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Tell-Show-Do: Effective Behavior Management for Children aged 5 to 9 years

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ABSTRACT

Dental fear affects 24–36% of children aged 5–9, complicating treatment and increasing risks of poor oral health outcomes. The Tell-Show-Do (TSD) technique, a non-pharmacological behavior management strategy, aims to reduce anxiety and enhance cooperation in pediatric dentistry.

Aim: This study evaluated TSD's effectiveness in a private dental clinic in Sofia, Bulgaria, from February to April 2025. It involved 60 children (30 boys, 30 girls) aged 5–9 with dental fear and no prior dental experience who required restorations for carious primary molars.

Material and methods: The TSD group (n=30) received structured explanations, demonstrations, and treatment, while the control group (n=30) received standard care. Outcomes were assessed using the Frankl Behavior Rating Scale for cooperation, the Modified Child Dental Anxiety Scale (MCDAS) for anxiety, and a 5-point Likert scale for parental satisfaction.

Results: The TSD group showed significantly higher cooperation, greater anxiety reduction, and higher parental satisfaction.

Conclusion: TSD's structured approach, supported by child-friendly environments, effectively mitigates dental fear, enhances cooperation, and improves satisfaction, reinforcing its value in private pediatric dental practice.

KEYWORDS

child's management behavior, tell-show-do, dental fear, pediatric care

INTRODUCTION

Dental fear in children is a common and clinically significant issue, with prevalence estimates ranging from approximately 24% to 36% in children aged 5 to 9, depending on the population and assessment method used (1, 2). Dental fear manifests as resistance, crying, or refusal during dental visits, which complicates treatment and increases the risk of untreated oral health issues (1, 2). If unaddressed, this fear can lead to lifelong dental avoidance (3).

Dental fear in this age range is associated with poorer oral health outcomes, including higher rates of dental caries, active decay, and oral infection, as well as a greater negative impact on family quality of life (4, 5, 6).

Multiple factors influence the development and persistence of dental fear in children, including previous negative dental experiences, parental dental anxiety, irregular or symptomatic dental visits, and history of extractions (4, 7). Children with caries experience or those lacking prior dental visits are at increased risk (1). Parental anxiety and vicarious learning play a significant role in the transmission and maintenance of dental fear (8).

Dental fear in children is not static. Some children outgrow it, while others develop new anxiety over time. However, a substantial proportion of children who are anxious at age 5 remain anxious at age 9, and new cases can emerge during this period (4). Girls may be at slightly higher risk, and dental fear is often cumulative, with both

adverse conditioning and vicarious learning contributing to its development (4).

Non-pharmacological behavior management strategies are preferred in pediatric dentistry for their safety and child-centered approach. The Tell-Show-Do (TSD) technique is a cornerstone of behavioral management in pediatric dentistry, designed to alleviate anxiety and promote cooperation among young patients. It involves three sequential steps: first, the dentist tells the child what will happen using age-appropriate language; second, the dentist shows the child the instruments or procedures in a non-threatening way (for example, demonstrating on a finger or a model); and third, the dentist does the procedure exactly as described and demonstrated. This approach aims to desensitize the child to the dental environment and procedures by providing clear, concrete information and reducing the fear of the unknown (9, 10).

In children aged 5 to 9 with dental fear, the "tell-show-do" method builds trust, increases predictability, and fosters a sense of control. The technique is most effective when the language is tailored to the child's developmental level and when positive reinforcement is provided for cooperative behavior (9).

While "tell-show-do" is widely used and considered a standard of care, recent clinical trials and systematic reviews indicate that its effectiveness in reducing physiological and subjective measures of dental anxiety may be limited compared to distraction-based techniques such as audiovisual distraction or interactive applications (11, 12).

Nonetheless, it remains a core strategy, especially for children with mild to moderate anxiety, and is often combined with other behavior management methods to optimize outcomes.

Ultimately, the TSD technique helps build trust and reduce fear (13). In private dental practices, where patient satisfaction and retention are crucial, TSD's ability to create positive experiences is particularly valuable. This article aims to evaluate the effectiveness of TSD in managing children's behavior and anxiety in a Bulgarian private dental clinic.

MATERIALS AND METHODS

This study was conducted in a private dental clinic in Sofia, Bulgaria, from February to April 2025. It involved

60 children undergoing routine dental procedures (fillings). After a detailed explanation of the study procedures, parental consent was obtained.

Inclusion Criteria of the Children

- Children with dental fear;
- Children with no prior dental experience;
- Children who need caries lesions treatment with caries lesions confined to the enamel and up to two-thirds of the dentin, requiring restoration without local anesthesia.
- Children aged 5–9 years;
- Children whose parents provided written informed consent for participation.

