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Racial/Ethnic Disparities in Renters' Experiences with Maintenance Delays in the United States

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Abstract

Structural racism and individual discrimination contribute to racial inequalities in poor housing conditions in the United States. Less is known about whether and how structural racism and individual discrimination shape a parallel, but distinct, process that is also consequential for family wellbeing: experiencing housing unit maintenance delays. Maintenance delays transform acute problems into chronic stressors and increase exposure to physical hazards over time. Using the 2013 American Housing Survey, I examine racial/ethnic disparities in maintenance delays across non-Hispanic White, Black, Hispanic, Asian, and American Indian/Alaska Native renters. Given that 2.3 million low-income households rent using Housing Choice Vouchers (HCVs), a federal housing assistance program with requirements around repair timing, I also examine how renting with a voucher shapes maintenance delays. There are three principal findings. First, White renters are more likely to report timely repairs than either Black or Hispanic renters. Second, for Black renters, both structural racism experienced in rental markets and individual discrimination drive this disparity, whereas Hispanic renters' diverging maintenance experiences are largely explained by pathways impacted by structural racism. Third, renting with an HCV is not associated with repair timeliness for any racial/ethnic group. Taken together, the findings suggest that racial/ethnic disparities in substandard housing emerge not only through unequal exposure to housing quality problems but also through unequal responses to these issues.

Keywords

renters, racial inequality, housing conditions

Structural racism and individual discrimination in the housing market contribute to enduring racial inequalities in life chances (Faber 2020; Howell and Korver-Glenn 2021; Lipsitz 2011; Taylor 2019). One pathway that links racism in rental markets to family wellbeing operates through renters' housing conditions, as housing quality is a central social determinant of health (Swope and Hernández 2019). In 2021, an estimated 8.4 percent of U.S. renter households lived in a moderately or severely substandard home (American Housing Survey 2021), and there are persistent racial inequalities in the distribution of inadequate housing conditions across renters and across neighborhoods (Friedman and Rosenbaum 2004; Korver-Glenn et al. 2023). However, less is known about whether similar

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racial/ethnic inequalities emerge in landlords' *responses* to disrepair among renters who live in units that require maintenance.[1] Above and beyond experiencing a maintenance problem, experiencing a maintenance delay increases renters' exposure to physical hazards and operates as a chronic stressor as renters struggle to access critical home repairs (Chisholm, Howden-Chapman, and Fougere 2020; Clark and Kearns 2012; Foster, Hooper, and Easthope 2022). Minoritized tenants may not only live in units or neighborhoods where disrepair is common, they may also experience delays in receiving timely repairs when maintenance problems arise.

Research examining housing and neighborhood inequality suggests several mutually reinforcing pathways that could contribute to racialized disparities in maintenance delays. First, structural racism in housing markets drives disinvestment in rental upkeep in communities of color (Korver-Glenn et al. 2023), which may also impact minoritized renters' experiences with repair timeliness. Structural racism is "a multifaceted, interconnected, and institutionalized system of relational subordination for people of color and superordination for whites that is observable as concrete racial inequalities in life chances" (Brown and Homan 2022:6). Structural racism as it relates to housing markets refers to a constellation of public policies (Faber 2020), housing intermediaries (Korver-Glenn 2018; E. Rosen 2014), financial lenders (Taylor 2019), and others whose practices, in the aggregate, devalue or exploit communities of color. Second, in addition to prompting disinvestment at the neighborhood level, structural racism influences other renter sociodemographic characteristics (e.g., household income) that also contribute to power imbalances between landlords and tenants, enabling nonresponse (Chisholm et al. 2020; Durst 2014; Grineski and Hernandez 2010). Finally, it is possible that renters' unequal experiences with maintenance delays can be attributed to nonexclusionary discrimination—that is, individual racial discrimination from landlords occurring after lease-up (Roscigno, Karafin, and Tester 2009). Despite the links between maintenance delays and wellbeing, relatively little quantitative research examines how maintenance delays are patterned across U.S. renters, what social processes mediate racial/ethnic disparities in maintenance delays, and whether interventions designed to ensure unit quality for disadvantaged tenants (for instance, the Housing Choice Voucher [HCV] program) close these gaps.

In this article, I contribute to the literature on racial inequalities in housing inadequacy by using nationally representative data from the 2013 American Housing Survey (AHS) to analyze disparities in renter reports of maintenance delays across non-Hispanic White, Black, Hispanic, Asian, and American Indian/Alaska Native (AI/AN) renters.[2]

THEORETICAL BACKGROUND

Rental Housing Inadequacy in the United States

In the United States, landlords are legally required to maintain their rental properties to a local standard of habitability. Despite these regulations, substandard housing conditions persist. Approximately, 3.8 million renter households live in moderately or severely inadequate homes (American Housing Survey 2021). Housing adequacy problems among U.S. renters are also unequally distributed across race/ethnicity. Relative to 6.9 percent of non-Hispanic White renters, 9.7 percent of Hispanic renters, 10.3 percent of non-Hispanic Black renters, and 16.8 percent of AI/AN renters live in moderately or severely inadequate homes (American Housing Survey 2021). Researchers point to several mechanisms to explain these disparities. First, structural racism operating at the neighborhood level unequally distributes housing problems across space, as housing intermediaries disproportionately disinvest in unit upkeep in communities of color (Korver-Glenn et al. 2023). Second, structural racism

and individual discrimination experienced during the housing search process also limit minoritized renters' housing options and entry into higher quality homes (Friedman and Rosenbaum 2004; Reosti 2021; E. Rosen 2014; Schmidt 2023).

The Importance of Maintenance Delays

Although past work shows how structural racism and individual discrimination influence renters' housing conditions, less is known about whether similar disparities emerge in landlords' responses to disrepair—that is, renters' experiences with maintenance delays. There are several reasons to study maintenance delays, in addition to substandard housing conditions.

First, waiting for repairs that are uncertain or may never come transforms an acute stressor (e.g., experiencing a maintenance problem) into a chronic one (Foster et al. 2022). Renters negotiating maintenance delays must make decisions around following up with repair requests, ensuring that needed repairs are fully complete, and notifying city authorities about ongoing problems. Maintenance delays are largely out of renters' direct control, a key feature that exacerbates stress (Mirowsky and Ross 1990). Some evidence suggests that perceived landlord nonresponsiveness during the repair process amplifies the association between maintenance problems and eroded mental health (Clark and Kearns 2012). Renters experiencing maintenance delays may also experience anticipatory stress over whether continued repair requests will result in conflicts with their landlord or building manager (Grineski and Hernandez 2010; Pearlin and Bierman 2013). Second, experiencing a repair delay increases exposures to physical hazards within homes, such as broken flooring, lead presence, damp conditions, or mold (Belanger et al. 2003; Liddell and Guiney 2015). Minoritized renters may not only be more likely to experience housing quality problems at home, they may also be more likely to endure these issues over time. Renters' experiences with maintenance delays have important consequences for family wellbeing and the reproduction of racial inequality, above and beyond their experiences with poor living conditions.

Explaining Maintenance Delays

Past research suggests several mutually reinforcing pathways that could contribute to racial/ethnic disparities in repair timeliness: structural racism operating in rental markets that prompts disinvestment in maintenance, structural racism that influences other sociodemographic characteristics (e.g., renters' income) that also widen power imbalances between landlords and tenants and enable landlord nonresponse, and individual discrimination experienced during renters' housing tenures, that is, nonexclusionary discrimination (Roscigno et al. 2009).

