

Housing-Related Financial Strain and Household Well-Being: Evidence from the Western United States

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Abstract

Housing stress, the difficulty households experience in meeting housing payment obligations, has become an increasingly important challenge across the United States. However, less is known about how housing stress influences broader dimensions of well-being. We examine the relationship between housing stress and multiple dimensions of well-being, including mental health, food security, and community satisfaction, with particular attention to the mediating role of financial stress. Using survey data from the Western United States, our empirical results show that housing stress is strongly associated with higher financial stress, which in turn is significantly related to all well-being outcomes. Mediation analysis indicates that financial stress accounts for most of the effect of housing stress on mental health and community satisfaction, while both direct and indirect pathways contribute to food security outcomes. Findings are robust across alternative specifications and estimation methods, highlighting financial stress as a key mechanism linking housing insecurity and well-being.

JEL: I31; D14; R21; I12; I32

Keywords: Housing Stress; Financial Stress; Household Well-Being; Mental Health; Food Security; Community Satisfaction; Housing Affordability

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1 Introduction

Housing-related financial strain has become an increasingly important challenge for households in the United States (Joint Center for Housing Studies, 2025; National Low Income Housing Coalition, 2025). Unlike traditional affordability measures that focus primarily on the share of income allocated to housing expenses, housing stress reflects households' perceived ability to maintain housing payment obligations while meeting other essential needs, such as food, health-care, transportation, and debt obligations. Consequently, households with similar housing cost burdens may experience substantially different levels of financial strain depending on their income stability, wealth, employment circumstances, and access to financial resources.

We conceptualize Housing Stress as a source of economic pressure that affects well-being both directly and indirectly through Financial Stress, which reflects the broader psychological and behavioral consequences of financial strain. Under this framework, Housing Stress may reduce Mental Health, worsen Food Security, and lower Community Satisfaction by increasing Financial Stress.

An expanding literature links housing-related pressures to a wide range of well-being outcomes. Early research identified housing conditions as an important determinant of mental and physical health (Evans et al., 2003; Shaw, 2004). More recent studies show that housing affordability challenges and housing insecurity are associated with increased psychological distress, poorer mental health, and lower overall well-being (Bentley et al., 2011, 2016; Ludlow et al., 2025). These findings suggest that housing functions are not merely as a consumption good but also as a fundamental determinant of quality of life (Aidoo, 2023).

The Western United States,¹ faces some of the nation's most severe housing affordability pressures, with housing supply shortages continuing to constrain access to affordable housing (Joint Center for Housing Studies, 2025; National Low Income Housing Coalition, 2025). Geographic constraints, population growth, and limits on housing supply responsiveness have contributed to persistent affordability pressures across much of the region (Saiz, 2010; Glaeser and Gyourko,

¹The Western United States refers to the 13 states included in the Western Rural Development Center (WRDC) region: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

2008).

Research further suggests that rising housing costs have constrained migration and contributed to growing regional inequality, particularly in high-productivity areas (Ganong and Shoag, 2017). Although housing affordability has often been framed as an urban issue, recent evidence indicates that similar pressures are increasingly evident in rural communities, where income growth has frequently lagged behind increases in housing costs (Council of Economic Advisers, 2025; Pew Charitable Trusts, 2025). Consequently, housing-related financial strain has become an increasingly common feature of household economic life throughout the region.

At the same time, the well-being literature increasingly emphasizes the multidimensional nature of human welfare. Rather than relying on a single indicator, contemporary approaches recognize that well-being encompasses psychological, material, and social dimensions that jointly determine quality of life (Sen, 1999; Stiglitz et al., 2009). Furthermore, Community well-being has increasingly been linked to residents' perceptions of local economic, social, and environmental conditions. Recent research suggests that satisfaction with community conditions contributes to broader subjective well-being through individuals' perceived quality of life within their local environment (Sirgy et al., 2026). This perspective is particularly relevant in the context of housing affordability because housing-related economic pressures may influence multiple aspects of well-being simultaneously.

While the relationship between housing affordability and well-being is increasingly evident, less is known about the mechanisms through which housing-related financial strain affects well-being. A growing body of research points to financial stress as an important intermediary mechanism (Jurčišinová et al., 2025). Financial stress captures the emotional, behavioral, and psychological consequences of economic strain, including financial worry, insecurity, and perceived economic hardship.

Recent evidence suggests that housing affordability pressures are strongly associated with financial well-being and that a substantial portion of the relationship between housing challenges and mental health may operate through this channel (Botha et al., 2024; Jurčišinová et al., 2025). However, most existing studies focus on a single outcome, particularly mental health, providing limited evidence regarding whether financial stress serves as a common mechanism link-

ing housing-related pressures to multiple dimensions of well-being.

We address this gap using data from the WR-Stat: Baseline Survey 2024², a unique household survey conducted across the Western United States. The analysis focuses on three dimensions of well-being: Mental Health, representing psychological well-being; Food Security, representing material well-being; and Community Satisfaction, representing community well-being. We then examine whether Housing Stress affects these outcomes directly or indirectly through Financial Stress.

