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The Relationship Between Perceived Neighborhood Disorder and Type 2 Diabetes Risk Across Different Racial/Ethnic Groups

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The Relationship Between Perceived Neighborhood Disorder and Type 2 Diabetes Risk

Across Different Racial/Ethnic Groups

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Chapman University



BACKGROUND

- The prevalence of Type 2 Diabetes in the United States varies by racial/ethnic groups¹
 - 12.5% Hispanic, 11.7% non-Hispanic Black, 9.2% Asian, and 7.5% non-Hispanic Whites¹
- Higher prevalence of Type 2 Diabetes in disordered neighborhoods (i.e., trash and vandalism)²⁻³
- Marginalized groups more likely to live in disordered neighborhoods compared to non-Hispanic Whites³
- Racial/ethnic differences in exposure to neighborhood disorder may result in differential threat interpretation³
- Current Study Hypothesis:** The relationship between perceived neighborhood disorder and Type 2 Diabetes risk varies across racial/ethnic groups

METHOD

Data: Health and Retirement Study (2016 & 2018 waves), a representative sample of United States adults 51 and over

Outcome: “Have you ever been told by a doctor that you have Type 2 Diabetes?” (0 = no, 1 = yes)

Predictor: Perceived neighborhood disorder

- Self-reported vandalism, trash, vacant buildings, and perceived neighborhood safety
- Scale ranged from 1-7 (higher scores = more disordered neighborhoods) ($\alpha = 0.84$)

Moderator: Race/Ethnicity

- 1 = Non-Hispanic Whites, 2 = Non-Hispanic Black, 3 = Hispanic, 4 = Non-Hispanic Others

Covariates: Education, household wealth, sex, and age

Statistical Analysis: Weighted logistic regression models examined the hypothesized main and interaction effects

RESULTS

Table 1. Weighted logistic regressions predicting Type 2 Diabetes Risk (n = 11,297)

	Model 1	Model 2
Perceived Neighborhood Disorder	1.12*** (0.02)	1.13*** (0.03)
Race/Ethnicity ^a		
Non-Hispanic Black	1.81*** (0.15)	2.26*** (0.40)
Hispanic	2.02*** (0.20)	2.17*** (0.42)
Non-Hispanic Others	1.48** (0.21)	1.74 (0.50)
Race/Ethnicity x Disorder		
Non-Hispanic Black		0.93 (0.05)
Hispanic		0.97 (0.06)
Non-Hispanic Others		0.93 (0.09)

Note. All models adjusted for age, sex, household wealth, and education
^aCompared to non-Hispanic Whites
 *p < 0.05; **p < 0.01; ***p < 0.001

- Compared to non-Hispanic Whites, all other racial/ethnic groups had higher Type 2 Diabetes risk
- More perceived neighborhood disorder was related to heightened Type 2 Diabetes risk
- Despite a null interaction, simple slope analysis revealed that the relationship between Type 2 Diabetes risk and perceived neighborhood disorder was only significant for non-Hispanic Whites (0.019***) and Hispanics (0.022*) but not non-Hispanic Blacks (0.012) or non-Hispanic Others (0.012)

DISCUSSION AND IMPLICATIONS

- Living in disordered neighborhoods contributes to Type 2 Diabetes risk, regardless of race/ethnicity
- Intervention programs designed to reduce neighborhood disorder may slow the increasing prevalence of Type 2 Diabetes for diverse populations
- Type 2 Diabetes was assessed with self-reports, so future use of biological markers of blood glucose may prevent self-report bias