First, structural racism operating in rental housing markets may explain a portion of the racial/ethnic gap in repair timeliness. Structural racism as it relates to neighborhood inequality encompasses the practices of governments, housing intermediaries (e.g., landlords and real estate agents), and financial lenders that exclude, devalue, or exploit communities of color (Faber 2020; Lipsitz 2011; Taylor 2019). In doing so, these practices also preserve advantages for predominantly White communities (Goetz, Williams, and Damiano 2020; Purifoy and Seamster 2021). Structural racism in the housing market unequally distributes housing quality problems across neighborhoods (Korver-Glenn et al. 2023). Recent evidence shows that neighborhood racial composition is a stronger predictor of experiencing repair problems at home than renter sociodemographics (Korver-Glenn et al. 2023). Therefore, minoritized renters may be more likely to experience maintenance delays than White renters because housing intermediaries disinvest in communities of color. Tenant screening practices like credit and background checks may channel minoritized renters, who disproportionately hold low, damaged, or unscorable credit records, to lower quality rentals where maintenance

delays are more common (Consumer Financial Protection Bureau 2016; Reosti 2021). Taken together, this work suggests that minoritized renters may be more likely to experience maintenance delays because they live in units and neighborhoods where housing intermediaries disinvest, more generally. As such, racial disparities in housing unit characteristics (e.g., unit quality), along with indicators of disinvestment in a neighborhood's physical infrastructure, could explain part of the racial/ethnic gap in maintenance delays.

In addition to influencing unit and neighborhood disinvestment, structural racism shapes other sociodemographic characteristics that could contribute to racialized disparities in maintenance delays. For instance, minoritized renters who endure structural racism in adjacent institutions like the labor market and education system may have limited disposable income to move away from a disinvested home, widening power imbalances between landlords and tenants and enabling landlords to delay repairs without facing consequences like unit turnover or code enforcement. Families led by single mothers and immigrant households endure similar difficulties during moves (Lauster and Easterbrook 2011; Schmidt 2023).[3] One study finds that holding few feasible housing alternatives "gives landlords leverage, which landlords use to avoid housing maintenance and responsiveness to residents" (J. Rosen et al. 2022:12). Therefore, tenants who face challenges on the broader rental market—for example, low-income families, households led by single mothers, and immigrants—may also be more likely to experience landlord nonresponse around maintenance. Although it is possible that some tenants do not notify their landlords about maintenance issues, evidence suggests that many disadvantaged renters do (Chisholm et al. 2020; Durst 2014; J. Rosen et al. 2022). One survey of predominantly low-income renters found that 92 percent of households experiencing maintenance issues reported problems to their landlord (Bachelder et al. 2016). As such, structural racism as experienced through racial/ethnic disparities in renters' socioeconomic status (e.g., income and education) and other characteristics (e.g., family structure) may partially contribute to racial/ethnic disparities in maintenance delays, above and beyond living in a unit or neighborhood where disinvestment is common.

Finally, it is possible that individual racial discrimination during renters' tenures contributes directly to the racial/ethnic gap in repair timeliness. Most research on individual discrimination in rental markets focuses on residential mobility processes, particularly housing searches (Faber and Mercier 2022; Oh and Yinger 2015; E. Rosen 2014; Turner et al. 2013). However, discrimination during renters' housing tenure also stratifies renter households. For instance, one study of housing discrimination finds that some landlords discriminate against Black tenants by withholding repairs and unevenly applying rent increases (Roscigno et al. 2009). Roscigno and colleagues (2009) argue that this amounts to nonexclusionary discrimination, as these "discriminatory actions and practices . . . occur within an already established housing arrangement" (Roscigno et al. 2009:52). Roscigno et al. (2009:65) point out that while these tenants are technically able to access housing opportunities, "their daily experiences remain far from comfortable." Although national-level evidence remains limited, this work suggests that there may be racial/ethnic disparities in repair timeliness not only due to structural racism in the housing market and adjacent institutions, but also due to nonexclusionary discrimination experienced at home.

Examining HCVs and Maintenance Delays

Because housing quality plays a central role in family health, the federally assisted HCV program for low-income renters includes several maintenance requirements that regulate

repair timing. Local housing authorities inspect HCV units before lease-up and subsequently every one to two years. Landlords have 24 hours to repair any severe maintenance problems and 30 days to resolve minor issues. Due to these repair timing requirements, voucher holders may perceive more timely maintenance, overall, than comparable tenants who do not use vouchers. It is also possible that the consequences of renting with a voucher vary across race/ethnicity. For instance, one recent audit study found that White and Latina women who submitted housing inquiries experienced a substantial response penalty when holding a voucher but Black women experienced a smaller penalty, due to the fact that landlord response rates toward Black women were already low (Faber and Mercier 2022). Alternatively, landlords who rent to voucher holders may conduct (or fail to conduct) timely repairs equally across groups. Given diverging landlord responses to voucher signals by race/ethnicity during tenant screening and the policy relevance of the HCV program, which supports approximately 2.3 million low-income families (U.S. Department of Housing and Urban Development 2023), I test whether the potential repair timing consequences of renting with an HCV also accrue unequally across groups.

The Present Study

In the present study, I advance past research on how structural racism and individual discrimination operate in the U.S. rental market by using nationally representative data to examine racial/ethnic disparities in maintenance delays among renters living in homes that have required a repair. To do so, I use data on maintenance satisfaction from the 2013 AHS, a national survey of households and housing conditions. Based on prior research on substandard housing conditions and racism in rental housing markets, I test the following three hypotheses.

Hypothesis 1: Overall, Black, Hispanic, AI/AN, and Asian renters will be less likely to report timely repair starts, compared to non-Hispanic White renters.

Hypothesis 2: These disparities will be partially attenuated by differences in other socioeconomic, unit, and neighborhood characteristics (i.e., structural racism impacting renters in these domains), and remaining gaps can be attributed, in part, to nonexclusionary discrimination (i.e., individual discrimination).

Hypothesis 3: All else equal, participating in the HCV program will improve repair timeliness among Black and Hispanic households, but White households will see smaller improvements, as they are less likely to encounter landlord nonresponse to begin with.

DATA AND METHODS

To test these hypotheses, I use the public-use version of the 2013 national wave of the AHS, a longitudinal survey of housing units in the United States. The AHS tracks a nationally representative, population-based sample of owner-occupied and rental housing units (n = 70,004), with a 2013 response rate of 86 percent (U.S. Census 2013). The first wave of the AHS in 1985 used the 1980 Census to draw a nationally representative sample of housing units. The AHS has subsequently updated the sample to include newly built housing units, housing units missed in 1980, and residential units added to or converted from existing buildings. I use the 2013 wave of the AHS because it is the most recent wave that includes questions on repair timeliness. The 2013 AHS used a split survey design, where half of the full sample were issued special topic modules on neighborhood conditions. Because I use several covariates from the neighborhood special topic module, I use the subsample of the 2013 AHS that answered these questions, with the appropriate sampling weights (SPLTWGT2).

I focus on renters because landlords are legally responsible for the maintenance and repair of rental units. To examine racial/ethnic disparities in repair delays, I use an

analytic subsample of Black, non-Hispanic White, Hispanic, Asian, and AI/AN renters who report that they have needed a major repair during their tenure in their home (n = 8,574). As such, these results generalize to renters who report that they have needed maintenance. The broader sample of renters (n = 10,428)—which includes renters who have required a repair and those who have not—differs from the analytic sample along several dimensions. Compared to the analytic sample, renters who have not required a repair are less likely to have a household income under the local poverty line ($p < .001$), are more likely to be White ($p < .001$), live in newer buildings ($p < .001$), and are more likely to have a college degree ($p < .001$). Consistent with prior research, this suggests that more advantaged renters are less likely to require major repairs in their unit in the first place.

Measures

Dependent variable. The primary dependent variable captures whether or not renters report that necessary, major repairs begin quickly, which I refer to generally as maintenance. The AHS asked respondents, "When the owner has to do major maintenance or repairs, do they start quickly enough?," with the following responses: yes, usually; not usually; very mixed; haven't needed any; and landlord not responsible for maintenance.[4] I collapsed responses into a binary outcome variable, categorizing "yes" and "usually" as indicative of receiving timely repairs, and categorizing "very mixed" and "not usually" as indicative of not receiving timely repairs. The results are also robust to the alternative specification, or cataloging "very mixed" repairs as evidence of timely repair starts. Importantly, this measure captures renters' perceptions of repair delays. Renters' perceptions of maintenance delays play a central role in their experiences of maintenance-related stress, in particular (Clark and Kearns 2012; McLeod 2012). Although I conceptualize this measure as an indicator of real differences in response times, it is possible that some portion of this difference can be attributed to unobserved heterogeneity across groups, in addition to real differences in delays.