Our analysis contributes to the literature in three ways. First, we extend existing research by examining multiple dimensions of well-being within a common empirical framework rather than focusing on a single outcome. Second, we identify and quantify the mediating role of Financial Stress in the relationship between Housing Stress and well-being. Third, by focusing on the Western United States, we provide new evidence from a region where housing affordability pressures have become particularly pronounced but remain relatively understudied in the well-being literature.

Our findings indicate that Housing Stress is strongly associated with Financial Stress. Moreover, Financial Stress serves as the principal pathway through which housing-related financial strain affects well-being. The effects are particularly noticeable for Mental Health and Community Satisfaction, while both direct and indirect pathways contribute to Food Security outcomes. Collectively, these results highlight the importance of considering the broader financial consequences of housing affordability challenges when evaluating their implications for household well-being.

The remainder of the paper proceeds as follows. Section II describes the data and variable construction. Section III outlines the empirical strategy. Section IV presents the results and robustness checks. Section V concludes.

²WR-Stat: Baseline Survey 2024 is a multi-state survey administered through the Western Rural Development Center (WRDC) to assess household well-being, community conditions, and economic challenges across the Western United States.

2 Data

This study uses data from the WR-Stat: Baseline Survey 2024, a household survey administered across the Western United States³ (Bednarik et al., 2026). The survey collected information from approximately 4,500 adult household decision-makers on a broad range of topics relevant to quality of life, including housing conditions, financial circumstances, food access, health, community perceptions, and socioeconomic characteristics, although the estimation sample varies across specifications due to item nonresponse and the availability of housing payment information. The breadth of the survey provides a unique opportunity to examine how housing-related financial strain is associated with multiple dimensions of well-being. Because the Housing Stress measure is only available for respondents with active rent or mortgage payment obligations, the estimation sample varies across specifications.

Table 1 presents summary statistics for all variables included in the analysis. The descriptive statistics reveal substantial variation in housing stress, financial stress, and the well-being measures, indicating considerable heterogeneity in household experiences across the Western United States and providing a useful foundation for the empirical analysis that follows.

Table 1: Summary Statistics

Variable	Count	Mean	SD	Min	Max
Mental Health Index	4476	3.15	0.90	1	4
Food Security Index	4479	0.33	0.37	0	1
Community Satisfaction Index	4491	3.75	0.67	1	5
Housing Stress	2407	0.00	1.00	-1	3
Financial Stress	4493	2.72	1.17	1	5
Household Income (log)	4406	11.03	0.87	9.43	12.90
Age (Years)	4497	50.13	17.26	18	93
Rural Residence	4451	0.20	0.40	0	1
Employed	4487	0.59	0.49	0	1
Female	4497	0.51	0.50	0	1
Bachelor's Degree or Higher	4497	0.51	0.50	0	1
Observations	4497				

Notes: Means for binary variables represent proportions.

³<https://purrr.purdue.edu/publications/4973/1>

We focus on three dimensions of well-being. Mental Health represents psychological well-being, Food Security reflects material well-being, and Community Satisfaction captures community well-being through respondents' evaluations of local living conditions and overall quality of life.

Mental Health Index is constructed from four survey questions that capture symptoms commonly associated with psychological distress. Respondents were asked how often during the previous two weeks they (1) felt nervous, anxious, or on edge, (2) felt depressed, (3) felt lonely, and (4) experienced little interest or pleasure in doing things. Responses were recorded on a four-point scale ranging from 1 ("not at all") to 4 ("nearly every day"). Items were aggregated into a composite Mental Health Index ranging from 1 to 4, with higher values indicating poorer mental health and more frequent symptoms of depression, anxiety, loneliness, and loss of interest in daily activities. The index has a sample mean of 3.15 and demonstrates strong internal consistency (Cronbach's $\alpha = 0.89$).

Food Security Index is derived from survey questions assessing household food access and affordability. Respondents were asked whether, during the previous 12 months, they worried about food running out, purchased food that did not last, reduced meal sizes, skipped meals, ate less than they felt they should, or experienced hunger due to insufficient financial resources. Responses were combined into a standardized index ranging from 0 to 1, with higher values indicating greater food insecurity. The index has a sample mean of 0.33.

Community well-being is measured using a Community Satisfaction Index based on respondents' overall evaluations of community conditions and quality of life. Respondents rated their overall satisfaction with their community on a five-point scale, where higher values indicate greater satisfaction. The index has a sample mean of 3.75.

The primary explanatory variable is Housing Stress, a measure of housing-related financial strain. Housing Stress is constructed from survey questions assessing respondents' ability to meet rent or mortgage obligations. Because renters and homeowners were asked parallel questions regarding their housing payments, responses were combined into a single measure reflecting difficulty meeting housing-related financial commitments. The measure was reverse coded so that higher values indicate greater difficulty meeting housing payments and subsequently standardized to have a mean of zero and a standard deviation of one.

This approach facilitates interpretation and comparability across model specifications. The resulting measure captures housing-related financial strain rather than housing expenditures alone.

The central mediating variable is the Financial Stress Index, which summarizes the extent to which financial difficulties interfere with respondents' day-to-day functioning and well-being. The index is constructed from nine items capturing emotional, behavioral, and physical manifestations of financial strain, including sadness, worry, frustration, work interference, avoidance of family activities, family relationship difficulties, sweating, muscle pain, and sensitivity to noise. Responses were aggregated into a composite index with higher values indicating greater financial stress. The scale exhibits excellent internal consistency (Cronbach's $\alpha = 0.95$) and has a sample mean of 2.72 on a five-point scale.

