

# Association Between Screen Time and Dental Caries in Children



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## INTRODUCTION

- Children between the ages of 8-10 spend an average of 8 hours per day in front of screens, which increases to over 11 hours per day in older children<sup>1</sup>
- The American Academy of Pediatrics and the World Health Organization (WHO) recommend limiting total entertainment screen time to less than 2 hours per day for all children<sup>1</sup>
- Excessive screen time is linked to adverse systemic outcomes: reduced physical activity, increased risk of obesity, poor sleep quality, and mental health issues<sup>2</sup>
- Dental caries is recognized by the WHO as the most prevalent noncommunicable disease worldwide, affecting an estimated 2.5 to 3.1 billion people<sup>3</sup>
- Known caries risk factors: diet, oral hygiene practices, and socioeconomic status; the role of screen time is less defined<sup>4</sup>
- Cariogenic dietary patterns are associated with excessive media use<sup>5</sup>
- Extended screen time correlates with increased risk of experiencing dental neglect and developing poor oral hygiene habits (brushing <2x/day)<sup>6</sup>
- Limited research exists directly examining the association between elevated levels of screen time and the incidence of dental caries, particularly in pediatric populations

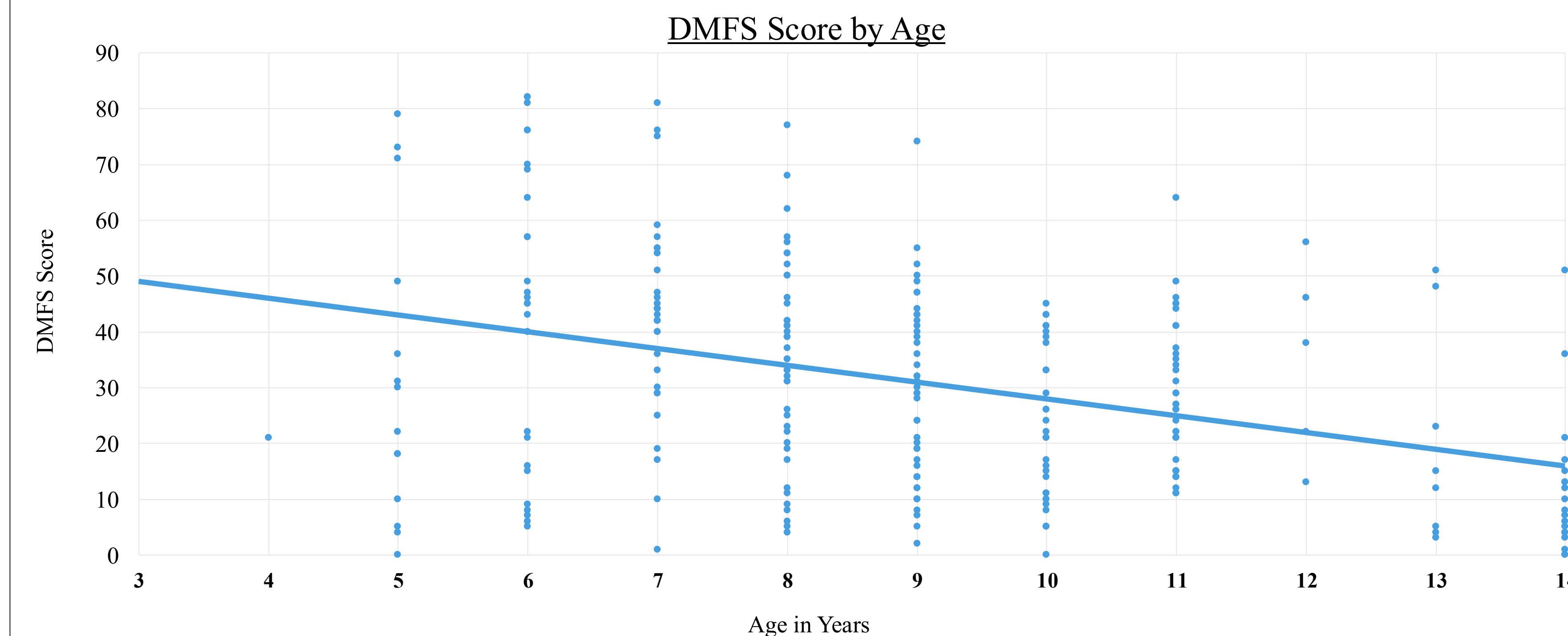
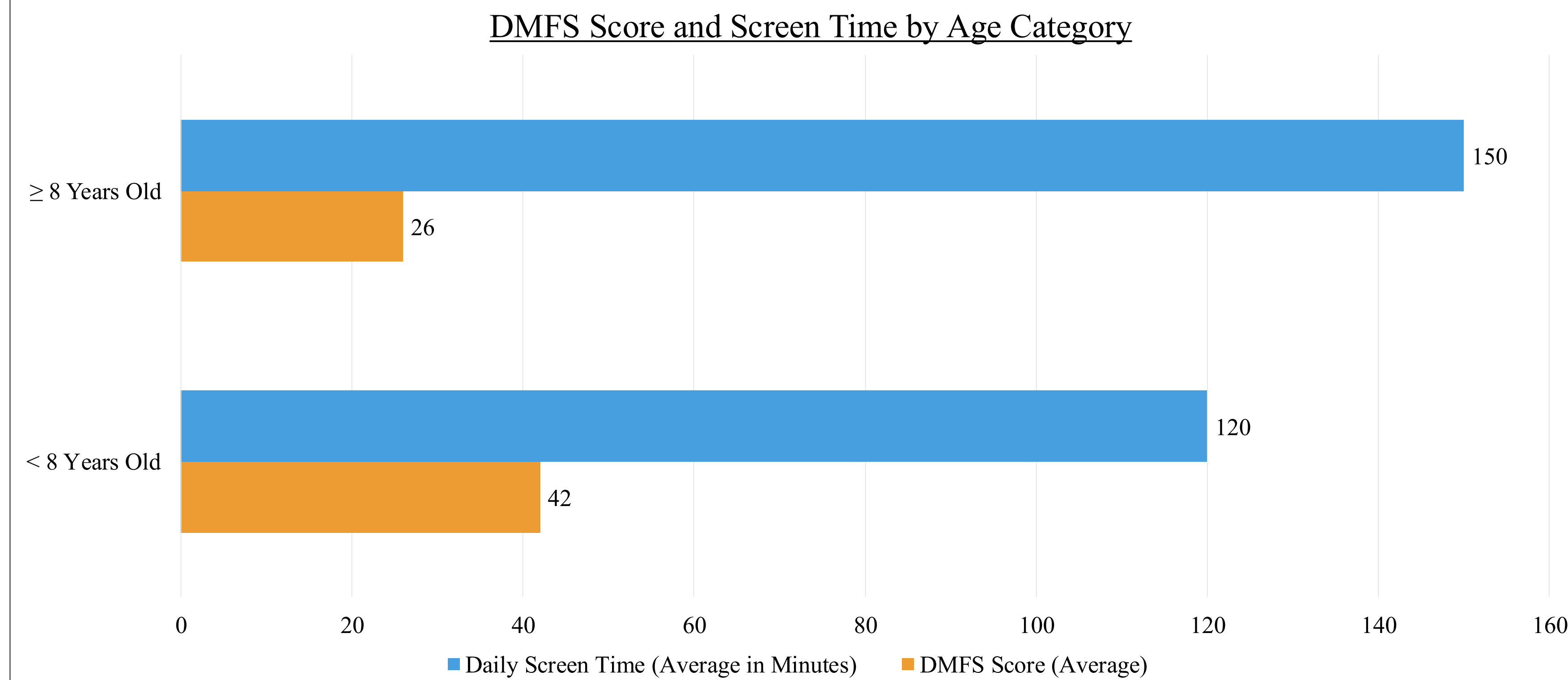
## PURPOSE

