



Come and Get It! A Case Study of Family Member Influence on Child Eating Rate in Natural Settings

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Introduction

- Parents and parental figures are highly influential on children in their early developing years, which includes the formation of eating habits¹.
- Parental feeding habits, including eating as a family, have been associated with lower BMIs in children².
- A possible reason for this relation is that family members may influence eating rates. Studies have shown that normal and overweight individuals model eating behaviors of others under experimental conditions³. However, this has not been explored in natural settings.

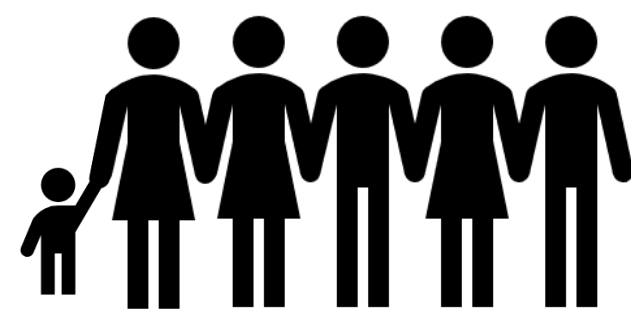


Objective

To investigate the influence of other family member's bite rates on a child's bite rate during mealtime in a natural home setting.

Method

Subjects: One family consisting of child, mother, grandmother, grandfather, uncle and great aunt



Procedures

- Recruited as part of larger study examining family interactions around food
- Video recordings collected in family's home over 7 days from cameras placed in TV room, dining room, and kitchen.

Child Demographics	
Race/ethnicity	Caucasian
Age	5 years, 5 months
BMI	99 th percentile

Dining Room	Kitchen
TV Room	

Video Scoring

Definitions

Bite ⁴ (frequency)	a) When any portion of food enters mouth (with fingers or utensils) b) When food comes into contact with open mouth or tongue (e.g. licking ice cream)
Meal Length	• Start: Child's first bite • End: Child's last bite
Family Member Present (duration)	a) Within child's view b) Within approximately 5 ft of child c) Have food

- All data recorded in 1-sec intervals
- Family member bites averaged within intervals
- Eating rate calculated as bites/min