Race/ethnicity. To capture whether racial/ethnic inequalities emerge in repair delays, I use the AHS variable on respondents' race/ethnicity. I conceptualize race/ethnicity as an indicator of the social process of racism in rental housing markets. One advantage of the AHS is that it includes a relatively high number of Asian and AI/AN respondents compared to other national surveys.[5] Asian families also face obstacles during housing searches (Reina and Aiken 2021), and some Asian immigrant households may endure similar legal status and credit-related challenges as Latinx immigrants, restricting their housing options (Schmidt 2023). AI/AN families endure structural exclusions from mortgage lending, higher contemporary mortgage terms, and discrimination in rental markets that limits their rental options (Cattaneo and Feir 2021; Hugill 2021). I test for differences across these groups to see whether and how structural racism and individual discrimination also impact Asian and AI/AN renters' experiences with repair delays, though the AHS does not contain fine-grained information about differences among AI/AN groups, despite the fact that these differences are consequential for stratification (see: Huyser and Locklear 2021). The sample size of Asian and AI/AN renters with vouchers is too small to evaluate the disparate impact of the HCV program on repair timing for these groups.

I coded each respondent's race/ethnicity as non-Hispanic White, Hispanic, Black, Asian, or AI/AN. "Hispanic" is a pan-ethnic and multiracial category that includes, among others, White Hispanic and Afro-Hispanic respondents. For the purposes of this analysis, I coded Afro-Hispanic and White Hispanic respondents as "Hispanic." The results remain substantively identical when I use

an alternative coding schema that classifies White Hispanic respondents as White and Afro-Hispanic respondents as Black.

To examine to what extent structural racism operating through the mediating pathways described above shapes renters' repair delays, I also include several sets of sociodemographic, unit, and neighborhood mediators.

Sociodemographic mediators. I include variables that capture whether a household's income is under a household size-adjusted poverty threshold determined by the U.S. Department of Housing and Urban Development (dichotomous), whether the respondent holds a bachelor's degree or higher (dichotomous), whether a household rents using a voucher (given HCV requirements around repair timing), household family structure (whether a household is led by a single mother, operationalized here as a household that includes an unmarried adult woman not cohabitating with another adult and at least one child under the age of 18 years), and whether the respondent is a U.S. citizen (naturalized or born in the United States) versus a legal permanent resident or other noncitizen category.

Unit mediators. Housing unit quality may also account for some portion of racial/ethnic gap in repair timeliness. Although the AHS includes two measures of unit quality—moderately inadequate and severely inadequate—past work suggests that the AHS measures lack internal consistency (Newman and Garboden 2013). Instead, I construct, and then aggregate, two dichotomous measures of unit quality that have been used in prior research (Evans 2021). The first measure captures whether or not a unit has currently or recently experienced at least one utility or sanitation problem from the following list: no hot water (currently), any toilet breakdowns during the last three months, if the sewage system has broken down during the past three months, if the unit lacks complete plumbing facilities for its exclusive use (currently), if the unit has had no running water during the past three months, if the unit has exposed electrical wiring (currently), if the unit has working electrical outlets (currently), if the fuses have blown during the past three months, if the water is potable (currently), and if there was evidence of rodents or cockroaches in the unit during the past 12 months.

The second measure captures whether or not the unit currently or recently (during the past 12 months) experienced at least one *structural* problem, including: peeling paint, holes, cracks, or crumbling foundations (currently), a roof with holes (currently), missing shingles or other roofing material (currently), a sagging or uneven roof (currently), outside walls missing siding or bricks (currently), outside walls that are leaning or buckled (currently), boarded-up windows (currently), holes in floor (currently), open cracks wider than a dime (currently), an inside water leak (within past 12 months), or an outside water leak (within past 12 months). Then, I aggregate these two variables to create a measure of whether or not a unit has either a utility/sanitation *or* a structural problem (all quality problems captured by the AHS are related to either utilities/sanitation or structure). In supplementary analyses, I find that the results remain substantively identical when considering utility/sanitation and structural problems separately, as well as when using a more restrictive indicator of current utility/sanitation and structural problems, rather than problems also experienced in the recent past.

Neighborhood mediators. Finally, I consider whether the association between race/ethnicity and repair timeliness is mediated by other neighborhood-level indicators of structural racism (Korver-Glenn et al. 2023; Massey and Denton 1993). In addition to the unit quality mediator described above, I include a dichotomous measure of neighborhood disinvestment that captures whether or not respondents report that their building currently has one or more abandoned or vandalized buildings within half a block,

accumulated trash or litter within half a block, or poorly maintained streets and roads within half a block. One limitation of the public-use version of the AHS is that it does not include other indicators of neighborhood structural racism, such as neighborhood racial composition, nor does it allow me to link AHS households to other census tract-level characteristics.

Other covariates. In addition to these mediators, I include other relevant covariates that could account for the racial/ethnic disparity in repair timeliness. These include controls for U.S. region (Northeast, Midwest, South, and West), whether the unit is located within an urban area, a logged rent measure, whether or not the respondent speaks English, the number of years the respondent has lived in their current unit, unit size (as rentals with more rooms may have more problems), whether renters live in a Public Housing Authority (PHA; as units in PHAs are more likely to have maintenance problems [Rosenbaum 1996]), whether a manager or owner lives on-site (which may facilitate access to repairs), the number of months of missed rent (from zero to three), the age of the building (dichotomous, above 40 years old or not), the number of coresident children under the age of 18 years, and building size (a categorical variable, following Gomory [2022], that indicates if a building contains between one and three units, four and 14 units, and 15 units or more), as owners of smaller properties may have less capital available to make repairs (Greif 2022), or alternatively, may be more inclined to invest in maintenance (Shiffer-Sebba 2020). Including these covariates allows me to isolate how much of the racial/ethnic disparity in repair timeliness can be attributed to structural racism moving through the mediating pathways described above. Although I cannot rule out all additional explanations, any remaining racial/ethnic gaps may indicate that individual discrimination is occurring, an interpretation that is consistent with past research on neighborhood attainment and place stratification.

Analytic Strategy

The analytic plan follows several stages. First, to test for the presence of a racial/ethnic gap in the maintenance process (Hypothesis 1), I present baseline associations between householder race/ethnicity and timely repair starts, including controls for geographic context (U.S. region and urban status). Then, I use weighted multivariate logistic regressions with a full panel of covariates and mediators to examine whether these disparities persist after accounting for racialized disparities in other demographic, unit, building, and neighborhood characteristics that could also matter for renters' experiences with maintenance delays (Hypothesis 2). Following research on place stratification (Iceland and Wilkes 2006; Pais, South, and Crowder 2012), if race/ethnicity variables remain statistically significant after including covariates and mediators, I interpret this as evidence of discriminatory treatment in repairs—that is, nonexclusionary discrimination—with several caveats that I outline in the discussion. In contrast, if the race/ethnicity variable is reduced to nonsignificance, this can be understood as evidence of structural racism operating through different pathways to impact maintenance disparities, but not through interpersonal discrimination, per se.

Conventional comparisons of coefficients across nonlinear probability models can be unreliable because changes in logistic regression coefficients are influenced by changes in a model's residual variance, known as a rescaling effect (Breen, Karlson, and Holm 2021). However, regression methods that account for these changes do not simultaneously permit the calculation of all model coefficients as average marginal effects (AMEs). To calculate and report AMEs, I use standard multivariate logistic regressions in these analyses for interpretative ease. Supplementary analyses using the Karlson-Holm-Breen (KHB) decomposition method, which accounts for rescaling, indicate that the findings remain nearly identical. I include a side-by-side comparison of these coefficients in Appendix

Table A1. However, I do use the KHB decomposition method to estimate the contribution of each mediating pathway to racial/ethnic differences in maintenance timeliness.

