techniques (pBGTs) are acceptable to parents. **Methods:** English- and Spanish-speaking parents of children under 18yrs of age watched a video clip of one pBGT and were asked to rate their acceptance and what factors alter acceptability (child's health, dental treatment needs, fear/anxiety, cooperation, and finances). Parents were also given an opportunity to provide safety concerns for the pBGT they scored. Statistical analysis with ANOVA completed;  $P < .05$  were considered significant. **Results:** One hundred sixty-seven parents participated in this study. Nitrous ( $n=50$ ) was more acceptable as age increased ( $P=.002$ ), in healthy children ( $P < 0.001$ ), and as cost decreased ( $P=.01$ ). Sedation ( $n=54$ ) was more acceptable as age increased ( $P < .001$ ), in healthy children ( $P < .001$ ), in cooperative children ( $P=.04$ ), and as cost decreased ( $P < .001$ ). General anesthesia ( $n=63$ ) was more acceptable as age increased ( $P=.001$ ), in healthy children ( $P < .001$ ), with more invasive treatment ( $P=.04$ ), and as cost decreased ( $P < .001$ ). For all three pBGTs, while some parents listed no safety concerns, others expressed concern for neurologic side effects. Race/ethnicity differences were observed based on pBGT acceptability and patient age, fear/anxiety, medical history, and parental education ( $P < .05$ ). Previous exposure to a pBGT improved acceptability ( $P < 0.05$ ). **Conclusions:** Acceptability of pBGTs vary based on multiple patient factors, including age, medical history, and cost, and parents are aware of potential neurologic side effects. Providers should be aware of potential concerns and able to provide up-to-date, culturally-sensitive responses to the utilization of pBGTs in their office.

## BACKGROUND

- The pediatric dental patients may pose unique challenges to the practitioner in regard to behavior. These patients may lack psychological or emotional maturity or be medically complex and necessitate the use of behavior guidance techniques (BGTs) in order for treatment to be completed.
- Among these techniques the practitioner has the option to choose pharmacological BGTs which are nitrous oxide, sedation, and general anesthesia.
- These options are not without risks, and it is important for the practitioner to understand parental perceptions of these techniques, when they are acceptable or not acceptable to parents, and factors that influence the decision of parents for or against the use of a certain technique.
- The goal of this project was to ascertain parental acceptance towards pBGTs utilized in pediatric dentistry, to understand factors that influence the acceptability, and to document specific safety concerns from parents.

## METHODS

- This study was approved by the UTHealth Houston IRB for use in English and Spanish-speaking parents.
- Parents were shown one of three pBGTs and asked to rate their acceptability of that pBGT, using a visual analog scale (Figure 1).
- Parents were asked to rate acceptability based on six factors (Figure 2).
- There was a free response section at the end of the survey in which parents could express further concerns with the technique, when a technique would be acceptable to them, and what would cause their concerns or acceptance of the BGT to change.
- Statistical analysis completed; p-values less than 0.05 considered significant.

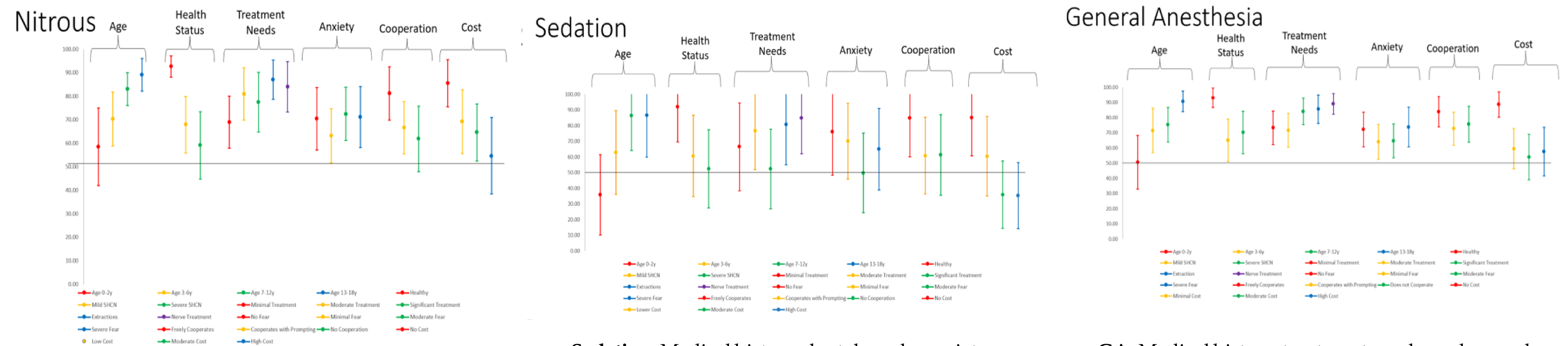
Figure 1: Visual Analog Scale



Age:	Medical History:	Treatment Needs:	Anxiety Level:	Cooperation:	Cost:
0-2yrs 3-6yrs 7-12yrs 13-18yrs	• Healthy • Mild health care needs (asthma, mild autism, etc) • Severe health care needs (heart defects, epilepsy, etc)	• 5 or less fillings • 6-10 fillings • 10+ fillings • Extractions • Nerve treatments	• None • Minimal • Moderate • Severe	• Freely cooperates • Cooperates with prompting • No cooperation	• None/covered by insurance • Low • Moderate • High

Figure 2: Parents were asked to evaluate the pBGT use for these six subgroups

## RESULTS



**Nitrous:** Patient age, medical history, dental needs, and level of cooperation significantly affected acceptance. Procedure cost had a sig. affect, and in addition cost and ethnicity together were significant. The decline in acceptance from no cost to high cost was greater in White and Spanish-speaking Hispanic groups. In the free response section, multiple parents were concerned about this pBGT's neurological consequences.

**Sedation:** Medical history, dental needs, anxiety, cooperation, and procedure cost sig. affected acceptance. Parents found the BGT more acceptable in kids aged 7-12yrs and 13-18yrs than those aged 3-6yrs and 0-2yrs. In the free response section, multiple parents were concerned with risk of death.

**GA:** Medical history, treatment needs, and procedure cost sig. affected acceptance. Parents found the BGT more acceptable in kids aged 7-12yrs and 13-18yrs than those aged 3-6yrs and 0-2yrs. White parents were sig. more accepting of this BGT in regard to anxiety than both Asian and Spanish-speaking Hispanic parents. In the free response section, multiple parents were concerned with risk of death and neurological consequences with this pBGT.

## DISCUSSION

*In this study, there were ethnic and patient-specific factors that influenced parental pBGT acceptance.*

These findings have important implications for practitioners, for whom it is valuable to understand the concerns of parents regarding these techniques.

### Limitations:

The Hispanic population was divided into English- and Spanish-speaking, perhaps masking differences in those that spoke both languages

Ethnicity is hard to quantify for an individual, therefore the findings of this study cannot be generalized to all people of a certain ethnicity  
Small sample size of 167

**Further research** should focus on these and other ethnic groups and other factors that could affect parental influence, such as urgency or convenience.

## CONCLUSIONS

- Acceptability of pharmacologic BGTs vary based on multiple patient factors, including age, medical history, and cost, and parents are aware of potential side effects.
- Providers should be aware of potential concerns and able to provide up-to-date, culturally sensitive responses to the utilization of pBGTs in their office.

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## REFERENCES