Results

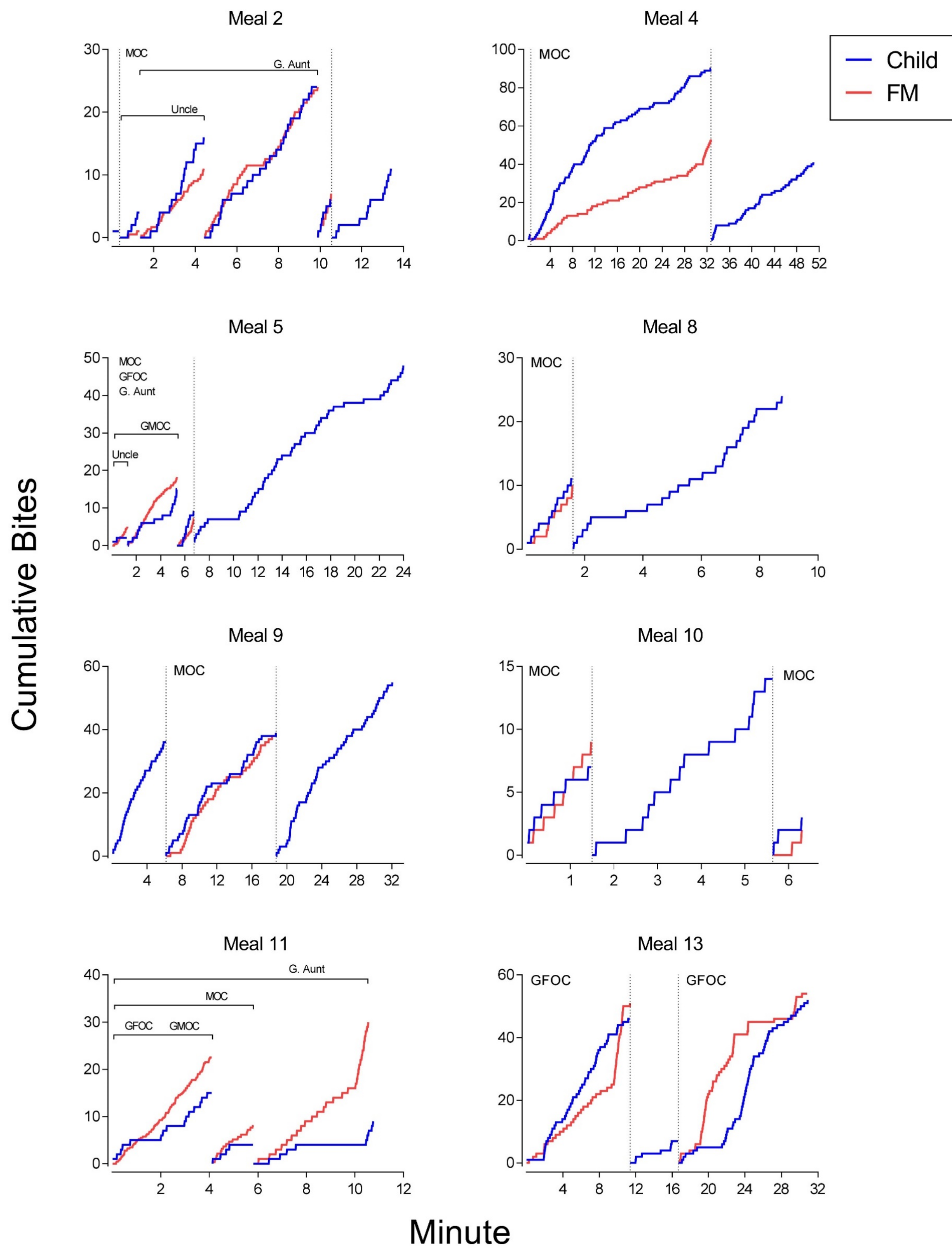
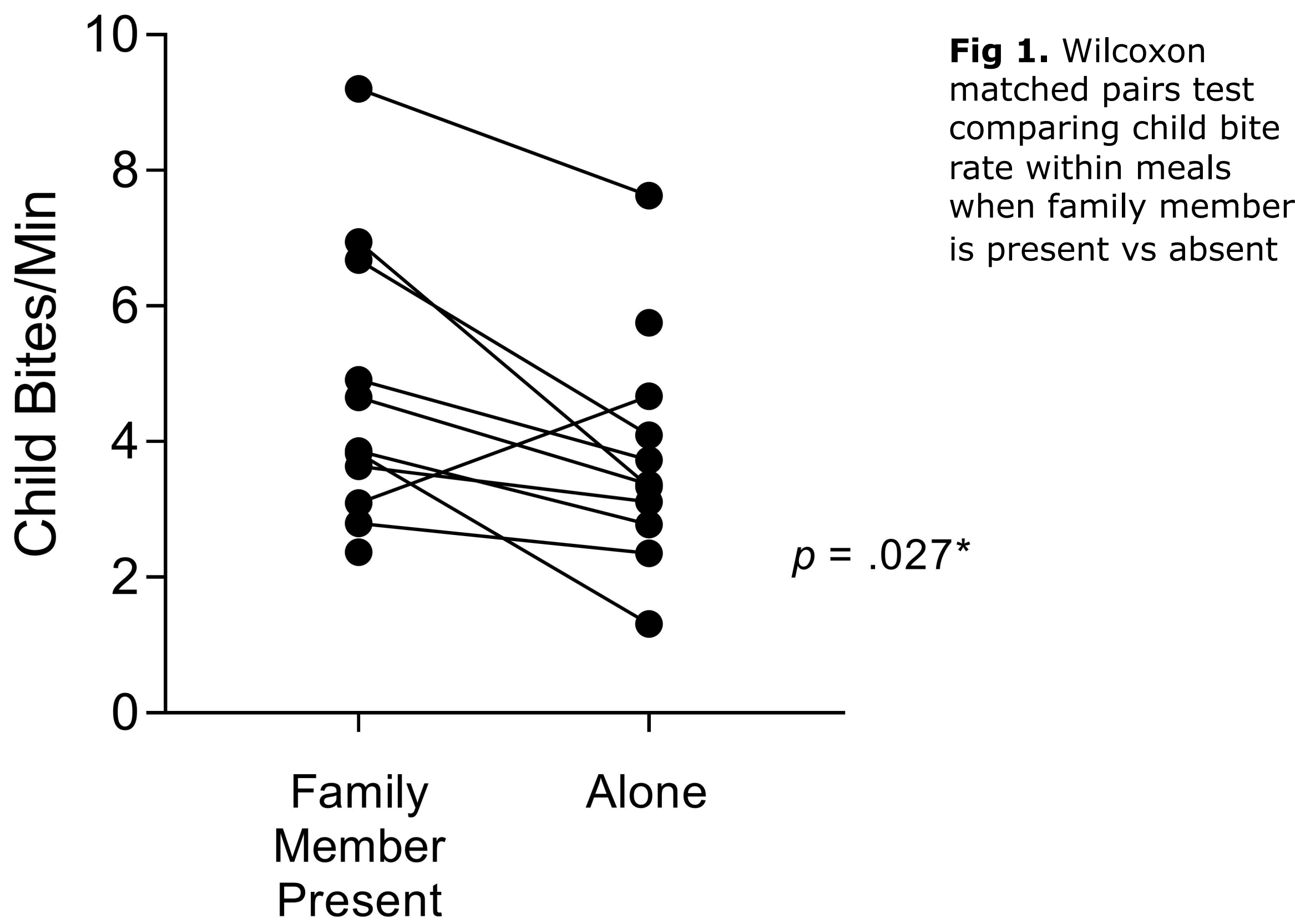