Finally, to test for the presence of an interaction effect between voucher status and race/ethnicity (Hypothesis 3), I calculate the predicted probabilities of repair timeliness for Black, White, and Hispanic renters and test for statistically significant differences across HCV status. This test of the second difference helps avoid interpretation errors with interaction coefficients in logistic regression models and provides a more accurate assessment of the magnitude of any disparity in repair experiences (Mize 2019). I do not include Asian and AI/AN renters at this stage of the analysis due to the fact that few of these households rented with vouchers, which can produce unstable estimates for interaction terms.

Missing data. The analytic sample's independent variables were mostly complete. However, data were missing on several indicators, including neighborhood disinvestment (1.60 percent), whether respondents lived in subsidized housing (1.21 percent), and respondents' income (4.5 percent). Because the frequency of missing data on any given variable did not exceed five percent (Jakobsen et al. 2017), I use complete case analysis and drop cases where data are missing. I also dropped 110 respondents who were missing observations on the key dependent variable. As a robustness check, I used multiple imputation to impute missing independent variables and reran each model. The results are substantively identical as when using listwise deletion, likely due to the relatively low frequencies of missing data.

Model diagnostics. There was no evidence of multicollinearity in the logistic regression models. Using linear regression to diagnose the model, the highest observed variance inflation factor is 1.77 (for whether or not a renter lived in the U.S. South). The highest correlation observed between any two independent variables was between building size and the number of rooms within the unit (0.53).

RESULTS

Descriptive Statistics

Table 1 presents mean repair responsiveness for repair starts across renters' race/ethnicity among renters who have required a repair and selected descriptive statistics around other maintenance problems. Appendix Table B1 presents the complete set of descriptive statistics across race/ethnicity for all variables used in multivariate analyses. Overall, approximately 82 percent of renters reported that repairs began in a timely way. Table 1 also provides initial descriptive evidence of a racial/ethnic disparity in timely repair starts. On average, 87 percent of White renters reported a timely repair start, relative to 78 percent of Hispanic and 74 percent of Black renters. There are smaller disparities when examining differences across White, Asian, and AI/AN renters. Eighty-five percent of Asian renters and 84 percent of AI/AN renters report timely repair starts. Housing quality issues are also common within this sample. Overall, 42 percent of respondents reported a current or recent utility/sanitation problem in their home, while 23 percent reported a structural problem. White renters report experiencing fewer sanitation issues than Hispanic, Black, Asian, and AI/AN renters, while rates of experiencing a structural problem at home were fairly similar across race/ethnicity.

Multivariate Analyses

In the next stage of the analysis, I examine whether the observed racial/ethnic disparity in repair timeliness is statistically significant (Hypothesis 1) and to what extent this association can be explained by mediating pathways impacted by structural racism, other covariates, or nonexclusionary discrimination (Hypothesis 2). Table 2 presents the results of

Table 1. Selected Descriptive Statistics across Race/Ethnicity.

	All groups	White	Hispanic	Black	Asian	AI/AN
Maintenance timeliness						
Starts major repairs quickly	0.82	0.87	0.78	0.74	0.85	0.84
Unit quality						
Structural problem	0.23	0.23	0.21	0.26	0.17	0.26
Sanitation problem	0.42	0.34	0.52	0.48	0.44	0.40
Structural *or* sanitation problem	0.50	0.45	0.57	0.56	0.50	0.52
N	8,574	4,195	1,727	2,142	448	62

Note. Sample restricted to renters who have required a repair. AI/AN = American Indian/Alaska Native.

the weighted logistic regressions for unadjusted and adjusted models, reporting both unexponentiated coefficients and AMEs for interpretative ease. The AME reflects the change in probability of an outcome based on a one-unit increase in the independent variable of interest, all else being equal. For example, in Model 1, the reported AME represents the change in the probability of a renter receiving a timely repair when a renter is Black, Hispanic, Asian, or AI/AN, compared to a White renter.

Hypothesis 1: Baseline racial/ethnic disparity in repair timeliness. Hypothesis 1 posited that there would be a statistically significant racial/ethnic disparity in timely repair starts. Overall, I find support for Hypothesis 1 for Hispanic and Black renters relative to White households, but not for Asian and AI/AN households relative to White households. Turning to Table 2, Model 1 presents weighted baseline associations for timely repair starts, with geographic controls. The baseline model indicates that Hispanic renters are eight percent less likely than White renters to report a timely repair start ($p < .001$), and Black renters are 10 percent less likely ($p < .001$) than White renters to report a timely repair start. Asian renters are about one percent less likely to report timely repair starts than White renters, but this difference is not statistically significant ($p = .61$). AI/AN renters are eight percent less likely to report timely repair starts, but this association is also not statistically significant ($p = .20$).

Hypothesis 2: Persistence of racial/ethnic gaps in repair timeliness. It is likely that some portion of the racial/ethnic disparity in repair delays can be attributed to pathways impacted by structural racism, as well as racial disparities in other relevant covariates. In Model 2, I account for these mediating pathways and other covariates by adding socioeconomic, unit, building, and neighborhood characteristics, including the aggregated measure of unit quality described earlier. After accounting for these variables, the relationship between renter race/ethnicity and timely repair starts attenuates but remains statistically significant for Black renters. Compared to White householders, Black respondents remain five percent less likely ($p < .001$) to report timely repair starts. This provides suggestive evidence of nonexclusionary discrimination, as Black renters with similar incomes, living in similar quality units, and living in neighborhoods with similar signs of physical disinvestment as White renters are nonetheless *less* likely than White renters to report timely repair starts. For Hispanic renters, accounting for racial/ethnic disparities in renter sociodemographics and unit, building, and neighborhood context reduces the relationship between race/ethnicity and timely repair starts to statistical nonsignificance. Although Hispanic renters remain less likely than White renters to report timely repair starts, this difference is not statistically significant at conventional levels.

Table 2. Weighted Logistic Regression Results.

	Starts major repair quickly			
	(1)		(2)	
	β	AME	β	AME
Renter race/ethnicity[a]				
Hispanic	−0.55***	−0.08***	−0.21	−0.03
	(0.09)	(0.01)	(0.11)	(0.01)
Black	−0.69***	−0.10***	−0.38***	−0.05***
	(0.09)	(0.01)	(0.10)	(0.01)
Asian	0.09	−0.01	0.05	0.01
	(0.17)	(0.02)	(0.18)	(0.02)
AI/AN	−0.54	−0.08	−0.24	−0.03
	(0.42)	(0.06)	(0.49)	(0.06)
Sociodemographic characteristics				
Income under local poverty line			−0.07	−0.01
			(0.09)	(0.01)
Rent (logged)			0.03	0.00
			(0.05)	(0.01)
Months of missed rent			−0.14*	−0.02*
			(0.06)	(0.01)
Housing voucher recipient			−0.03	0.00
			(0.17)	(0.02)
U.S. citizen			0.03	0.00
			(0.12)	(0.02)
Single mother household			−0.01	0.00
			(0.13)	(0.02)
Respondent holds a BA or higher			0.24**	0.03**
			(0.09)	(0.01)
No. of years living in unit			−0.01*	0.00*
			(0.01)	(0.00)
Non-English speaker			0.03	0.00
			(0.16)	(0.02)
No. of co-resident children $<$18 years			−0.20***	−0.03***
			(0.04)	(0.01)
Unit, building, and neighborhood characteristics				
No. of rooms in unit			0.03	0.00
			(0.03)	(0.00)
Building over 40 years old			0.07	0.01
			(0.08)	(0.01)
Building size[b]				
Between four and 14 units			−0.56***	−0.07***
			(0.10)	(0.01)
15 units or more			−0.46***	−0.06***
			(0.11)	(0.01)
Manager or owner lives on-site			0.31**	0.04**
			(0.10)	(0.01)

(continued)

Table 2. (continued)

	Starts major repair quickly			
	(1)		(2)	
	β	AME	β	AME
Public Housing Authority			−0.06	−0.01
			(0.13)	(0.02)
Structural or utility/sanitation problem			−1.14***	−0.15***
			(0.09)	(0.01)
Neighborhood disinvestment			−0.62***	−0.08***
			(0.08)	(0.01)
Geographic context controlled[c]	Yes		Yes	
R-squared	.02		.10	
Observations	8,574		8,574	

Note. Standard errors in parentheses. AI/AN = American Indian/Alaska Native; AME = average marginal effect; BA = Bachelor of Arts.
[a]Non-Hispanic White renters are the reference category.
[b]Buildings that contain between one and three units are the reference category.
[c]Geographic context includes urban status and U.S. region.
*$p < .05$. **$p < .01$. ***$p < .001$. (two-tailed test).

