Home Ownership, Age and the Community

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Abstract

Home ownership is a key driver of consumer and community well-being. It is currently under threat, however, due to scarcity and high costs. Research has shown the relationship between home ownership and a lower crime rate in neighborhoods and cities. This study adds to these results by indicating that the association is specifically important among younger age groups in the population. In addition, it demonstrates the relationship on a county level. The research also shows that home ownership in combination with income level is more associated with crime rate than either variable alone. A theory of collective socialization is used to help explain the criticality of home ownership. Results from the study give added rationale to county government officials who are seeking to stimulate home ownership among people in their communities.

Introduction

Home ownership is a deeply important goal to many individual consumers. It is particularly critical for younger people (Xu et al., 2015), with 75% of millennials stating home ownership as a long-term objective and 60% planning to purchase a home in the future (Demand Institute, 2014).

This study is undertaken to deepen our knowledge of the importance of home ownership to the community by evaluating its relationship with the crime in new ways. Our research adds insight to previous studies by investigating the association between home ownership and crime rate among younger age groups. In addition, we focus on counties as our unit of analysis, rather than neighborhoods or cities. This type of evaluation potentially increases the impact of results due to the growing role of counties in the economic development process (Betz, Partridge, Kraybill, & Lobao, 2012; Kelleher and Yackee, 2004).

Literature Review

Home ownership has been shown to be important in a variety of ways. It is a significant factor in subjective well-being (Clapham, Foye, & Christian, 2018) and family wealth (Mishel, Bivens, Gould, & Shierholz, 2012; Moulten, Loibl, Samak, & Collins, 2013; Riley and Quercia, 2011). Crime rate has been particularly studied as a barometer of how the degree of home ownership is influencing a community. White (2001) demonstrates that homeownership is related to a lower crime rate in affluent neighborhoods, and Delmelle, Thill, Furuseth, & Ludden (2013) find that homeownership is one of the factors associated with U.S neighborhoods having lower crime rates and youth-related social problems. The relation between home ownership and crime rate may occur due to a theory of collective socialization (Briggs, 1988). Under this theory, socially positive behavior is associated with the development of community networks. Since homeowners have longer periods in their dwellings, stability and the resulting social networks are stronger.

The first set of hypotheses in our study posits that the level of home ownership has a negative relationship with crime rate for U.S. counties among younger age groups. Specifically, we hypothesize that the association holds for both the 25-34 and 35-44 age ranges, but is stronger for the latter group.

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Our rationale for the greater importance of the older age range is based on the idea that collective socialization grows with age.

Hypothesis 1A (H1A): There is a negative association between the percentage of owner-occupied households in the 25-34 age group and crime rate for the total population at the county level.

Hypothesis 2A (H2A): There is a negative association between the percentage of owner-occupied households in the 35-44 age group and crime rate for the total population at the county level.

Hypothesis 3A (H3A): The negative association between the percentage of owner-occupied households and crime rate is greater in the 35-44 than 25-34 age group for the total population at the county level.

Our second set of hypotheses is based on the belief that the variable of household income also has a negative relationship with crime rate for U.S. counties among younger age ranges. Supporting the importance of the income variable, Kang (2016) shows a positive association between poverty concentration and crime rate in U.S. counties. Due to research showing a positive relationship between crime and the percentage of the population which is younger (Nunley, Seals, & Zietz, 2011), we believe that the benefits of a higher income to reducing the crime rate is most pronounced among the 25-34 age group.

Hypothesis 1B (H1B): There is a negative association between median household income in the 25-34 age group and crime rate for the total population at the county level.

Hypothesis 2B (H2B): There is a negative association between median household income in the 35-44 age group and crime rate for the total population at the county level.

Hypothesis 3B (H3B): The negative association between median household income and crime rate is greater in the 25-34 than 35-44 age group for the total population at the county level.

Our third group of hypotheses is that a model including both home ownership and household income is more strongly associated with the crime rate than either variable alone among younger age groups of the population. Given the importance of collective socialization, we expect that this effect is strongest for the 35-44 age group.

Hypothesis 1C (H1C): A model which includes both the percentage of owner occupied households and median household income can explain more of the variance in crime rate for the total population at the county level than either of the two variables on their own among the 25-34 age group.

Hypothesis 2C (H2C): A model which includes both the percentage of owner occupied households and median household income can explain more of the variance in crime rate for the total population at the county level than either of the two variables on their own among the 35-44 age group.