Exclusion Criteria of the Children

- Children with systemic or mental health conditions.
- Children with carious teeth with extensive damage.
- Children with carious teeth with lesions involving the pulp or extending below the gingival margin.

The sample included first-time patients with an even gender distribution (30 boys, 30 girls).

Experimental group: In 30 (15 girls and 15 boys) children, the TSD technique was performed during the treatment procedure. The pediatric dentist applied the technique as follows:

- **Tell:** Explaining procedures using simple, reassuring language (e.g., "We will use a tiny brush to polish your teeth"). The dentist introduced the dental environment as a "tooth adventure land." Procedures like cleaning were described as "brushing away sugar bugs" and fillings as "putting a superhero shield on teeth." The language was positive, avoiding terms like "pain," "fear," or "needle."
- **Show:** Demonstrating tools or sensations (e.g., showing a dental mirror or letting the child feel the air syringe). The dentist demonstrated equipment on a large model tooth projected on a screen. Each child watched a 5-minute animated video of a character undergoing a dental visit. Tools were passed around, allowing the child to feel the mirror ("shiny superhero glass") and air from the handpiece ("gentle breeze").

Do: Perform the procedure after confirming the child's comfort. The dentist paused frequently to check comfort and used verbal praise.

Control group: No structured behavioral technique was performed on the rest of the children (30 – 15 girls and 15 boys).

Treatment procedure

Each treatment session targeted a single deep-caries primary molar, following standardized protocols. The procedure involved disinfection, isolation, caries removal, and cavity restoration, and it took approximately 20–30 minutes. A dedicated researcher documented outcomes before and after treatment.

The effectiveness of the procedures for behavior management in the two groups of children was assessed through three metrics:

- **Child Cooperation:** Compliance and child's cooperation were evaluated before and after the procedure in both groups using the Frankl Behavior Rating Scale, with scores ranging from 1 to 4, where lower scores reflect reduced compliance (1 = definitely negative, 4 = definitely positive), a validated tool for assessing pediatric dental behavior (14).
- **Anxiety Levels** were evaluated with the Modified Child Dental Anxiety Scale. The modified Child Dental Anxiety Scale (MCDAS) is a validated self-report questionnaire designed to assess dental anxiety in children. It consists of items asking children to rate their anxiety about specific dental situations, such as dental examinations, scale and polish, injections, fillings, extractions, and anesthesia. Each item is scored on a Likert-type scale from 1 (not worried) to 5 (very worried), with higher total scores indicating greater dental anxiety (15, 16). The MCDAS was administered to the children as

a face version (MCDAS(f)), which used facial expressions to help the children understand and rate their anxiety levels more easily (16, 17).

- **Parental Satisfaction:** Parental satisfaction was evaluated using a 5-point Likert scale survey, ranging from 1 (very dissatisfied) to 5 (very satisfied), adapted from established studies on patient satisfaction in dentistry. The survey was designed to capture parents' perceptions of their child's dental experience, focusing on the quality of care, the dentist's communication, the child's comfort, and the overall clinic environment. It consisted of 10 questions, including items such as "How satisfied were you with the dentist's explanation of the procedure?" and "How comfortable did your child appear during the treatment?" Parents completed the survey immediately after the appointment in a private waiting area to ensure candid responses. The questionnaire was provided in Bulgarian to accommodate diverse backgrounds, and responses were collected anonymously to minimize bias. The survey's structure was based on validated instruments to ensure reliability and comparability with prior research on pediatric dental care satisfaction.

Data were collected for 30 children treated with TSD and 30 with standard care (no structured behavioral technique). Statistical analysis was performed using SPSS, employing t-tests and chi-square tests to compare outcomes.

RESULTS

Table 1 summarizes the cooperation level of the children.

Table 1: Child Cooperation (Frankl Behavior Rating Scale)

Rating	TSD Group (% n)	Standard Care Group (%)
Definitely Positive (4)	76.66 % (23)	43.33% (13)
Positive (3)	16.66 % (5)	30% (9)
Negative (2)	6.66 % (2)	16.66% (5)
Definitely Negative (1)	0%	10% (3)
Chi-square test: $\chi^2 = 18.42$, $p < 0.001$		

The TSD group showed significantly higher cooperation, with 76% rated as “definitely positive” compared to 43%

in the standard care group. Only 6-7% of TSD children were rated “negative” or “definitely negative,” versus 27% in the standard care group.