Other covariates. Other variables in Model 2 largely operate as anticipated. Having an owner or building manager living on-site (AME = 0.04, $p < .01$) and holding a bachelor's degree (AME = 0.03, $p < .01$) are positively associated with repair timeliness, while living with children is negatively associated with repair timeliness (AME = −0.03, $p < .001$). In contrast to expectations from research on the cash-flow limitations presented by smaller scale units that could slow down repairs (Garboden and Newman 2012; Greif 2022), Model 2 shows that living in a larger building is negatively associated with timely repair starts ($p < .001$). Notably, neither poverty status ($p = .44$) nor the amount of rent paid ($p = .58$) is significantly associated with repair timeliness, though paying rent on time is significantly associated with repair timeliness ($p < .05$). In other words, net of other covariates, renters living below the poverty line and paying lower amounts of rent are not more or less likely to report maintenance delays. This finding is consistent with recent research that suggests that racial/ethnic disparities in inadequate housing conditions cannot be adequately explained by renters' economic characteristics or rent amounts (Korver-Glenn et al. 2023).

KHB decomposition. Table 3 reports the results of the KHB decomposition, which shows the extent to which structural racism moving through each of the mediating pathways described above contributes to racial/ethnic differences in repair timeliness. Table 3 breaks out the effects of structural racism on timely repair starts through sociodemographic, unit, and neighborhood-level mediators, after controlling for all other confounders except for these mediators. Because unadjusted models only show statistically significant differences for Black and Hispanic renters, I perform the decomposition for these two groups. For Black renters, the results indicate that sociodemographic, unit, and neighborhood mediators accounted for about 28 percent of the total effect of racism on timely repair starts. Structural racism experienced through neighborhood disinvestment alone accounts for 16 percent of the total effect of racism on maintenance delays

Table 3. KHB Decomposition of Indirect Effects: Timely Repair Starts.

	Hispanic-White repair gap		Black-White repair gap	
	Coefficient change	% of total effect	Coefficient change	% of total effect
Income under poverty line	0.00	0.9	−0.01	1.2
Rents with a voucher	0.00	0.1	0.00	0.3
U.S. citizen	−0.01	3.6	0.00	0.2
Single mother household	0.00	0.1	0.00	0.5
Holds a BA or higher	−0.04**	12.1	−0.02**	4.3
Structural *or* sanitation problem present	−0.05**	14.8	−0.03†	5.4
Neighborhood disinvestment	−0.03*	8.0	−0.09***	15.7
Total indirect effect	−0.14	39.7	−0.15	27.6
N	8,574		8,574	

Note. The coefficient change column represents the indirect effect of race/ethnicity on repair timeliness through each mediator, after accounting for other confounders. The percent of total effect column indicates what percent of the total effect (indirect and direct) of racism can be attributed to each mediator. The total indirect effect row indicates the total indirect effect that moves through this set of mediators. Columns may not sum to total indirect effect due to rounding differences. BA = Bachelor of Arts; KHB = Karlson-Holm-Breen.
†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$. (two-tailed tests).

for Black renters, whereas differences in sociodemographic characteristics account for relatively little of this gap.

For Hispanic renters, about 40 percent of the total effect of racism on timely repair starts move through sociodemographic, unit, and neighborhood-level mediators. More specifically, about 23 percent of the total effect of racism on repair delays move pathways that channel Hispanic renters to lower quality units or prompt disinvestment in Hispanic renters' homes and neighborhoods. For Hispanic renters, indirect effects of racism through educational attainment also account for 12 percent of the racialized gap in repair delays. Overall, for both Hispanic and Black renters, structural racism in rental housing markets (as captured by neighborhood disinvestment and unit quality problems) appears to drive more of the overall disparity in maintenance timeliness, compared to structural racism experienced through other socioeconomic indicators that could also influence landlord nonresponse (e.g., household income).

Hypothesis 3: Interaction effects between voucher status and race/ethnicity. In the final stage of the analysis, I test Hypothesis 3, which posited that the effect of using a voucher on repair timeliness would vary based on renters' race/ethnicity. As White renters already experience advantages vis-à-vis their housing conditions, I predicted that any repair timeliness gains from vouchers should be larger among Black and Hispanic renters. In essence, the interaction effect allows me to test whether the effect of renting with a voucher on repair timeliness increases, decreases, or remains the same across renter race/ethnicity. Interaction effects in logistic regressions can be challenging to interpret, and the coefficient product term included in logistic regression models is often unsuitable for determining statistical significance or effect size (Mize 2019). Therefore, I follow past recommendations and test for statistically significant differences in predicted probabilities of reporting a timely repair start across race/ethnicity and HCV status (Mize 2019). For interpretative ease, I present these results in Figure 1, but I provide each predicted probability across race/ethnicity and HCV status in Appendix Table C1.

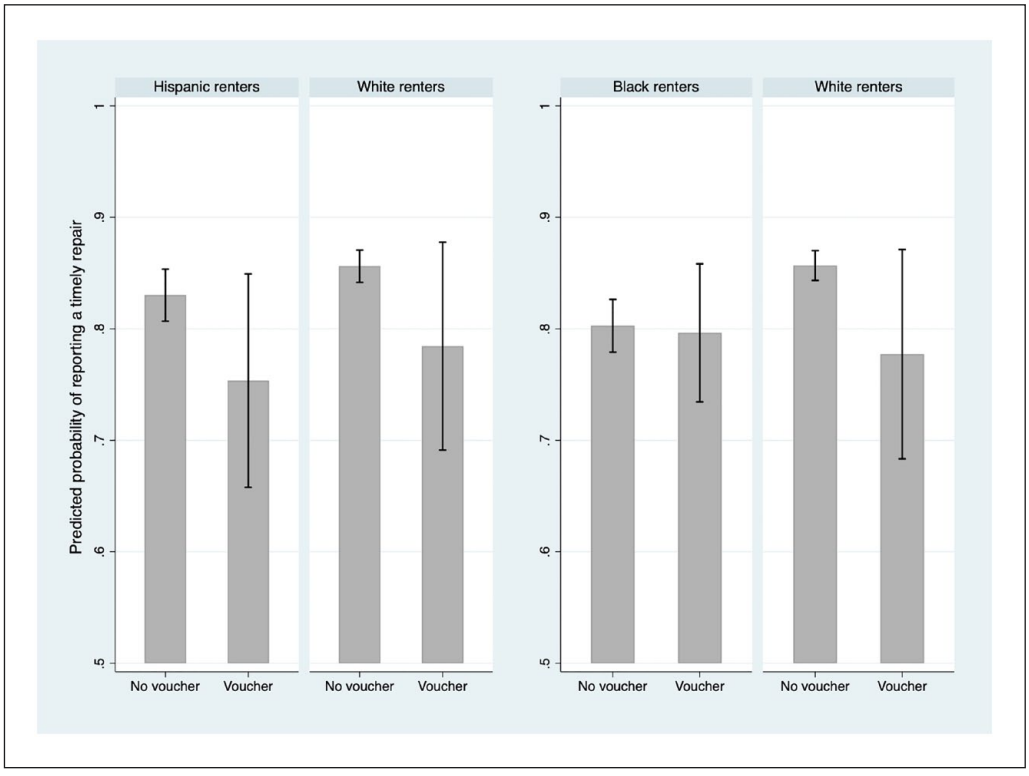

Figure 1. Predicted probabilities of reporting a timely repair start, interacting race/ethnicity and voucher status.

