

Research Question

How do housing characteristics, if at all, influence school district grades?

Literature Review

When quality, type, stability, and cost of housing were looked at as an effect on children’s development, the quality factor had the strongest indicator (Coley et al., 2013).

- There are better academic outcomes and health outcomes in students living in owner-occupied housing (Cordes et. al, 2023).
- Overcrowding can cause sleep discrepancies, increased exposure to illness, and distractions, all affecting a student’s ability to focus on school (Cordes et al., 2022).
- Rent burden can cause negative effects on mental and physical well-being, which is concerning, considering 50% of renters are cost-burdened (Harvard University, 2024).

Methodology

A linear probability model (LPM) was run in RStudio.

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + u$$

Variable	Definition	Source (Counties in FL for 2023)
x_1	% of county owner-occupied	U.S. Census Bureau: American Community Survey DP04
x_2	% of county rent-burdened (GRAPI)	U.S. Census Bureau: American Community Survey DP04
x_3	% of county that moved within that county	U.S. Census Bureau: American Community Survey S0701
x_4	% of county that has more than 1 occupant per room	U.S. Census Bureau: American Community Survey DP04
y	District letter rating, “A” rating or not “A” rating	Florida Department of Education: Florida school archives

Table 1: Variables and data sources

Limitations

- Small sample size (63 counties), no mobility data for Gadsden, Madison, Okaloosa, and Santa Rosa counties.
- Possible omitted variables.

Preliminary Results & Discussion

R ² : 0.06132 F-Stat: 0.9472	Coefficients	t-value	p-value
Owner Occupancy	1.76261	1.589	0.118
Rent Burdened	-0.05974	-0.070	0.944
Mobility	2.89217	0.716	0.477
Occupant Per Room	0.44823	0.106	0.916

Table 2: Output of the multivariate linear probability model

R ² : 0.05242 F-Stat: 3.375	Coefficients	t-value	p-value
Owner Occupancy	1.1832	1.837	0.0711

Table 3: Output from binary linear probability model of “owner occupancy” on “District letter rating”

Owner occupancy, rent-burden, mobility, occupant per room
• Table 2 model is not statistically significant because of low t-values and f-statistic, and high p-values.

Owner occupancy and school district ratings
• Table 3 shows the significant model of “owner occupancy” on “district rating” at the 10% level.
• Researchers can be 90% confident that a 1% change in owner occupancy will lead to a 1.18% change in the district rating.
• The R-squared means that only 5.24% of the variation in district ratings is explained by owner occupancy.

Owner occupancy as a measure of housing quality
Since previous research found quality of housing to be a strong predictor, this model should have a better way of capturing that because “occupant per room” is the only quality related variable in the model.

Policy Implications

- Children’s ability to succeed academically is not solely a reflection of what happens in the classroom, but also what happens at home.
- This preliminary research suggests home ownership does positively influence district grades, so policy implications should support home ownership among families to help increase educational attainment.

Future Research

- As there is enough evidence out there to promote better housing for families to improve children’s well-being and, thus performance in school.
- The next step to further this research would be to look at individual schools or, preferably, students to increase the sample size and variation of the data.

References & Acknowledgments

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References