Table 2 shows MCDAS scores

Table 2: Anxiety Levels (MCDAS Scores)

Group	Pre-Treatment Mean \pm SD	Post-Treatment Mean \pm SD	Ind t-test
TSD Group	22.5 \pm 4.2	15.3 \pm 3.8	t = 8.76, p < 0.001
Standard Care Group	23.1 \pm 4.5	19.8 \pm 4.0	t = 5.32, p < 0.001

The TSD group had a significant anxiety reduction (from 22.5 to 15.3), compared to a smaller reduction in the standard care group.

Table 3 presents parental satisfaction ratings.

Table 3: Parental Satisfaction (5-Point Likert Scale)

Rating	TSD Group (% n)	Standard Care Group (% n)
Very Satisfied (5)	83.33 % (25)	60 % (18)
Satisfied (4)	13.33 % (4)	23.33 % (7)
Neutral (3)	3.33 % (1)	10 % (3)
Dissatisfied (2)	0% (0)	6.66% (2)
Very Dissatisfied (1)	0% (0)	0% (0)
Chi-square test: $\chi^2 = 14.89$, p = 0.002		

The TSD group achieved a higher mean score with 83.33% of TSD parents rating their experience as “very satisfied” versus 60% in the standard care group.

DISCUSSION

Treating children poses significant challenges for dentists due to their distinct psychological, emotional, and physical traits compared to adults (18). A child's nervousness can impede the dentist's ability to deliver high-quality care during dental procedures (19). Anxiety, a typical response to stressful situations, can adversely influence a child's behavior, with preoperative anxiety potentially leading to long-term consequences such as

increased postoperative discomfort and greater difficulties during treatment. Factors including the child's age, dental and medical history, parental anxiety about dental care, and parental attitudes can shape a child's behavior, particularly during their first dental visits (20, 21). Addressing dental anxiety in children is essential to reduce fear and prevent the development of persistent anxiety, fostering a more positive dental experience.

Our results demonstrate TSD's effectiveness in a private dental clinic, significantly improving child cooperation, reducing anxiety, and enhancing parental satisfaction. The 76.66% “definitely positive” cooperation rate in the TSD group aligns with Allen et al., who found that TSD

increased cooperative behaviors in 70–80% of pediatric patients (22). The absence of "definitely negative" behaviors in the TSD group reflects its ability to mitigate fear through structured, predictable interactions, as supported by the AAPD guidelines, which endorse TSD as a primary non-pharmacological technique (13). Effective communication yields positive outcomes, such as alleviating children's fear, promoting adherence to healthy oral hygiene practices, and enhancing overall oral health results. The pediatric dentistry literature highlights several verbal communication strategies, including Tell-Tell-Tell, Ask-Tell-Ask, and Teach-back, as effective methods for improving interpersonal skills in managing oral health care (23).

The significant anxiety reduction (Table 2) corroborates other authors' reports of TSD's efficacy in lowering anxiety in children (24, 25). By addressing fears of the unknown, TSD creates a sense of control, a key factor in reducing dental anxiety (26).

Parental satisfaction, critical in private practice, was markedly higher with TSD (83% "very satisfied" vs. 60% in standard care). Clear communication and positive child experiences enhance parental perceptions of care quality (27). The significant effect of TSD's role in building trust can drive patient retention and referrals in private dental clinics (28).

TSD's success depends on dentist training and practice environment. The study's dentists were experienced, consistent with AAPD recommendations for TSD training (13). In less skilled hands, outcomes may vary. Time demands of TSD may challenge high-volume practices, though the study clinic's private setting allowed flexible scheduling, enhancing TSD's feasibility. Private practices often feature child-friendly environments (e.g., colorful decor), which amplify TSD's effectiveness compared to public clinics (25). Age differences may influence TSD's impact. Younger children (3–6 years) likely respond better to tactile demonstrations, while older children (7–12) benefit from verbal explanations (29).

CONCLUSION

The Tell-Show-Do technique proves highly effective in a private dental practice, significantly enhancing child cooperation, reducing anxiety, and improving parental satisfaction. With a 76.66% "definitely positive" cooperation rate, a substantial reduction in anxiety levels, and 83% of parents reporting high satisfaction,

TSD aligns with established pediatric dentistry literature, reinforcing its role as a cornerstone non-pharmacological strategy. By fostering trust through structured communication and tailored demonstrations, TSD addresses children's unique psychological and emotional needs, mitigating fear and promoting positive dental experiences. Implementing TSD with comprehensive training and supportive clinic settings can transform pediatric dental care, ensuring children develop lifelong positive attitudes toward oral health.

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