Although related, Housing Stress and Financial Stress represent distinct constructs. Housing Stress captures difficulties meeting housing payment obligations, whereas Financial Stress reflects the broader experience of economic strain arising from multiple sources, including debt, food insecurity, medical expenses, income instability, and other financial pressures. Because the Housing Stress measure is constructed from mortgage-payment and rent-payment indicators that apply to mutually exclusive respondent groups, standard confirmatory factor analysis is not appropriate for evaluating Housing Stress as a latent construct. Instead, discriminant validity is assessed through conceptual distinction, item content, and the observed correlation between the two measures. The correlation between Housing Stress and Financial Stress is moderate ($r = 0.41$), indicating that while housing-related strain is associated with broader financial stress, the two constructs remain empirically distinct.

Housing Stress is observed only for respondents with active housing payment obligations, reducing the estimation sample from 4,497 to 2,407 respondents. We compared⁴ respondents included in the estimation sample with those excluded because Housing Stress was not observed. Relative to excluded respondents, the estimation sample exhibits lower household income, higher Financial Stress, poorer Mental Health, greater Food Security challenges, and lower Community Satisfaction. These differences suggest that the results are most appropriately interpreted as applying to households with active housing payment obligations

⁴Available on request from the corresponding author.

rather than to the full survey population.

Among the control variables, household income was measured using self-reported annual household income before taxes. To reduce skewness and limit the influence of extreme values, the empirical models use the natural logarithm of household income. Additional controls include age, employment status, educational attainment, gender, state fixed effects, and rural residence.

3 Empirical Strategy

A growing body of research suggests that housing affordability pressures can adversely affect well-being through their influence on household financial circumstances. Recent evidence indicates that financial well-being may serve as an important mechanism linking housing affordability challenges to mental health and broader quality-of-life outcomes (Jurčišinová et al., 2025; Park et al., 2026). Building on this literature, our empirical strategy is to examine whether Financial Stress operates as a transmission channel through which Housing Stress affects multiple dimensions of well-being.

Our analysis considers three dimensions of well-being: psychological well-being, material well-being, and community well-being. Examining these outcomes jointly allows us to assess whether the consequences of housing-related financial strain are concentrated within specific domains or extend more broadly across multiple aspects of household well-being. This approach also enables an assessment of whether Financial Stress serves as a common mechanism linking Housing Stress to diverse well-being outcomes.

3.1 Housing Stress and Financial Stress

We begin by estimating the association between Housing Stress and Financial Stress:

$$FinancialStress_i = \alpha_0 + \alpha_1 HousingStress_i + \alpha_2 X_i + \varepsilon_i \quad (1)$$

where $FinancialStress_i$ denotes the Financial Stress Index for individual i , and $HousingStress_i$ represents Housing Stress. X_i is a vector of control variables in-

cluding age, gender, household income (log), and educational attainment. In additional specifications, we incorporate state fixed effects to account for unobserved differences across states. A positive estimate of α_1 would indicate that housing-related financial strain contributes to broader Financial Stress.

This first-stage relationship is central to our analysis because mediation requires Housing Stress to be systematically associated with Financial Stress before any indirect effect on well-being can emerge (Baron and Kenny, 1986; MacKinnon, 2008).

3.2 Housing Stress, Financial Stress, and Well-Being

We next estimate the relationship between Housing Stress, Financial Stress, and well-being outcomes:

$$Y_i = \beta_0 + \beta_1 \text{HousingStress}_i + \beta_2 \text{FinancialStress}_i + \beta_3 X_i + \varepsilon_i \quad (2)$$

where Y_i denotes the Mental Health Index, Food Security Index, or Community Satisfaction Index for individual i . The coefficient β_1 captures the direct relationship between Housing Stress and well-being after accounting for Financial Stress, while β_2 measures the association between Financial Stress and well-being.

To assess the role of Financial Stress, we estimate a sequence of nested models. We first estimate a baseline specification containing Housing Stress alone. We subsequently introduce demographic and socioeconomic controls and state fixed effects. Finally, we add Financial Stress to evaluate whether the estimated relationship between Housing Stress and well-being attenuates once broader financial strain is taken into account.

3.3 Mediation Framework

Our conceptual framework treats Housing Stress as an upstream source of economic pressure that contributes to broader Financial Stress, which subsequently influences well-being outcomes. This ordering is motivated by the observation that housing expenditures generally constitute one of the largest components of

household budgets and may create financial strain when households experience difficulty meeting rent or mortgage obligations. However, the cross-sectional nature of the data does not permit definitive identification of the causal ordering among Housing Stress, Financial Stress, and well-being. Alternative relationships are possible, including the possibility that broader financial challenges contribute to housing payment difficulties. Consequently, the mediation analysis should be interpreted as evidence consistent with the proposed pathway from Housing Stress to Financial Stress and well-being rather than as definitive evidence of causal mediation.

While the regression models identify associations among housing stress, financial stress, and well-being, they do not directly quantify the extent to which financial stress transmits the effect of housing stress. To address this question, we estimate a mediation framework that decomposes the total effect of housing stress into direct and indirect components.

