

**BACKGROUND AND PURPOSE**

Although studies have shown a clear association between social factors and medical care, the impact of social factors on traumatic dental injuries (TDI) is unclear. It is unknown if varying neighborhood levels are associated with higher rates or specific patterns of TDI, or how these patients seek care for these injuries. The purpose of this study was

- To examine the association between patterns of TDI and social determinants of health (SDoH) in the context of neighborhood opportunity.
- To investigate how the resources of a Level I Pediatric Trauma Center are utilized for patients with TDI.

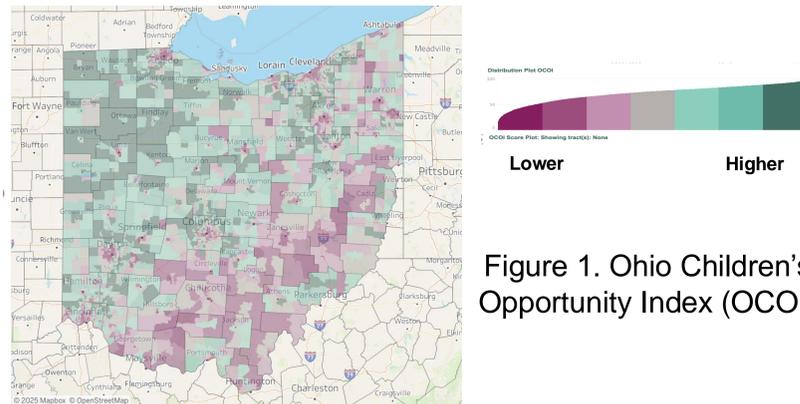


Figure 1. Ohio Children's Opportunity Index (OCOI)

**METHODS**

**Data Collection:** Retrospective chart review for patients aged 0-18, seen at Nationwide Children's Hospital for a Traumatic Dental Injury between 2013-2019.

Demographic and Clinical Information Obtained

Ohio Children's Opportunity Index (OCOI) was used as a proxy measure for area-level social determinants of health.

Neighborhoods were stratified into five quintiles for analysis, with **Quintile 1** as lowest and **Quintile 5** as highest opportunity.

Descriptive statistics performed: Chi-Square, Fisher's Exact Test, Two-Sample T Test, Kruskal-Wallis Rank Sum Test, and ANOVA

**RESULTS**

**3639 Participants**

**Trauma:**  
→ Permanent: 2459  
→ Primary: 1180

**Age (mean):** 7.631

**Male:** 61.9%

**English as primary language:** 87.1%

**Race:**  
→ White: 50.5%  
→ Black: 36.4%  
→ Other: 13.1%

**Special Health Care Needs:**  
→ ADHD: 16.8%  
→ Autism Spectrum Disorder: 3.5%  
→ Cerebral Palsy: 1.1%  
→ Developmental Delay: 2.5%  
→ Epilepsy: 3.2%  
→ Intellectual Disability: 2.2%

**Table 1. Distribution of Mechanism of Injury (MOI) based on Demographics**

	Assault	Automobile Accident	Fall	Hit by object	Sports injury	Other	P-Value
<b>Male</b>	87	53	1250	276	270	317	<.001
<b>Female</b>	16	38	878	187	55	212	
<b>English</b>	94	80	1828	412	295	462	0.08
<b>Non-English</b>	9	11	300	51	30	67	
<b>White</b>	38	53	1056	219	174	297	<.001
<b>Black</b>	56	30	786	173	120	160	
<b>Other</b>	9	8	286	71	31	72	
<b>Total N(%)</b>	103 (2.8)	91 (2.5)	2128 (58.5)	463 (12.7)	325 (14.6)	529 (8.9)	3639 (100)

**Table 2. Distribution of MOI based on Neighborhood Opportunity Index**

		Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total	P-Value
<b>Primary</b>	<b>Assault</b>	1	1	1	0	0	3	0.84
	<b>Automobile accident</b>	1	3	1	4	0	9	
	<b>Fall</b>	174	193	158	218	200	943	
	<b>Hit by object</b>	23	22	14	20	18	97	
	<b>Sports injury</b>	2	2	3	2	1	10	
	<b>Other</b>	24	19	25	27	23	118	
<b>Permanent</b>	<b>Assault</b>	34	26	18	12	10	100	0.02*
	<b>Automobile accident</b>	20	20	13	15	14	82	
	<b>Fall</b>	246	241	251	208	239	1186	
	<b>Hit by object</b>	69	80	83	67	67	366	
	<b>Sports injury</b>	49	58	63	77	68	315	
	<b>Other</b>	85	90	73	79	84	411	
<b>Combined</b>	<b>Assault</b>	35	27	19	12	10	103	0.03*
	<b>Automobile accident</b>	21	23	14	19	14	91	
	<b>Fall</b>	420	434	409	426	439	2128	
	<b>Hit by object</b>	92	102	97	87	85	463	
	<b>Sports injury*</b>	51	60	66	79	69	325	
	<b>Other</b>	109	109	98	106	107	529	

**DISCUSSION**

**Key Takeaways:**

- Males were more likely to experience trauma than females (P<.001).
- Fall was most common MOI for TDI (58.5%)
- MOI was significantly associated with race (p <.001) and neighborhood opportunity level (p=.003).
- Higher indices of sports injuries as MOI in White individuals and in higher opportunity neighborhoods.
- Higher indices of assault as MOI in Black individuals and in lower opportunity neighborhoods

**CONCLUSIONS**

Neighborhood index and demographics influence mechanism of TDI. Assault was a more common MOI in lower opportunity neighborhoods and in Black individuals. In contrast, sports injuries were more common MOI in higher opportunity areas and in White individuals.

**REFERENCES**

- Goswami M, Aggarwal T. Prevalence of Traumatic Dental Injuries among 1- to 14-year-old Children: A Retrospective Study. Int J Clin Pediatr Dent. 2021 Jul-Aug;14(4):467-470. doi: 10.5005/jp-journals-10005-1961. PMID: 34824497; PMCID: PMC8585904.
- Lee JY, Divaris K. Hidden consequences of dental trauma: The social and psychological effects. Pediatric dentistry. 2009;31(2):96-101.
- Ohio Colleges of Medicine Government Resource Center. (n.d.-b). Ohio Opportunity Index. Ohio Opportunity Index | Ohio Colleges of Medicine Government Resource Center. <https://grc.osu.edu/Projects/OhioOpportunityIndex>