Overall, the results do not support Hypothesis 3. Figure 1 plots the predicted probability of reporting a timely repair start, accounting for the full panel of controls. The first panel in Figure 1 compares Hispanic and White renters across HCV status, and the second panel compares Black and White renters across HCV status.

Testing first for within-group differences, Figure 1 shows that renting with an HCV reduces both Hispanic and White renters' predicted probability of receiving a timely repair, but that these differences are not statistically significant for either Hispanic renters (p = .12) or White renters (p = .12). Furthermore, the difference in the size of this change across Hispanic and White renters—a test of the second difference—is close to zero. White and Hispanic renters appear to endure similar repair penalties when renting with vouchers (though these within-group changes across HCV status are not statistically significant). Turning to the second panel in Figure 1, I observe a similar, overall pattern when comparing Black and White voucher holders to Black and White nonvoucher holders. For Black renters, renting with an HCV appears to have next to no impact on the predicted probability of reporting a timely repair start. For White renters, renting with an HCV is associated with an eight-point decrease in predicted probability of receiving a timely repair start, from 86 percent to 78 percent. However, this difference is not statistically significant at conventional levels (p = .09). Despite the decline in maintenance timeliness observed among White voucher holders and the null effect for Black voucher holders, between-group differences in changes across voucher status are also not statistically

significant ($p = .19$). This suggests that holding a voucher does not have a positive effect on renters' within-group maintenance experiences (e.g., comparing Black voucher holders to Black nonvoucher holders), nor does it appear to shape differences in delays between racial/ethnic groups (e.g., whether the effect of vouchers on repair timeliness varies across race/ethnicity). Taken together, these results run counter to Hypothesis 3, which anticipated that renting with a voucher would have a larger, positive impact on maintenance timeliness for Hispanic and Black renters compared to White renters who already occupy a privileged position in the rental market. In contrast, the findings show that compared to nonvoucher households, renting with a voucher is associated with lower predicted probabilities of reporting a timely repair for White and Hispanic households and no changes for Black renters, though these differences are not statistically significant.

DISCUSSION

Past research suggests that racism experienced through neighborhood-level disinvestment (Korver-Glenn et al. 2023) and residential im/mobility processes (Grineski and Hernandez 2010; Reosti 2021; E. Rosen 2014) structures unequal exposure to inadequate housing conditions. Less is known about whether and how structural racism and individual discrimination contribute to disparities in a parallel but distinct stage of the maintenance process: how landlords respond to disrepair. Experiencing maintenance delays is consequential for family wellbeing, as delays transform acute problems into chronic stressors and increase exposure to housing hazards over time. Using national data from the AHS, I examine whether there are racial/ethnic disparities in repair timeliness across White, Hispanic, Black, Asian, and AI/AN renters. Then, I examine to what extent repair timeliness disparities can be attributed to racial/ethnic disparities in other sociodemographic, unit, and neighborhood characteristics (which I conceptualize as structural racism operating through these pathways), relevant covariates, or nonexclusionary discrimination (Roscigno et al. 2009). Given the goals of the HCV program to ensure unit quality, I also test whether race/ethnicity interacts with voucher-holder status to produce larger, smaller, or similar benefits for White voucher holders relative to Black and Hispanic voucher holders. There are three key findings, and I discuss each point in turn.

First, I find evidence of a statistically significant gap in repair timeliness, overall, for both Hispanic and Black renters compared to White renters. In baseline models, Hispanic and Black renters are eight to 10 percent less likely than White renters to report timely repair starts. Asian renters are only one percent less likely than White renters to report timely repair starts, and this difference is not statistically significant. AI/AN renters are eight percent less likely than White renters to report timely repair starts, but this gap is also not statistically significant. I caution against a strong interpretation of this nonsignificant finding, as the AI/AN analytic sample size is relatively small ($n = 62$). In adjusted models accounting for the full panel of mediators and other relevant covariates, this disparity attenuates but remains statistically significant only when examining repair timeliness between Black and White renters. Net of controls for socioeconomic status, unit quality, and neighborhood disinvestment, White renters are nonetheless *more* likely than Black renters to report timely repair starts. In keeping with the place stratification perspective (Pais et al. 2012), I interpret the residual significance of race/ethnicity as evidence of discriminatory treatment in repair responsiveness, with several caveats discussed below. When comparing Hispanic and White renters, including the full panel of covariates reduces the repair timeliness gap to statistical nonsignificance. This suggests that while Hispanic renters report greater repair delays relative to White families overall, this gap may be the result of structural racism that prompts disinvestment in minoritized communities and channels Hispanic renters to homes where disinvestment is

common, rather than discriminatory treatment in the repair process, per se. In contrast, Black renters appear to be doubly disadvantaged, as they experience repair penalties through pathways influenced by structural racism as well as nonexclusionary discrimination vis-à-vis maintenance delays. Furthermore, landlords' relative attentiveness to repairs for White renters constitutes a health benefit.

This first finding advances sociological research on how rental housing markets reproduce racial inequality, more generally, as well as research on inadequate housing conditions in particular. Past research examines how racism and discrimination shape residential mobility processes and neighborhood destinations (see, for instance, Oh and Yinger 2015; Pais et al. 2012; E. Rosen, Garboden, and Cossyleon 2021; South and Crowder 1997) or attends to racial disparities in eviction and forced displacement (Hepburn, Louis, and Desmond 2020). Looking beyond racial inequalities in housing searches and exits, these results underscore how racial inequalities also emerge during renters' housing tenure. Consistent with research on nonexclusionary discrimination (Roscigno et al. 2009), the presence of maintenance delays across a sample of U.S. renters who have required repairs suggests that renters' experiences after lease-up also stratify families. This finding suggests that, for Black renters in particular, responses to disrepair at home are an important site of discrimination. Place stratification research and housing audit studies suggest that Black and Latinx renters generally endure similar barriers during housing searches relative to White movers (Oh and Yinger 2015; Pais et al. 2012, though for an exception, see: South, Crowder, and Pais 2008). In the case of maintenance delays at home, nonexclusionary discrimination appears to be a driver of Black renters' maintenance experiences, in particular, while delay disparities largely attenuate for Hispanic households after accounting for pathways through which structural racism operates. This finding highlights the importance of untangling how structural racism and individual discrimination impact different stages of renters' housing tenures—for example, searches, leases, and exits—in heterogeneous ways across race/ethnicity.

This first finding also advances sociological understandings of racial inequalities in renters' housing conditions, more specifically. Past work identifies racial inequalities in how housing adequacy problems are distributed across neighborhoods and tenants (Friedman and Rosenbaum 2004; Korver-Glenn et al. 2023; E. Rosen 2014). Building off this research, I identify a second way that racial disparities in rental maintenance emerge—through responses to disrepair. Black renters, in particular, report slower responses to housing quality issues, compared to White renters with similar sociodemographic profiles living in similar homes. This suggests that renters' experiences with inadequate housing conditions operate across two stages—unequal exposure to housing quality issues *and* unequal responses to disrepair—and highlights that point-in-time survey estimates may underestimate the total scope of housing quality disparities across racial/ethnic groups. For example, White renters who report maintenance problems at one survey wave may receive faster repairs, lowering their exposure to housing quality problems and disrepair-related stress, whereas similar problems linger for minoritized renters. Overall, this finding highlights the importance of studying delayed responses to disrepair as a driver of exposure to substandard housing conditions, overall.

Second, I find evidence that structural racism operating through several mutually reinforcing pathways—captured by renters' sociodemographic, unit, and neighborhood characteristics—explains some, but not all, of the repair delay gap. The decomposition analysis suggests that these indirect pathways account for between 27.6 and 39.7 percent of the total repair gap for Black and Hispanic renters, respectively. For both Hispanic and Black renters, most of this indirect effect can be attributed to structural racism operating in

rental markets, as captured by differences in unit and neighborhood conditions. Consistent with past work (Korver-Glenn et al. 2023), this suggests that disinvestment in renters' neighborhoods and apartments, as well as processes that channel Black and Hispanic renters to lower quality homes, is also important drivers of maintenance delay disparities. Also consistent with Korver-Glenn et al. (2023), the decomposition results highlight that differences in individuals' economic standing account for relatively little of this gap. Racial/ethnic disparities in renters' poverty status, for example, account for about one percent of the total gap in maintenance delays, and the contribution of this measure is not statistically significant for either Black or Hispanic renters.[6] This finding draws analytic attention to housing intermediaries like landlords and property managers who make investment and disinvestment decisions, rather than the purchasing power of individual tenants, per se, and it highlights another way that these housing intermediaries shape inequality: by influencing renters' health and wellbeing (Korver-Glenn, Bartram, and Besbris 2023).