Formally, we estimate:

$$FinancialStress_i = \alpha_0 + \alpha_1 HousingStress_i + \alpha_2 X_i + u_i \quad (3)$$

$$Y_i = \beta_0 + \beta_1 HousingStress_i + \beta_2 FinancialStress_i + \beta_3 X_i + v_i \quad (4)$$

Within this framework, the indirect effect of Housing Stress on well-being is given by

$$Indirect\ Effect = \alpha_1 \beta_2 \quad (5)$$

and the total effect is

$$Total\ Effect = \beta_1 + \alpha_1 \beta_2 \quad (6)$$

The decomposition enables us to determine whether Housing Stress affects well-being primarily because it increases Financial Stress or whether Housing Stress exerts an independent influence on well-being. This approach follows a large literature on mediation analysis in the social sciences and economics (Baron and Kenny, 1986; MacKinnon, 2008; Hayes, 2022).

3.4 Structural Equation Modeling

To estimate direct and indirect effects simultaneously, we employ Structural Equation Modeling (SEM). SEM is particularly useful in the present context because it allows the Financial Stress equation and the well-being equation to be estimated jointly while also providing formal estimates of direct, indirect, and total effects (Bollen, 1989; Kline, 2023).

Specifically, we estimate separate SEM models for Mental Health, Food Security, and Community Satisfaction. The SEM framework enables us to assess whether Financial Stress fully or partially mediates the relationship between Housing Stress and each well-being outcome. In addition, the approach provides a straightforward method for calculating the proportion of the total effect that operates through Financial Stress.

3.5 Robustness Checks

We start with estimating bootstrap standard errors and confidence intervals for the direct, indirect, and total effects using 1,000 replications for our main model. We then conduct several other robustness checks to assess the stability of the results. First, we augment the baseline specifications with controls for employment status and rural residence, both of which may influence financial stress and well-being. Second, we estimate Seemingly Unrelated Regression (SUR) models to account for potential correlation across unobserved determinants of the well-being outcomes. Finally, we re-estimate the mediation models using the expanded set of controls to evaluate the sensitivity of the estimated direct and indirect effects.

4 Results and Discussion

4.1 Housing Stress and Financial Stress

We begin by examining whether Housing Stress contributes to broader Financial Stress. Table 2 presents estimates from three nested specifications. In the baseline model, Housing Stress is positively and significantly associated with Finan-

cial Stress, with a coefficient of 0.46. The magnitude of this relationship remains remarkably stable after introducing demographic controls and state fixed effects, decreasing only slightly to 0.40 in the fully specified model.

Table 2: Housing Stress and Financial Stress

	(1) Baseline	(2) + Controls	(3) + State FE
Housing Stress	0.460*** (0.021)	0.403*** (0.022)	0.397*** (0.022)
Income (ln)		-0.250*** (0.028)	-0.241*** (0.028)
Age		-0.013*** (0.001)	-0.013*** (0.001)
Observations	2407	2371	2371
R-squared	0.165	0.227	0.235
Gender Dummies	No	Yes	Yes
Education Dummies	No	Yes	Yes
State FE	No	No	Yes

Notes: Column (1) reports the baseline specification. Column (2) adds demographic controls. Column (3) adds state fixed effects. State fixed effects are included but not reported. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Higher household income and older age are associated with lower levels of Financial Stress, suggesting that economic resources and life-cycle factors may help buffer households against financial strain. At the same time, the estimated association between Housing Stress and Financial Stress remains large and statistically significant across all specifications. The coefficient on Housing Stress declines only modestly after the inclusion of demographic controls and state fixed effects, indicating that the relationship is not solely attributable to observable demographic or geographic differences. Households experiencing greater difficulty meeting rent or mortgage obligations consistently report substantially higher levels of Financial Stress.

These findings establish the first stage of the proposed mechanism and provide evidence that housing-related financial strain extends beyond housing expenditures themselves, contributing to broader financial difficulties.

4.2 Housing Stress, Financial Stress, and Well-Being

Mental Health

Columns (1)–(4) of Table 3 examine psychological well-being as measured by the Mental Health Index. In the baseline specification, Housing Stress exhibits a strong negative association with Mental Health (-0.248). Although the magnitude declines after introducing controls and state fixed effects, the relationship remains statistically significant.

Table 3: Housing Stress, Financial Stress, and Well-Being

	Mental Health				Food Security			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Housing Stress	-0.248*** (0.018)	-0.192*** (0.019)	-0.191*** (0.018)	-0.033* (0.017)	0.158*** (0.007)	0.131*** (0.007)	0.130*** (0.007)	0.063*** (0.006)
Financial Stress				-0.395*** (0.015)				0.169*** (0.006)
Observations	2399	2364	2364	2364	2404	2370	2370	2369
R-squared	0.074	0.135	0.153	0.338	0.176	0.265	0.272	0.470
Controls	No	Yes	Yes	Yes	No	Yes	Yes	Yes
State FE	No	No	Yes	Yes	No	No	Yes	Yes
Model Specification	Baseline	+Controls	+FE	+Mediator	Baseline	+Controls	+FE	+Mediator

Notes: Panel A (Columns 1–4) reports results for the Mental Health Index. Panel B (Columns 5–8) reports results for the Food Security Index. Columns (2) and (6) add demographic controls. Columns (3) and (7) add state fixed effects. Columns (4) and (8) include Financial Stress as the mediator. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The introduction of Financial Stress substantially alters the estimated relationship. Once Financial Stress is included, the coefficient on Housing Stress declines from -0.191 to -0.033 and loses most of its explanatory power once Financial Stress is included. At the same time, Financial Stress exhibits a large and highly significant negative association with Mental Health (-0.395). The sharp attenuation of the Housing Stress coefficient suggests that financial pressures generated by housing difficulties are a primary pathway through which housing-related strain affects psychological well-being.

