

Predictors of Pediatric Helmet Compliance in Southern Nevada: A Prospective Analysis

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BACKGROUND

In the United States, an estimated 283,000 children are treated in the ED each year for related to sports- and recreation-related traumatic brain injuries (TBI), with bicycling accounting for 26,000 cases.¹ Bicycle helmets reduce the risk of head and brain injury; yet, despite their availability, children wear them only 42% of the time.² The determinants of helmet compliance vary across US populations, and the factors affecting pediatric helmet use in Southern Nevada remain unclear. Understanding local determinants may clarify strategies to improve compliance. Cross-sectional surveys examined guardian, attitudinal, and demographic predictors for pediatric helmet compliance in Southern Nevada.

PURPOSE

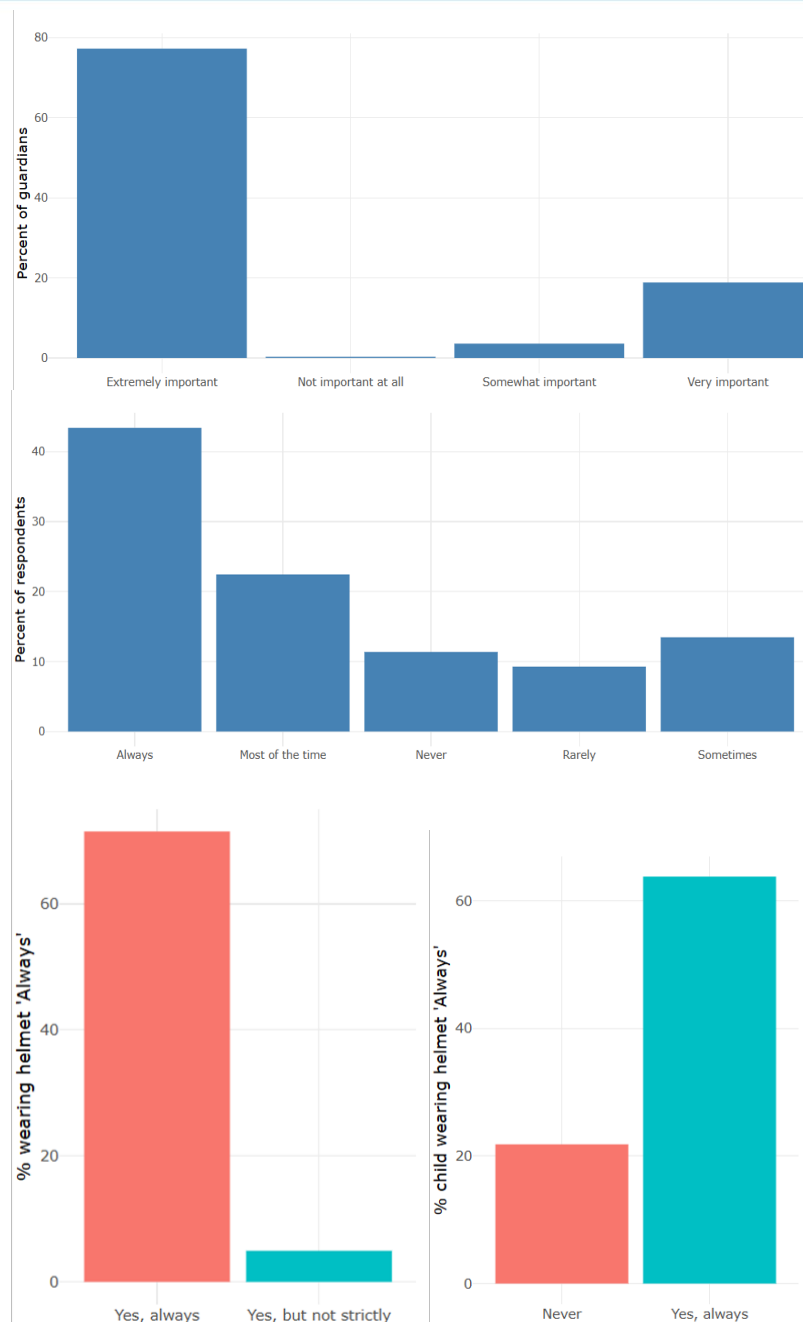
To assess which variables influence pediatric helmet compliance in Southern Nevada via a prospective quality-improvement guardian survey study.

METHODS

A convenience sample of guardians of pediatric patients treated at a Southern Nevada county hospital received optional surveys between June 2025 and February 2026, regardless of chief complaint. The survey collected demographic and behavioral variables in either English or Spanish. We analyzed the data using Claude (Opus 4.8, Sonnet 5), Google Excel analysis tools, and RStudio. We used linear regressions, Spearman rank correlations, and Mann-Whitney U tests.

REFERENCES

See Poster Author for Reference List



RESULTS

96.1% of guardians indicated that they believed helmets were important for preventing TBIs; however, on average, pediatric patients were reported to wear helmets only 43.4% of the time, and 11.4% were reported to never wear helmets (N=334). Pediatric patients whose guardians always wore helmets had 63.8% helmet compliance, compared with 21.8% for guardians who didn't wear helmets ($p = 0.38$). Interestingly, among strictly enforcing guardians, those who wore helmets had pediatric helmet compliance of 77.4%, while those who did not wear helmets had pediatric helmet compliance of 52.4%. Thus, enforcement of helmet compliance is necessary, as is guardians' behavior. No significant relationship between helmet compliance and income, age, sex, or language was found. Guardians or pediatric patients who previously received formal education had a helmet compliance rate of 50.8% compared to 39.4% for those who didn't ($p = 0.16$). Guardians who reported that their child did not wear helmets consistently said the child forgot to wear it, felt it was uncomfortable, or did not have a helmet.

CONCLUSIONS

Southern Nevada pediatric patient helmet compliance reported in this study was nearly identical to the national average. Strong predictors of pediatric helmet compliance were strict enforcement and guardian helmet use. Education on helmet safety marginally improved helmet compliance; however, neither most respondents nor their accompanying pediatric patients received formal education before the survey. No significant relationships were established from contextual variables such as age, sex, language, or income (based on ZIP code). Thus, efforts in guardian education to increase enforcement and increase guardian helmet use present an actionable opportunity to improve pediatric patient helmet compliance.