Third, I find that renting with a voucher is not associated with a statistically significant change in renters' predicted probability of reporting a timely repair, either within racial/ethnic groups (e.g., comparing White voucher holders and White nonvoucher holders) or between racial/ethnic groups (e.g., comparing within-group differences across White and Hispanic renters). In fact, renting with a voucher is associated with a lower predicted probability of reporting a timely repair for White and Hispanic renters, though this difference is not statistically significant. There is also no meaningful change in the predicted probability of reporting a timely repair for Black renters across voucher status. Taken together, this provides suggestive evidence that the HCV program does not exert an independent, protective effect from repair delays, as I originally predicted. The absence of a within-group difference for Black renters, in particular, may be attributable to "muted congruence" (Faber and Mercier 2022; Pedulla 2018). In other words, Black renters may already face a floor vis-à-vis maintenance delays due to anti-Black racism and therefore see no additional maintenance penalty when holding a voucher. By examining how renting with a voucher shapes repair timeliness across race/ethnicity, this finding extends past work on the challenges faced by families with vouchers, which has largely focused on the housing search and lease-up process (Cunningham et al. 2018; Ellen, O'Regan, and Harwood 2023; Faber and Mercier 2022), with fewer studies focusing on HCV renters' maintenance experiences, in particular (though for an exception, see E. Rosen and Garboden 2022). Future qualitative research with landlords could illuminate why renters with vouchers may experience slower repairs, particularly given HCV program requirements that regulate repair timing.

Limitations and Directions for Future Research

These findings should be interpreted in light of several limitations. First, the public-use version of the 2013 AHS contains limited information on several important indicators that are also consequential for renters' maintenance experiences. This version of the AHS does not contain information on respondents' census tracts, which can be linked to neighborhood racial composition and other proxies for structural racism in rental housing markets (Korver-Glenn et al. 2023). The AHS also lacks comprehensive indicators capturing renters' history with eviction and other negative credentials that could shape renters' experiences with maintenance delays in the present (Desmond, Gershenson, and Kiviat 2015; Reosti 2021). Finally, the public version of the AHS lacks detailed information on landlord characteristics. It is possible that renters are unequally selected into different types of landlords by race/ethnicity. Landlords approach their work with different business logics (Gomory 2022; Shiffer-Sebba 2020) and financial resources (Garboden and Newman 2012; Greif 2022) that influence

repair decisions. Research suggests that large-scale landlords, in particular, prioritize a profit maximization approach to their business, which could translate to greater maintenance delays (Gomory 2022; Shiffer-Sebba 2020).

I attempt to account for these data limitations by including indicators of unit quality, neighborhood disinvestment, and building size. However, the absence of data on neighborhood-level variables (e.g., racial composition), renters' credentials, and landlord characteristics (e.g., scale) remains a central limitation. I cannot rule out the possibility that more comprehensive indicators would render the primary associations spurious, which would indicate that pathways impacted by structural racism are the primary drivers of maintenance delays, rather than nonexclusionary discrimination, per se. Similarly, the dependent variable of interest, repair timeliness, is limited by renters' perceptions of maintenance delays over an unbounded period of time.[7] Given the subjectivity of this measure, future work could explore whether and how racism impacts renters' perceptions of what constitutes a timely repair and renters' expectations for fixes, and future survey research on nonexclusionary discrimination—an important and understudied site of stratification in rental markets—could include more fine-grained measures of maintenance delays.

Second, though this study documents a statistically significant association between race/ethnicity and timely repairs that persists net of relevant controls for Black renters, the AHS data preclude a direct test of discriminatory behavior. In place stratification research, residual statistical significance of race/ethnicity variables after accounting for controls is commonly interpreted as evidence of some combination of race-based discrimination and racialized neighborhood preferences (Pais et al. 2012; South and Crowder 1997). In the present study, the residual effect of race/ethnicity can likely be attributed to discriminatory treatment from landlords and the possibility that disadvantaged renters, fearing retaliation, may not report problems at all. Similar to work on racial discrimination and renters' neighborhood preferences (Krysan and Crowder 2017), it is also possible that past experiences with discrimination influence whether and how minoritized tenants engage with landlords around repairs in the present. However, some research indicates that disadvantaged renters do frequently report problems to their landlords (Bachelder et al. 2016; Chisholm et al. 2020). Moreover, the second mechanism of structural racism tested here accounts for other dimensions of imbalanced power dynamics between renters and their landlords (e.g., poverty status, whether or not renters are U.S. citizens). Although this provides suggestive evidence of individual discrimination, the data available in the AHS do not permit a definitive test of discriminatory treatment.

POLICY IMPLICATIONS AND CONCLUSION

Social scientists have established that there are persistent racial/ethnic disparities in exposure to substandard housing conditions among U.S. renters. However, fewer studies examine inequalities in how landlords respond to conditions of disrepair during renters' tenure in their homes. Maintenance delays increase exposure to housing quality problems and operate as chronic stressors that erode renters' mental health (Clark and Kearns 2012). Using national survey data with White, Black, Latinx, Asian, and AI/AN renters, I find that there are also racial/ethnic disparities in renters' experiences with maintenance delays. This disparity is particularly persistent when comparing Black and White renters—White renters are more likely than Black renters to report timely repairs, even when living in units with similar types of problems as Black renters and when sharing similar sociodemographic profiles. Furthermore, I find that participating in the HCV program—which is designed, in part, to ensure safe housing conditions—does not exert an independent, positive effect on repair timeliness, net of covariates. In fact, renting with a voucher is

associated with a reduction in repair timeliness for both White and Hispanic renters, though these differences are not statistically significant at conventional levels. This provides suggestive evidence that the timing requirements embedded in the HCV program do not adequately protect renters against maintenance delays. Future research with voucher holders and their landlords could potentially illuminate the mechanisms that drive this finding.

Taken together, the results underscore the need for policy interventions that address nonexclusionary discrimination in rental housing and continued housing disinvestment in communities of color. Most existing policy efforts target exclusionary forms of discrimination, primarily during the tenant screening stage of housing searches. We have comparatively fewer policy tools that can address discriminatory treatment after lease-up. Broadening proactive housing inspections and tenant antiharassment ordinances, along with adequate resources to investigate complaints, may be a promising first step. Other policies could direct resources to improve housing conditions in communities of color, with steps to protect against displacement. Future work should also investigate these and other policy levers that can mitigate disparate responses to disrepair.

APPENDIX A

Table A1. Comparing KHB and Standard Logistic Regression Coefficients.