These findings are consistent with recent evidence showing that financial well-being plays an important mediating role in the relationship between housing affordability pressures and mental health outcomes (Jurčišinová et al., 2025).

Food Security

Columns (5)–(8) of Table 3 examine material well-being using the Food Security Index. Housing Stress is positively associated with food insecurity across all specification. The estimated coefficient declines from 0.158 in the baseline model to 0.130 after the inclusion of controls and state fixed effects. Unlike the Mental Health results, however, Housing Stress remains statistically significant after Financial Stress is introduced. While Financial Stress displays a strong positive association with food insecurity (0.169), the coefficient on Housing Stress remains sizeable at 0.063.

These results indicate that Housing Stress affects Food Security through multiple channels. Financial Stress clearly contributes to food insecurity, but housing-related financial pressures also appear to exert an independent influence on households' ability to access adequate food. The persistence of a direct housing stress effect suggests that housing-related financial obligations may compete directly with other household necessities, including food expenditures, even after broader financial stress is taken into account.

Community Satisfaction

Table 4 reports results for Community Satisfaction. Housing Stress is initially unrelated to Community Satisfaction in the baseline model but becomes negative and statistically significant after introducing demographic controls. The magnitude remains stable following the inclusion of state fixed effects.

However, the addition of Financial Stress changes this pattern substantially. The coefficient on Housing Stress becomes statistically insignificant, while Financial Stress exhibits a strong negative association with Community Satisfaction (−0.101). These findings suggest that housing-related financial strain influences perceptions of community quality of life primarily through its impact on Financial Stress. Households experiencing greater financial strain report lower satisfaction with their communities even after accounting for demographic and socioeconomic characteristics.

The results presented in Tables 3 and 4 reveal a common pattern across all three dimensions of well-being. Housing Stress is associated with poorer well-

Table 4: Housing Stress, Financial Stress, and Community Satisfaction

	(1) Baseline	(2) + Controls	(3) + State FE	(4) + Mediator
Housing Stress	-0.002 (0.013)	-0.028** (0.014)	-0.028** (0.014)	0.012 (0.014)
Financial Stress				-0.101*** (0.013)
Controls	No	Yes	Yes	Yes
State FE	No	No	Yes	Yes
Observations	2407	2372	2372	2371
R-squared	0.000	0.120	0.127	0.150

Notes: Column (1) reports the baseline specification. Column (2) adds demographic controls (gender, education, income, and age). Column (3) adds state fixed effects. Column (4) adds Financial Stress as the mediator. State fixed effects are included but not reported. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

being outcomes, but a substantial portion of this relationship operates through Financial Stress. The strength of this mediation effect, however, varies across outcome domains.

Figure 1 provides a visual summary of the estimated effects of Housing Stress and Financial Stress across the three well-being outcomes. The effects of Housing Stress vary across domains, becoming relatively small for Mental Health after Financial Stress is introduced, larger and statistically significant for Food Security, and statistically insignificant for Community Satisfaction once Financial Stress is introduced. By contrast, Financial Stress exhibits consistently large and statistically significant associations across all outcomes. This pattern provides additional evidence that Financial Stress serves as an important pathway linking Housing Stress to well-being.

4.3 Mediation Analysis

To formally assess the role of Financial Stress as a transmission mechanism, we estimate structural equation models and decompose the total effect of Housing Stress into direct and indirect components. Table 5 reports the mediation results. For Mental Health, the estimated indirect effect of Housing Stress operating through Financial Stress is -0.164 , while the total effect is -0.193 . The

Figure 1: Effects of Housing Stress and Financial Stress Across Outcomes



Notes: Points represent estimated coefficients from OLS regressions, and vertical lines indicate 95% confidence intervals. All models include demographic controls and state fixed effects.

indirect effect therefore accounts for approximately 85 percent of the total effect ($-0.164 \div -0.193 = 0.85$), indicating that most of the association between Housing Stress and Mental Health is transmitted through Financial Stress.

For the Mental Health model, Housing Stress was positively associated with Financial Stress ($\beta = 0.408, p < 0.01$), and Financial Stress was negatively associated with Mental Health ($\beta = -0.402, p < 0.01$). The direct effect of Housing Stress on Mental Health was not statistically significant ($\beta = -0.029, p > 0.05$), indicating that the relationship is largely mediated by Financial Stress. The estimated indirect effect was approximately -0.164 (0.408×-0.402), resulting in a total effect of approximately -0.193 . Consequently, approximately 85 percent of the total effect operates through Financial Stress. This result suggests that Financial Stress is the primary pathway linking Housing Stress to poorer Mental Health outcomes.