Hypothesis 3C (H3C): A model which includes both the percentage of owner occupied households and median household income can explain more of the variance in crime rate for the total population at the county level among the 35-44 than 25-34 age group.

Methods

In the study, we tabulate crime rate per U.S. County from All Crimes Reported in the FBI Criminal Justice Information Services Division database (2016). Even though 2017 data was not available at the time of the study, we feel it is acceptable to use 2016 information given that the U.S. national crime rate has not

fluctuated more than 0.1 point over the last three years (FBI Criminal Justice Information Services Division, 2016). We include all U.S. counties which had a 2017 population between 250,000 and 999,999 based on U.S. Census data. This population range enables the selection of more average size counties, avoiding potential biases based on counties which are in the largest or smallest ranges and making results potentially more relevant across counties. A total of 221 counties are analyzed.

We first model crime rate as a function of percentage of owner-occupied households in the 25-34 and 35-44 age groups. The percentage of owner occupied households by age group is received from the 2017 Claritas Segmentation and Market Solutions database, secured via SRDS Media Solutions. We also add the variable of median household income for the 25-34 and 35-44 age groups. The information on median household income is received from the 2017 Claritas Segmentation and Market Solutions database, secured via SRDS Media Solutions. In the multiple linear regression model, we use the variance inflation factor (VIF) to check multicollinearity among different independent variables – no multicollinearity is identified when VIF ≤ 1.5. We also examine three control variables: the unemployment rate, the percentage of the population with a bachelor's degree or higher, and the median value of owner-occupied housing. The information on these three control variables is received from the 2017 Claritas Segmentation and Market Solutions database, secured via SRDS Media Solutions.

Results

Simple linear regression results support H1A, showing a significant negative relationship with $p < 0.001$. Results from simple linear regression analyses also give support for H2A, displaying a significant negative relationship with $p < 0.001$. Multiple linear regression results support H3A – the 35-44 age group has a negative relationship with crime rate ($p < 0.05$), while the p-value is greater than 0.1 for the 25-34 age group. However, a VIF of 15.57 indicates significant multicollinearity between the 25-34 and 35-44 age groups. After comparing the R-squared of the three models, we find that (1) the 35-44 age group can explain more variation in crime rate than the 25-34 age group and (2) the multiple linear regression model cannot provide a better explanation than the single linear regression model on the 35-44 age group. Thus the single linear regression model on the 35-44 age group is superior when considering the impact of owner-occupied households.

The results of simple linear regression analyses support H1B, displaying a significant negative relationship with $p < 0.001$. Simple linear regression results also support H2B, showing a significant negative relationship with $p < 0.001$. Multiple linear regression results support H3B – the 25-34 age group has a negative relationship with crime rate ($p < 0.1$), while the p-value of the 35-44 age group is greater than 0.1. However, significant multicollinearity exists between the 25-34 and 35-44 age groups due to a VIF of 37.94. After comparing the R-squared of the three models, we find that the simple linear regression model on the 25-34 age group is superior as it best explains the variation in crime rate.

Multiple linear regression results support H1C, with both the percentage of owner-occupied households ($p < 0.01$) and median income variables ($p < 0.001$) significant in the 25-34 age group. In addition, no multicollinearity is identified (VIF of 1.11). Comparing the R-squared of models testing H1A, H1B, and H1C, we find that the two variables combined (stated in H1C) can better explain the variation in crime rate than either single variable among the 25-34 age group (stated in H1A and H1B). The results of multiple linear regression analyses support H2C, with both variables significant in the 35-44 age group (all p-values smaller than 0.001). A VIF of 1.09 indicates no multicollinearity. The R-squared of models testing H2A, H2B, and H2C indicate that the two variables combined (stated in H2C) can offer a better explanation of the variation than either single variable among the 35-44 age group (stated in H2A and H2B). Multiple linear regression results support H3C, showing that a model which includes both variables can explain more of the variance in crime rate among the 35-44 than the 25-34 age group. The high VIFs show significant multicollinearity between the two age groups. After comparing the R-squared of models captured by H1C, H2C, and H3C, we find that the percentage of owner-occupied households and median household income of the 35-44 age group can best explain the variation in crime rate – the model that is captured by H2C is superior.