FIGURE 1. INTERACTION MODEL

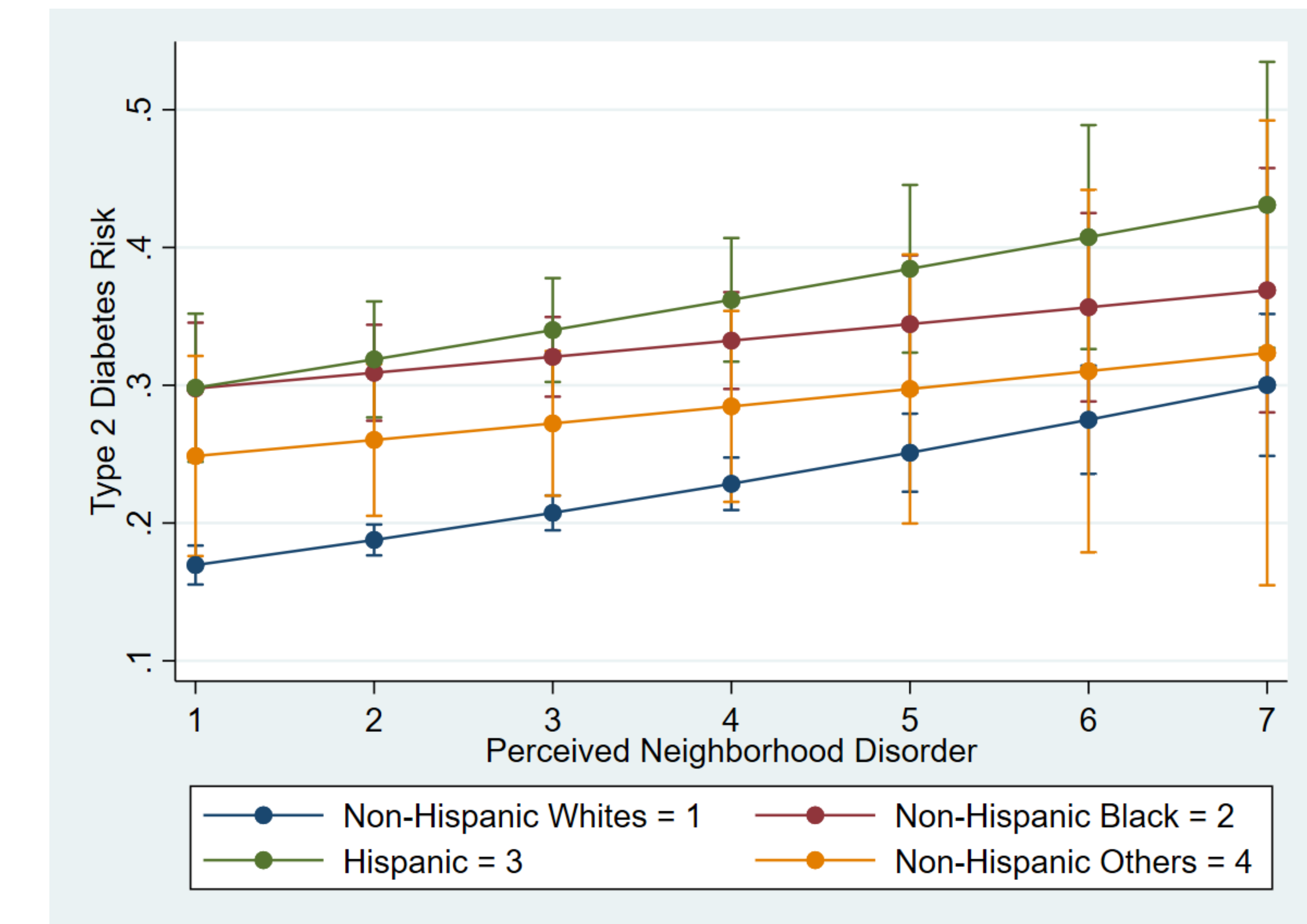
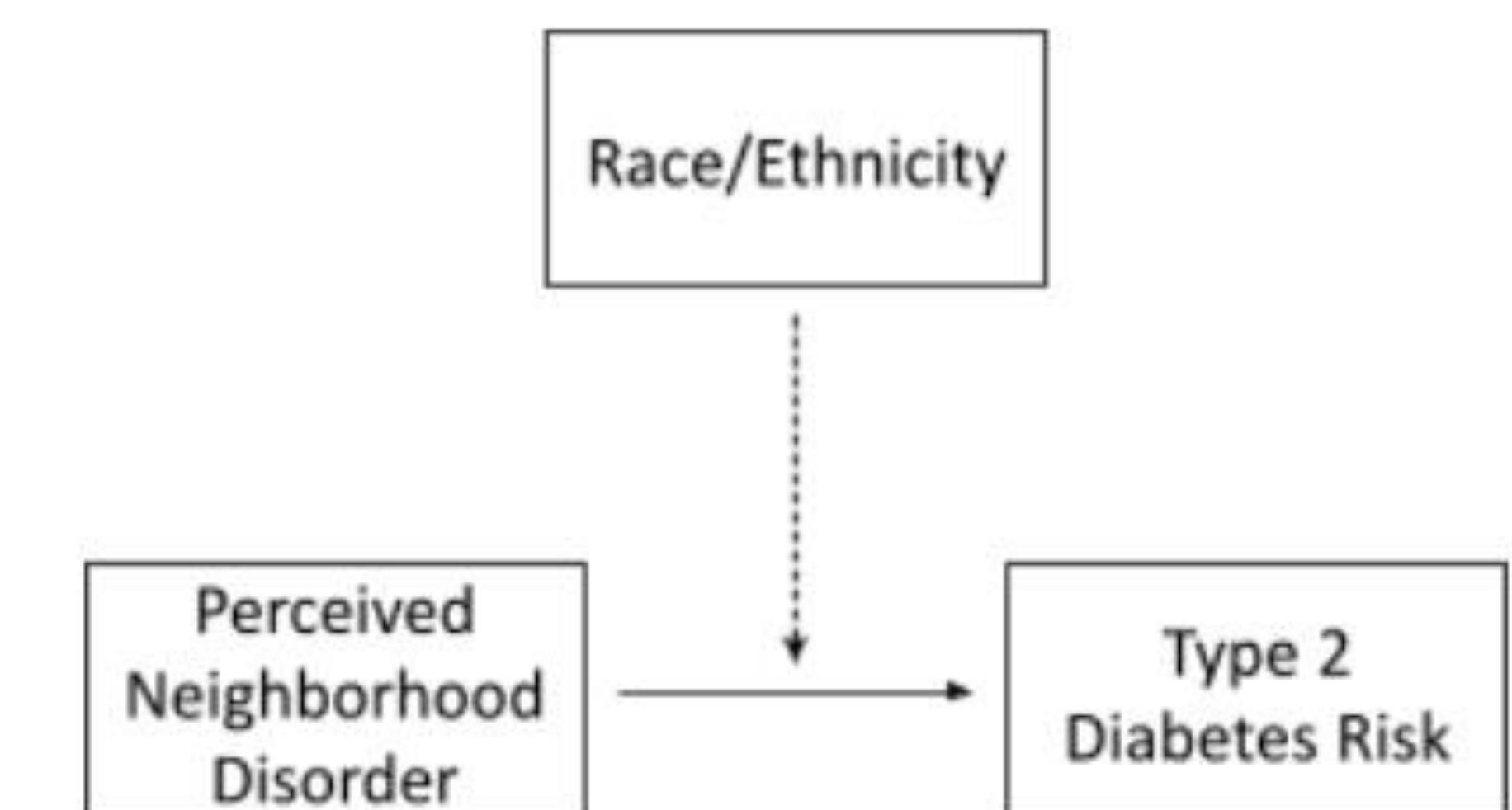


FIGURE 2. THEORETICAL MODEL



Main effects of perceived neighborhood disorder shown in the solid line. Race/ethnicity x perceived neighborhood disorder interaction shown in dashed line.

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