In the Food Security model, Housing Stress significantly increased Financial Stress ($\beta = 0.404, p < 0.01$), while Financial Stress was positively associated with Food Insecurity ($\beta = 0.172, p < 0.01$). Housing Stress also had a significant direct effect on Food Insecurity ($\beta = 0.064, p < 0.01$). The indirect effect through Financial Stress was approximately 0.069 , yielding a total effect of approximately 0.134 . These findings suggest that Financial Stress partially mediates the relationship

Table 5: Direct, Indirect, and Total Effects of Housing Stress

Effect Type	Mental Health	Food Security	Community Satisfaction
Direct Effect	-0.029 (0.017)	0.064*** (0.006)	0.019 (0.014)
Indirect Effect	-0.164*** (0.011)	0.069*** (0.004)	-0.041*** (0.006)
Total Effect	-0.193*** (0.019)	0.134*** (0.007)	-0.022* (0.014)
Percent Mediated	85.0%	51.9%	—

Notes: Direct, indirect, and total effects are estimated using structural equation models (SEM). The indirect effect represents the pathway through Financial Stress. Percent mediated is calculated as the ratio of the indirect effect to the total effect. The percentage mediated is not reported for Community Satisfaction because the direct and indirect effects have opposite signs. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

between Housing Stress and Food Insecurity, with both direct and indirect pathways contributing to the overall association.

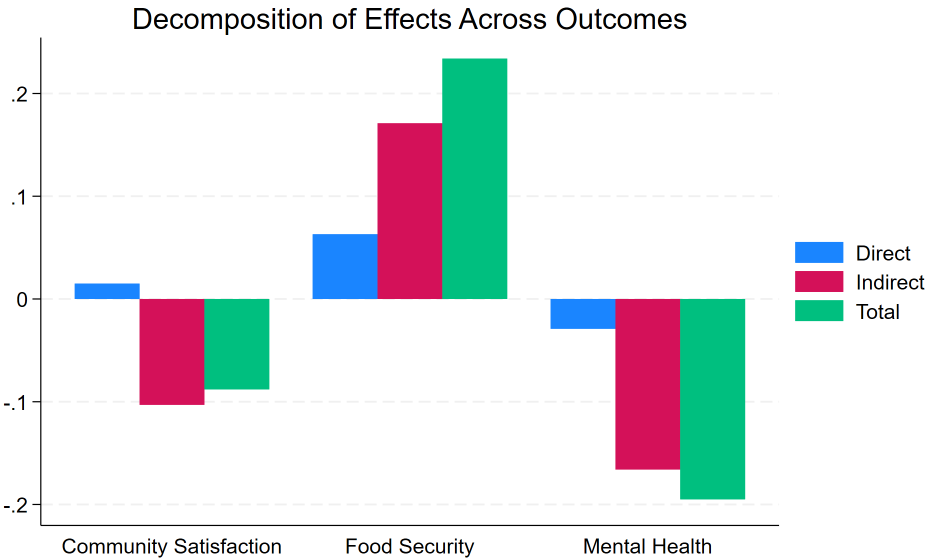
The Community Satisfaction results more closely resemble those observed for Mental Health. The direct effect of Housing Stress is statistically insignificant (0.019), whereas the indirect effect through Financial Stress is negative and highly significant (-0.041). The total effect is negative and marginally significant (-0.022), indicating that the significant indirect effect and insignificant direct effect are consistent with Financial Stress playing an important role in linking Housing Stress and Community Satisfaction. The direct and indirect effects operate in opposite directions, suggesting that the negative relationship between Housing Stress and Community Satisfaction is driven primarily through its influence on Financial Stress.

The mediation results identify Financial Stress as a central mechanism linking housing-related financial strain to multiple dimensions of well-being. The evidence points to substantial mediation for Mental Health and Community Satisfaction and partial mediation for Food Security. These findings suggest that housing-related financial pressures affect different dimensions of well-being through distinct pathways, although Financial Stress consistently remains the dominant transmission channel.

Figure 2 illustrates the decomposition of the total effect of Housing Stress into direct and indirect components. The results reveal substantial heterogene-

ity across well-being domains. For Mental Health, the indirect effect operating through Financial Stress accounts for most of the total effect, indicating that the relationship is largely mediated by Financial Stress. A similar pattern emerges for Community Satisfaction, where the indirect effect dominates and the direct effect is statistically insignificant. In contrast, Food Security exhibits both sizeable direct and indirect effects, indicating that Housing Stress affects food security through multiple pathways.

Figure 2: Decomposition of the Effects of Housing Stress Across Outcomes



Notes: Bars represent direct, indirect, and total effects estimated from structural equation models. The indirect effect operates through Financial Stress. Mental Health and Community Satisfaction exhibit substantial mediation through Financial Stress, whereas Food Security exhibits partial mediation.

These findings suggest that housing-related financial strain affects well-being less through housing itself than through the financial pressures generated by housing obligations. Financial Stress emerges as the central mechanism linking housing-related challenges to psychological, material, and community well-being, highlighting the importance of considering the broader financial consequences of housing affordability pressures. This result is broadly consistent with recent research suggesting that subjective financial well-being constitutes an important mechanism through which housing affordability pressures influence individual well-being (Jurčišinová et al., 2025).