Fig 2. Cumulative records of child and family member (FM) bites during meals with similar foods. Brackets indicate when FM were present during the meal. Cumulative totals reset when the number of FM present changed. Vertical lines denote a change between at least one FM present vs. no FM. MOC: mother, GMOC: grandmother, GFOC: grandfather, G. Aunt: great aunt

	Breakfast	Lunch	Dinner
Total	5	1	6
Mean # Family Members Present	1	1	3
Meal Duration M (SD)	9:44 (4:03)	50:56 (N/A)	21:46 (11:06)

Results

- The analysis found that child bite rate was higher when at least one family member was present relative to when eating alone ($p = .027$) (**Fig 1**)
- For meals with similar foods eaten by both child and family member, cumulative records of bites showed correspondence between child and family member bite rates (**Fig 2**)

Discussion

- Family member presence appeared to impact child bite rate: child eating rate was higher when family members were present and lower when alone
- Child bite rate matched family member bite rate, which reflects results of previous studies with adults³
- Previous studies found faster eating associated with higher BMI in adults and children^{5,6}. 4 of 5 family members were overweight, such that family members may have modeled higher rates for child eating.
- These results suggest that if obesity treatment efforts include attempting to reduce child bite rate, family level intervention may be needed.

Limitations

- Potentially confounding factors (e.g., social cues, types of food) were not controlled or measured, which may have influenced obtained results
- Due to small sample size, results are not generalizable
- Effects of specific family members and total number of family members present could not be evaluated due to low variability in sample

Future Directions

- Continued investigation with more participants is needed to evaluate the generality of these findings
- Manipulating family member variables (e.g., parent bite rate, position in relation to child) while controlling meal variables (e.g., type of food) in experimental preparations could provide more information on social influences on child bite rate

Acknowledgments & References

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