Applying the unemployment rate as the control variable, the R-squared decreases in the model captured by H2B and the VIFs are high in models captured in H3A, H3B, and H3C. We then use this control variable only in models captured by H1A, H2A, H1C, and H2C. The new R-squared shows that the 35-44 age group has a greater impact than the 25-34 age group, when measuring the impact of the percentage of owner-occupied households, consistent with H3A. The results also show that the 35-44 age group has a greater impact than the 24-34 age group when measuring the combined impact of the percentage of owner-occupied households and median household income, consistent with H3C.

Evaluating the percentage of the population with a bachelor's degree or higher as the control variable, the R-squared increases for all models but only models captured by H1A and H1B show no multicollinearity. We thus use this control variable only in these two models. Because of (1) a higher F-statistic, (2) a more significant coefficient, and (3) a lower overall p-value, the 35-44 age group has a greater impact than the 25-34 age group when measuring the impact of the percentage of owner-occupied households, consistent with H3A.

Applying the median value of owner-occupied housing as the control variable, all models have multicollinearity.

Discussion

Our findings highlight the importance of home ownership as a factor which is associated with less crime in a community. The study reveals that the association between home ownership and crime rate is strong among both the 25-34 and 35-44 age groups. The reason the relationship between home ownership and crime rate is greatest among people in the 35-44 age group vs. the younger 25-34 age group may be explained by a theory of collective socialization (Briggs, 1988).

From a practical point of view, these results give communities more ammunition to argue the case with government officials for policies which stimulate home ownership. Counties can play a major role in advancing policies for consumers' well-being by such measures as expanding housing development opportunities.

A limitation of the study is that the timing of the crime rate data (2016) is prior to the home ownership information (2017), as a more current crime rate update was not available. In addition, the evaluation focuses on only one measure of well-being to the community, i.e., crime rate. It would be interesting to include additional kinds of social variables, such as homelessness, in future studies.

References

Betz, M. R., Partridge, M. D., Kraybill, D. S., & Lobao, L. (2012). Why do localities provide economic development incentives? Geographic completion, political constituencies and government capacity. *Growth and Change*, 43(3), 361-391.

Briggs, X. (1988). Brown kids in white suburbs: Housing mobility and the many faces of social capital. *Housing Policy Debate*, 9, 177-221.

Clapham, D., Foye, C., & Christian, J. (2018). The concept of subjective well-being in housing research. *Housing, Theory and Society*, 35(2), 261-280.

Delmelle, E., Thill, J., Furuseth, O., & Ludden, T. (2013). Trajectories of multidimensional neighbourhood quality of life change. *Urban Studies,* 50(5), 923-941.

Demand Institute. (2014). Millennials and their homes: still seeking the American dream. Retrieved from http://demandinstitute.org/demandwp/wp-content/uploads/2015/01/millennials-and-their-homes-final.pdf

FBI Criminal Justice Information Services Division. (2016). Retrieved from https://www.fbi.gov/crime-in-the-u.s/%202016/crime-in-the-u.s.-2016/tables/table-1

Kang, S. (2016). Inequality and crime revisited: effects of local inequality and economic segregation on crime. *Journal of Population Economics*, 29(2), 593-626.

Kelleher, C. A., & Yackee, S. W. (2004). An empirical assessment of devolution's policy impact. *The Policy Studies Journal*, 32(2), 253-270.

Mishel, L., Bivens, J., Gould, E., & Shierholz, H. (2012). *The State of Working America* (12th ed.). Ithaca, NY: Cornell University Press.

Moulton, S., Loibl, C., Samak, A., & Collins, J. M. (2013). Borrowing capacity and financial decisions of low-to-moderate income first-time homebuyers. *The Journal of Consumer Affairs*, 47(3), 375-403.

Nunley, J. M., Seals, R. A., Jr., & Zietz, J. (2011). Demographic change, macroeconomic conditions, and the murder rate: the Case of the United States, 1934-2006. *The Journal of Socio-Economics*, 40(6), 942-948.

Riley, S. F., & Quercia, R. B. (2011). Navigating the housing downturn and financial crisis: Home appreciation and equity accumulation among community reinvestment homeowners, in Wachter, S. M. and Smith, M. M. (eds.), *The American Mortgage System: Crisis and Reform.* Philadelphia, PA: University of Pennsylvania Press.

White, G. F. (2001). Home ownership: Crime and the tipping and trapping processes. *Environment and Behavior*, 33(3), 325-342.

Xu, Y., Johnson, C., Bartholomae, S., O'Neill, B., & Gutter, M. S. (2015). Homeownership among millennials: The deferred American dream. Family and Consumer Sciences Research Journal, 44(2), 201-212.

Acknowledgments