4.4 Robustness Checks

As a robustness check, we estimated bootstrap standard errors and confidence intervals for the direct, indirect, and total effects using 1,000 replications. The bootstrap results closely mirror the primary SEM estimates reported in Table 6.

Table 6: Mediation Effects with Bootstrap Confidence Intervals

Effect Type	Mental Health	Food Security	Community Satisfaction
Direct Effect	-0.029 (0.021)	0.064*** (0.008)	0.019 (0.016)
Indirect Effect	-0.164*** (0.012)	0.069*** (0.005)	-0.041*** (0.007)
Total Effect	-0.193*** (0.021)	0.134*** (0.009)	-0.022 (0.014)
Percent Mediated	85.0%	51.9%	—

Notes: Standard errors are based on 1,000 bootstrap replications. The indirect effect represents the pathway through Financial Stress. Percent mediated is not reported for Community Satisfaction because the direct and indirect effects have opposite signs. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

Across all three outcomes, the estimated indirect effects remain statistically significant and are similar in direction and magnitude to those obtained using conventional standard errors. For Mental Health, the indirect effect of Housing Stress operating through Financial Stress remains substantial, accounting for approximately 85 percent of the total effect. For Food Security, both the direct and indirect effects remain statistically significant, providing further evidence of partial mediation. For Community Satisfaction, the indirect pathway through Financial Stress remains statistically significant, whereas both the direct and total effects remain statistically insignificant. Overall, the bootstrap estimates closely replicate the primary SEM results, suggesting that the mediation findings are robust and not driven by the distributional assumptions underlying delta-method standard errors.

We next examine the robustness of the results by augmenting the preferred specifications with controls for employment status and rural residence. As shown in Table 7, the central findings are largely unchanged. Financial Stress remains strongly associated with each well-being outcome, and the estimated coefficients for Housing Stress are similar in magnitude and significance to those reported in the baseline models. These results suggest that the observed relationships are

not driven by differences in employment status or rural residence.

Table 7: Robustness Checks with Employment and Rural Controls

	Mental Health (1)	Food Security (2)	Community Satisfaction (3)
Housing Stress	-0.036** (0.018)	0.062*** (0.007)	0.014 (0.014)
Financial Stress	-0.397*** (0.015)	0.171*** (0.006)	-0.104*** (0.013)
Employed	0.022 (0.039)	-0.006 (0.014)	0.055* (0.032)
Rural Residence	0.006 (0.042)	0.047*** (0.016)	-0.183*** (0.034)
Controls	Yes	Yes	Yes
State FE	Yes	Yes	Yes
Observations	2341	2346	2348
R-squared	0.341	0.467	0.159

Notes: Employment is a binary indicator for labor force participation. All models include demographic controls (income, age, gender, and educational attainment) and state fixed effects. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The additional controls reveal several interesting patterns. Rural households report greater food insecurity and lower levels of Community Satisfaction than urban households, while employment is associated with slightly higher Community Satisfaction. Importantly, the inclusion of these controls does not alter the central relationship between Housing Stress, Financial Stress, and well-being.

Second, we re-estimate the Mental Health mediation model using the expanded set of controls. As shown in Table 8, the results are nearly identical to the baseline SEM estimates. Housing Stress remains a strong predictor of Financial Stress (0.408), while Financial Stress is negatively associated with Mental Health (-0.402). The direct effect of Housing Stress remains statistically insignificant, and approximately 85 percent of the total effect operates through Financial Stress. These findings indicate that the mediation results are robust to the inclusion of employment and rural residence controls.

Finally, we estimate Seemingly Unrelated Regression (SUR) models to account for potential correlation in unobserved determinants across the three well-being outcomes. Table 9 presents the SUR estimates, while Table 10 compares the OLS and SUR coefficients. The estimates are remarkably similar across the two ap-

Table 8: SEM Mediation Results with Employment and Rural Controls

	Direct Effect	Indirect Effect	Total Effect
<i>Financial Stress Equation</i>			
Housing Stress	0.411*** (0.022)	0.411*** (0.022)	0.411*** (0.022)
Household Income (Log)	-0.250*** (0.026)	-0.250*** (0.026)	-0.250*** (0.026)
Age	-0.013*** (0.001)	-0.013*** (0.001)	-0.013*** (0.001)
Rural Residence	0.016 (0.055)	0.016 (0.055)	0.016 (0.055)
Employed	-0.030 (0.051)	-0.030 (0.051)	-0.030 (0.051)
<i>Mental Health Equation</i>			
Financial Stress	-0.404*** (0.015)	-0.404*** (0.015)	-0.404*** (0.015)
Housing Stress	-0.029 (0.017)	-0.029 (0.017)	-0.029 (0.017)
Household Income (Log)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Age	0.007*** (0.001)	0.007*** (0.001)	0.007*** (0.001)
Rural Residence	-0.008 (0.041)	-0.008 (0.041)	-0.008 (0.041)
Employed	0.031 (0.038)	0.031 (0.038)	0.031 (0.038)
Direct Effect of Housing Stress	-0.029 (0.017)		
Indirect Effect via Financial Stress		-0.164*** (0.011)	
Total Effect			-0.193*** (0.019)
Percent Mediated			85.0%
Observations		2,341	