	Starts major repair			
	Logistic regression		KHB logistic regression	
	β	*SE*	β	*SE*
Renter race/ethnicity[a]				
Hispanic	−0.21	0.11	−0.21	0.11
Black	−0.38***	0.10	−0.38***	0.10
Asian	0.05	0.18	0.05	0.18
AI/AN	−0.24	0.49	−0.24	0.49
Sociodemographic characteristics				
Income under local poverty line	−0.07	0.09	−0.07	0.09
Rent (logged)	0.03	0.05	0.03	0.05
Months of missed rent	−0.14*	0.06	−0.14*	0.06
Housing voucher recipient	−0.03	0.17	−0.03	0.17
U.S. citizen	0.03	0.12	0.03	0.12
Single mother household	−0.01	0.13	−0.01	0.13
Respondent holds a BA or higher	0.24**	0.09	0.24**	0.09
No. of years living in unit	−0.01*	0.01	−0.01*	0.01
Non-English speaker	0.03	0.16	0.03	0.16
No. of coresident children <18 years	−0.20***	0.04	−0.20***	0.04
Unit, building, and neighborhood characteristics				
No. of rooms in unit	0.03	0.03	0.03	0.03
Building over 40 years old	0.07	0.08	0.07	0.08
Building size[b]				

(continued)

Table A1. (continued)

	Starts major repair			
	Logistic regression		KHB logistic regression	
	β	*SE*	β	*SE*
Between four and 14 units	−0.56***	0.10	−0.56***	0.10
15 units or more	−0.46***	0.11	−0.47***	0.11
Manager or owner lives on-site	0.31**	0.10	0.31**	0.10
Public Housing Authority	−0.06	0.13	−0.06	0.13
Structural *or* utility/sanitation problem	−1.14***	0.09	−1.14***	0.09
Neighborhood disinvestment	−0.62***	0.08	−0.62***	0.08
Geographic context controlled[c]	Yes		Yes	
R-squared	.10		.10	
Observations	8,574		8,574	

Note. Standard errors in parentheses. KHB = Karlson-Holm-Breen; AI/AN = American Indian/Alaska Native; BA = Bachelor of Arts.
[a]Non-Hispanic White renters are the reference category.
[b]Buildings that contain between one and three units are the reference category.
[c]Geographic context includes urban status and U.S. region.
*$p < .05$. **$p < .01$. ***$p < .001$. (two-tailed test).

APPENDIX B

Table B1. Complete Descriptive Statistics.

Variables	All groups		White		Hispanic		Black		Asian		AI/AN	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Maintenance timeliness												
Starts major repairs quickly	0.82		0.87		0.78		0.74		0.85		0.84	
Renter characteristics												
Hispanic	0.20		—	—	—	—	—	—	—	—	—	—
Non-Hispanic White	0.49		—	—	—	—	—	—	—	—	—	—
Black	0.25		—	—	—	—	—	—	—	—	—	—
Asian	0.05		—	—	—	—	—	—	—	—	—	—
AI/AN	0.01		—	—	—	—	—	—	—	—	—	—
Income under local poverty line	0.35		0.26		0.39		0.50		0.33		0.44	
Rent (logged)	6.43	0.97	6.53	0.89	6.53	0.81	6.12	1.17	6.65	0.94	6.07	1.08
Months of missed rent	0.13	0.52	0.09	0.45	0.15	0.55	0.20	0.64	0.02	0.53	0.23	0.66
Housing voucher recipient	0.05		0.03		0.06		0.09		0.04		0.05	
U.S. citizen	0.88		0.96		0.64		0.96		0.58		0.95	
Single mother household	0.11		0.06		0.11		0.21		0.02		0.21	
Respondent holds a BA or higher	0.30		0.37		0.17		0.21		0.54		0.23	
No. of years living in unit	6.52	7.20	6.17	6.95	6.91	7.61	6.93	7.51	6.43	6.34	6.13	5.91
Non-English speaker	0.07		0.01		0.30		0.01		0.13		0.02	

(continued)

Table B1. (continued)

Variables	All groups		White		Hispanic		Black		Asian		AI/AN	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
No. of coresident children <18 years	0.61	1.07	0.42	0.89	0.91	1.23	0.76	1.19	0.52	0.89	0.95	1.18
Unit, building, and neighborhood characteristics												
No. of rooms in unit	4.40	1.38	4.38	1.44	4.42	1.27	4.46	1.31	4.13	1.43	4.56	1.47
Building over 40 years old	0.58		0.54		0.63		0.61		0.58		0.53	
Building size												
Between one and three units	0.42		0.45		0.40		0.39		0.27		0.62	
Between four and 14 units	0.30		0.26		0.33		0.34		0.31		0.23	
15 units or more	0.28		0.28		0.27		0.26		0.42		0.15	
Manager or owner lives on-site	0.20		0.20		0.23		0.16		0.30		0.16	
Public Housing Authority	0.18		0.13		0.15		0.30		0.18		0.27	
Utility/sanitation problem in unit	0.42		0.34		0.52		0.48		0.44		0.40	
Structural problem in unit	0.23		0.23		0.21		0.26		0.17		0.26	
Structural *or* utility/ sanitation issue	0.50		0.45		0.57		0.56		0.50		0.52	
Neighborhood disinvestment	0.51		0.45		0.52		0.64		0.43		0.61	
Geographic context												
Northeast	0.28		0.27		0.35		0.25		0.33		0.11	
Midwest	0.25		0.30		0.11		0.27		0.19		0.27	
West	0.19		0.19		0.30		0.07		0.34		0.56	
South	0.28		0.24		0.24		0.41		0.12		0.16	
Urban location	0.90		0.86		0.95		0.95		0.97		0.76	
N	8,574		4,195		1,727		2,142		448		62	

Note. AI/AN = American Indian/Alaska Native; BA= Bachelor of Arts.

APPENDIX C

Table C1. Predicted Probabilities of Timely Repair Starts, with a Test of Interaction Effect between Race/Ethnicity and Voucher Status.

	Predicted probability	First differences	Second difference
Comparing White and Black renters			
White renters, voucher	0.78		
	(0.05)	0.78 − 0.86 = −0.08†	
White renters, no voucher	0.86		
	(0.01)		−0.08 − 0.00 = −0.08
Black renters, voucher	0.80		
	(0.03)	0.80 − 0.80 = 0.00	
Black renters, no voucher	0.80		
	(0.01)		
Comparing White and Hispanic renters			
White renters, voucher	0.78		
	(0.05)	0.78 − 0.86 = −0.08	
White renters, no voucher	0.86		
	(0.01)		−0.08 − −0.08 = 0.00
Hispanic renters, voucher	0.75		
	(0.05)	0.75 − 0.83 = −0.08	
Hispanic renters, no voucher	0.83		
	(0.01)		

Note. The first column presents predicted probabilities for renters by race/ethnicity and whether they rent using a Housing Choice Voucher. The second column tests whether vouchers change the predicted probability of a timely repair start within groups (the test of first differences). The third column tests the interaction effect, or whether the effect of renting with a voucher on repair timeliness significantly varies across race/ethnicity (between groups), the test of the second difference. Includes controls for: poverty status, logged rent, months of missed rent, whether respondent is a U.S. citizen, family structure, educational attainment, number of years living in the unit, non-English speaker, number of coresident children under 18 years, number of rooms within the home, building size, whether the owner/manager lives on-site, building size, whether the unit is managed by a Public Housing Authority, whether a sanitation or structural problem is present, neighborhood disinvestment, U.S. region (Northeast, Midwest, and South, with West as the reference category), and urban status. Standard errors in parentheses.
†$p < .10$ (two-tailed tests).

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SUPPLEMENTAL MATERIAL

Supplemental material for this article is available online.

NOTES

1. In this article, I use the term "landlord" to refer to the housing intermediary who is chiefly responsible for decisions around maintenance and repair. Depending how owners manage their property, this may either be the landlord (i.e., the building owner) or a property manager.
2. I use the term "Hispanic" when referring to results from the AHS data to remain consistent with how 2013 AHS survey participants are asked to self-identify. Throughout the article, I use the gender expansive term "Latinx" to refer to the Latinx population, more broadly.

3. See Cross, Fomby, and Letiecq (2022) for a discussion of how structural racism influences family structure.
4. As the AHS does not specify a bounded period time for maintenance, it is likely that renters report their general impressions of maintenance timeliness across their housing tenure.
5. The AHS includes Native Hawaiian/Pacific Islander (NH/PI) respondents, but these renters have a small presence in the analytic sample ($n = 28$). As a result, I do not include NH/PI respondents in these analyses.
6. It is possible that part of the effect of household income on maintenance delays also moves through the pathway of unit quality. However, other work suggests that household income has a relatively small impact on experiencing quality problems at home (Korver-Glenn et al. 2023).
7. Another potential source of unobserved heterogeneity may be that tenants hold varying perceptions of what would constitute a timely repair across groups. However, I am unable to find research that would suggest these baseline differences.

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