- Describe the relationship between screen time and the incidence of dental caries in pediatric patients via a retrospective chart review
- Primary objective: test the hypothesis that there will be a positive relationship between screen time and number of caries, indicating patients with higher screen time will have a higher incidence of dental caries
- Secondary objective: assess how decayed, missing, and filled surfaces (DMFS) score varies by age

## METHODS

- Design: retrospective chart review at Lincoln Avenue Medical Dental Clinic (visits 01/01/2022–12/31/2024)
- Inclusion criteria: healthy children 5.0–14.11 years with diagnostic bitewing radiographs and a well-child check completed within 12 months of each other; both visits must fall within study dates
- Sample: N = 300, stratified by sex and age (50 M/50 F per age group: 5.0–7.11, 8.0–10.11, 11.0–14.11 yrs)
- Data extraction: Epic Slicer Dicer to identify charts; review for DMFS, age, sex, height/weight (BMI), and daily screen time (from well-child check)
- Statistical analysis completed

## FIGURES



## RESULTS

- In both the unadjusted linear regression and adjusted linear regression models, there was no significant relationship between screen time and DMFS scores
- No significant variations were found in screen time and DMFS scores across different age categories
- There was an inverse relationship between DMFS scores and age
- While dietary and behavioral factors linked to screen time might contribute to dental caries, the direct association between measured screen time and DMFS scores within this study cohort was not conclusive

## CONCLUSIONS

- The inverse relationship between DMFS scores and age indicates that as children age and exfoliate their primary teeth, their DMFS scores naturally decline, raising a concern that DMFS may not be the best measure for assessing caries experience, and emphasizes the need to consider additional factors
- While screen time alone does not appear to correlate with an increased risk of dental caries in this cohort, it underscores the complexity of caries development, influenced by dietary habits, oral hygiene, and socioeconomic factors
- Future research should further investigate the interplay between screen time and other behavioral factors and explore alternative or complementary methods to DMFS for assessing caries experience in children

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