Notes: Estimates are derived from structural equation models (SEM) that jointly estimate the pathways between Housing Stress, Financial Stress, and Mental Health. All models include controls for household income, age, gender, educational attainment, rural residence, and employment status. The indirect effect is calculated as the product of the Housing Stress → Financial Stress coefficient and the Financial Stress → Mental Health coefficient. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

proaches. For example, the coefficient on Financial Stress in the Mental Health equation changes only slightly from -0.396 under OLS to -0.394 under SUR, while the corresponding estimates for Food Security and Community Satisfaction differ only at the third decimal place. A similarly high degree of consistency is observed for the Housing Stress coefficients. These results suggest that accounting for correlated error structures across equations does not materially affect the substantive conclusions.

Table 9: SUR Estimates for Individual and Community Outcomes

	Mental Health (1)	Food Security (2)	Community Satisfaction (3)
Housing Stress	-0.034* (0.017)	0.063*** (0.006)	0.013 (0.014)
Financial Stress	-0.394*** (0.015)	0.169*** (0.006)	-0.100*** (0.013)
Controls	Yes	Yes	Yes
State FE	Yes	Yes	Yes
Observations	2362	2362	2362
R-squared	0.338	0.472	0.149

Notes: Estimates are obtained using Seemingly Unrelated Regression (SUR). All models include demographic controls (household income, age, gender, and educational attainment) and state fixed effects. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

The close agreement between the OLS and SUR estimates suggests that correlated error structures across outcome equations do not materially affect the results. Consequently, our conclusions are not driven by model specification or estimation strategy. As shown in Table 10, the estimated coefficients differ only negligibly across OLS and SUR specifications.

Across all robustness checks, the central conclusion remains unchanged: Financial Stress plays a central role in linking Housing Stress to well-being outcomes. While the degree of mediation varies across dimensions of well-being, Financial Stress consistently emerges as an important mechanism connecting housing-related financial strain to psychological, material, and community well-being.

Table 10: Comparison of OLS and SUR Estimates

Outcome	Housing Stress (OLS)	Housing Stress (SUR)	Financial Stress (OLS)	Financial Stress (SUR)
Mental Health	-0.033* (0.017)	-0.034* (0.017)	-0.396*** (0.015)	-0.394*** (0.015)
Food Security	0.062*** (0.006)	0.063*** (0.006)	0.171*** (0.006)	0.169*** (0.006)
Community Satisfaction	0.012 (0.014)	0.013 (0.014)	-0.104*** (0.013)	-0.100*** (0.013)
Controls	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes

Notes: OLS and SUR estimates are reported for comparison. SUR accounts for correlated error structures across outcome equations. All models include demographic controls (household income, age, gender, and educational attainment) and state fixed effects. Standard errors are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

5 Conclusion

Housing stress has become an increasingly important concern for household well-being, yet the pathways through which housing-related financial strain affects well-being remain insufficiently understood. Using data from the WR-Stat: Baseline Survey 2024, we examined the relationship between Housing Stress and three dimensions of well-being: Mental Health, Food Security, and Community Satisfaction. The results show that Housing Stress is strongly associated with Financial Stress, even after accounting for demographic characteristics and geographic differences. In turn, Financial Stress exhibits substantial and statistically significant associations with all three well-being outcomes.

The findings indicate that Financial Stress is an important pathway connecting Housing Stress to well-being. For Mental Health, the relationship operates largely through Financial Stress, with approximately 85 percent of the total effect transmitted through this channel. For Community Satisfaction, the indirect association between Housing Stress and well-being operates primarily through Financial Stress. In contrast, Food Security exhibits both direct and indirect effects, suggesting that housing-related financial pressures influence material well-being through multiple pathways.

These results contribute to a growing literature emphasizing the role of subjective financial experiences in shaping well-being outcomes. Consistent with recent research, the findings suggest that housing affordability pressures influ-

ence well-being not only through housing conditions themselves but also through the broader financial burdens imposed on households (Jurčišinová et al., 2025).

From a policy perspective, the results suggest that efforts to improve housing affordability may generate benefits extending beyond housing stability alone. Policies and programs that reduce housing-related financial strain may also improve psychological well-being, strengthen food security, and enhance perceptions of community quality of life by alleviating broader financial pressures. More broadly, the findings underscore the importance of considering Financial Stress when evaluating the well-being consequences of housing affordability challenges.

Several limitations should be acknowledged. Our analysis is based on cross-sectional survey data and therefore does not permit strong causal inference. In addition, both Housing Stress and Financial Stress are measured using self-reported responses and may be influenced by individual perceptions and reporting behavior. Future research could use longitudinal data to examine how changes in housing affordability affect well-being over time and whether the mediating role of Financial Stress varies across population groups and housing market conditions.

Despite these limitations, the findings provide robust evidence that the consequences of housing-related financial strain extend well beyond housing itself. Across multiple dimensions of well-being, Financial Stress consistently emerges as a central mechanism through which housing challenges are associated with individual and community outcomes. A better understanding of this relationship may help inform policies aimed at promoting both economic security and overall well-being.

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